City of Busselton

Geographe Bay

Council Agenda

11 December 2019

ALL INFORMATION AVAILABLE IN VARIOUS FORMATS ON REQUEST

city@busselton.wa.gov.au

CITY OF BUSSELTON

MEETING NOTICE AND AGENDA – 11 DECEMBER 2019

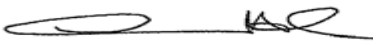
TO: **THE MAYOR AND COUNCILLORS**

NOTICE is given that a meeting of the Council will be held in the Council Chambers, Administration Building, Southern Drive, Busselton on Wednesday, 11 December 2019, commencing at 5.30pm.

Your attendance is respectfully requested.

DISCLAIMER

Statements or decisions made at Council meetings or briefings should not be relied on (or acted upon) by an applicant or any other person or entity until subsequent written notification has been given by or received from the City of Busselton. Without derogating from the generality of the above, approval of planning applications and building permits and acceptance of tenders and quotations will only become effective once written notice to that effect has been given to relevant parties. The City of Busselton expressly disclaims any liability for any loss arising from any person or body relying on any statement or decision made during a Council meeting or briefing.



MIKE ARCHER

CHIEF EXECUTIVE OFFICER

2 December 2019

CITY OF BUSSELTON

AGENDA FOR THE COUNCIL MEETING TO BE HELD ON 11 DECEMBER 2019

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1. DECLARATION OF OPENING AND ANNOUNCEMENT OF VISITORS

2. ATTENDANCE

Apologies

Approved Leave of Absence

Nil

3. PRAYER

4. APPLICATION FOR LEAVE OF ABSENCE

5. DISCLOSURE OF INTERESTS

6. ANNOUNCEMENTS WITHOUT DISCUSSION

Announcements by the Presiding Member

7. QUESTION TIME FOR PUBLIC

Response to Previous Questions Taken on Notice

Public Question Time For Public

8. CONFIRMATION AND RECEIPT OF MINUTES

Previous Council Meetings

8.1 Minutes of the Council Meeting held 27 November 2019

RECOMMENDATION

That the Minutes of the Council Meeting held 27 November 2019 be confirmed as a true and correct record.

Committee Meetings

8.2 Minutes of the Finance Committee Meeting held 21 November 2019

RECOMMENDATION

That the Minutes of the Finance Committee Meeting held 21 November 2019 be noted.

8.3 Minutes of the Meelup Regional Park Committee Meeting held 25 November 2019

RECOMMENDATION

That the Minutes of the Meelup Regional Park Committee Meeting held 25 November 2019 be noted.

9. RECEIVING OF PETITIONS, PRESENTATIONS AND DEPUTATIONS

Petitions

Presentations

Deputations

10. QUESTIONS BY MEMBERS OF WHICH DUE NOTICE HAS BEEN GIVEN (WITHOUT DISCUSSION)

11. ITEMS BROUGHT FORWARD FOR THE CONVENIENCE OF THOSE IN THE PUBLIC GALLERY

12. REPORTS OF COMMITTEE

12.1 Finance Committee - 21/11/2019 - APPLICATION FOR RATE EXEMPTION - ACCESS HOUSING AUSTRALIA LTD

STRATEGIC GOAL	6. LEADERSHIP Visionary, collaborative, accountable
STRATEGIC OBJECTIVE	6.1 Governance systems, process and practices are responsible, ethical and transparent.
SUBJECT INDEX	Exemptions and Appeals (Rates)
BUSINESS UNIT	Rates
REPORTING OFFICER	Rates Coordinator - David Nicholson
AUTHORISING OFFICER	Director Finance and Corporate Services - Tony Nottle
NATURE OF DECISION	Executive: substantial direction setting, including adopting strategies, plans and policies (excluding local planning policies), tenders, setting and amending budgets, funding, donations and sponsorships, reviewing committee recommendations
VOTING REQUIREMENT	Simple Majority
ATTACHMENTS	Attachment A Access Housing Australia Ltd Rate Exemption Application Documentation

This item was considered by the Finance Committee at its meeting on 21 November 2019, the recommendations from which have been included in this report.

COMMITTEE RECOMMENDATION AND OFFICER RECOMMENDATION

That the Council:

1. **Approve the rate exemption applications from Access Housing Australia Ltd under section 6.26(2)(g) of the *Local Government Act 1995*, "land used exclusively for charitable purposes", effective 1 July 2019 on properties at:**
   - **(a) 1/37 Fairbairn Road Busselton**
   - **(b) 7/78 Ford Road Busselton**
   - **(c) 3/41 Harris Road Busselton**
   - **(d) 7 & 9 & 10/4 Maxted Street West Busselton**
   - **(e) 4/116 Peel Terrace Busselton**
   - **(f) 1/129 Peel Terrace Busselton**
   - **(g) 9/22 Thomas Street Busselton**
2. **Agree that this rate exemption is to continue where Access Housing Australia Ltd confirms in writing by 30 April annually that they continue to lease the properties and that they continue to be used for the purposes stated in the applications.**

EXECUTIVE SUMMARY

Applications have been received from Access Housing Australia Ltd (AHA) for rate exemptions on nine residential properties that they lease from the WA Housing Authority (WAHA). On the basis of the applications and known rate exemption eligibility legal opinions, this report recommends that the request for exemptions be granted.

BACKGROUND

In June 2018 AHA applied for a rate exemption on 14 residential properties that they owned and 5 residential properties that they leased from WAHA. At its 30 January 2019 meeting, Council granted a rate exemption on these 19 residential properties. Due to an administrative error, AHA failed to include in the June 2018 application the nine residential properties that this report seeks a rate exemption on.

AHA is a not-for-profit Community Housing Organisation, a registered charity and public benevolent institution. It is one of WA's largest non-government social housing tenancy / property managers, with more than 1,800 properties across the Perth metropolitan area, Peel and South West regions under management. Its tenants include seniors, people living with a disability or mental health illness, families and singles.

At the 30 January Meeting, Council also considered the impacts of applying rate exemptions on a holistic basis. It also raised concerns regarding the practice of WAHA leasing its properties to AHA therefore potentially making the properties exempt from rates. At the meeting Council resolved:

That the Council:

1. *approve Access Housing Australia Ltd rate exemption applications under section 6.26 (2)(g) of the Local Government Act 1995, "land used exclusively for charitable purposes", for properties at:*
    a) *66 College Avenue West Busselton;*
    b) *2/3 Elliot Street Busselton;*
    c) *12 Melville Court Busselton;*
    d) *2-6 Whitton Street West Busselton;*
    e) *85 Dorset Street West Busselton;*
    f) *2/176 Kent Street Busselton; and*
    g) *3/176 Kent Street Busselton.*

    effective from the 1st July 2018.

2. *agree that this rate exemption is to continue whilst Access Housing Australia Ltd continues to lease and/or own these properties and confirms in writing by the 30th April annually of lease continuation and that the properties continue to be used for the purposes stated in the applications.*

3. *agree to write to the Premier, Minister for Housing, Minister for Local Government and the Western Australian Local Government Association, outlining its concern regarding the more recent approach being undertaken by the State Government to lease their properties to Community Housing Organisations such as Access Housing, as it is having a detrimental impact to the local government's rate base and ability to provide services to the community.*

4. *request that the State Government establish a requirement in all new and renewed lease agreements, when state government housing portfolios are being disposed of to Community Housing Organisations, that the Community Housing Organisation be made responsible for the payment of local government rates to the relevant Councils.*

The Minister responded to the City's concerns in March 2019, acknowledging the dilemma faced by local government in general, and encouraged the City to voice these concerns as part of the *Local Government Act 1995* review process currently underway.

As a not-for-profit organisation, AHA reinvests any profits made through its core business into servicing its property portfolio, developing and purchasing additional affordable homes. They also have funding programs supporting tenants to access education, training and employment options. This assists the tenants by increasing their financial resilience and to break welfare dependency. This approach allows the organisation to facilitate pathways into and out of the social housing system for current and prospective tenants, while also providing a high quality, customer focused service.

Housing is provided by AHA to occupants via three programs. These programs are:

Housing Programs	
Community Housing (CH)	Subsidised rental housing for Eligible Persons on very low and low to moderate incomes
Community Disability Housing Program (CDHP)	Disability Independent Living Units
	Transitional Housing and Support Program managed by the Drug and Alcohol Office
	Housing for people with mental health support needs through the Independent Living Program (ILP), Independent Supported Accommodation (ISA) or Mental Health Housing Strategy
Crisis Accommodation Program (CAP)	Short to medium term crisis accommodation for people who are homeless or at risk of homelessness

Rate exemptions are being sought by AHA on the following WAHA owned residential properties that they lease and manage. These properties are used by AHA for their CDHP program and are therefore considered eligible for rate exemption. This is in addition to the properties previously provided with a rating exemption.

SCHEDULE OF WAHA LEASED PROPERTIES

Number	Street	Suburb	Control
1/37	Fairbairn Road	Busselton	Managed Lease
7/78	Ford Road	Busselton	Managed Lease
3/41	Harris Road	Busselton	Managed Lease
7 & 9 & 10/4	Maxted Street	West Busselton	Managed Lease
4/116	Peel Terrace	Busselton	Managed Lease
1/129	Peel Terrace	Busselton	Managed Lease
9/22	Thomas Street	Busselton	Managed Lease

Documentation provided as part of the applications includes:

- Applications for Rate Exemptions Including Property Use Statutory Declarations.
- Rate Exemption Application Covering Letter
- Supporting Document - Organisation Certificate of Registration and Constitution, Australian Tax Office Notice of Endorsement for Charity Tax Concessions and Financial Report Year Ending 30 June 2017 and 30 June 2016

Due to privacy issues, copies of the lease agreements between AHA and tenants were not able to be provided.

OFFICER COMMENT

In accordance with Section 6.26(2)(g) of the Act, land is not rateable if it is used exclusively for charitable purposes. Rate exemption applications need only be considered in two parts – being firstly is the use itself “charitable” and secondly if the use is considered to be charitable, then is the property being used “exclusively” for such use.

In considering the first part, that is, 'are the operations of AHA considered to be a charitable use', legal opinions have been consistent in defining a charitable purpose as land used for:

1. The relief of poverty;
2. The advancement of education;
3. The advancement of religion; and
4. Other purposes beneficial to the community.

The leased properties are being used by AHA for their Community Disability Housing Program (CDHP) and so are considered to meet the "other purposes beneficial to the community" charitable definition.

In considering the second part, that is, 'is the property being exclusively used for a charitable purpose', this criteria is being met due to the properties, while leased from WAHA, are being used for providing accommodation for people with disabilities, drug and alcohol issues and mental illness.

There has been no physical inspection of the properties due to their residential purpose and that the tenant would need to be interviewed to determine if they meet the CDHP program. Also it is known that other Councils have obtained legal opinions concluding that services provided by AHA and other Community Housing Organisations are considered to be a charitable in nature and therefore eligible for rate exemptions. An in-house survey of other Councils within WA reveal that the majority are granting rate exemption on properties that AHA own or lease.

In terms of the current usage of the properties, there are no known planning, health or building compliance issues.

If rate exemptions are approved then the applicant will be instructed to confirm by 30 April annually that the property continues to be used for the purposes stated in the applications. If a change has occurred and the new use is not eligible for rate exemption then the property will become rateable.

Statutory Environment

Section 6.26 of the *Local Government Act 1995* (the Act) provides broad definitions for rateable and non-rateable land. Moreover, section 6.26(2)(g) states that land is not rateable if it is "used exclusively for charitable purposes".

Relevant Plans and Policies

There are no relevant plans or policies to consider in relation to this matter.

Financial Implications

The rate exemption applications were lodged in April 2019 so, if approved, would be applied effective 1 July 2019. This would see a $12,800.63 reduction to the 2019/2020 rating income. There would be similar reductions plus annual increases for future financial periods.

Stakeholder Consultation

No external stakeholder consultation was required or undertaken in relation to this matter.

Risk Assessment

An assessment of the potential implications of implementing the officer recommendation has been undertaken using the City's risk management framework, with risks assessed taking into account any controls already in place. No risks of a medium or greater level have been identified.

Having said that, if Council choses to not approve the applications for rate exemption then staffing and/or legal costs may be incurred if the applicant refers the matter to the State Administrative Tribunal (SAT) for review of the decision.

Options

As an alternative to the proposed recommendation the Council could decline the rate exemption applications on the basis that it considers that the properties leased by AHA are not providing a charitable service to the community or that the properties are not being used exclusive use of the property. Should the applications be declined for either of these reasons, then AHA will have the option to refer the matter to the State Administrative Tribunal for a review of the decision.

However, Council would need to be mindful of any precedent set, as there have already been some properties approved for rate exemption.

CONCLUSION

It is considered, based on the applications and associated documentation provided by AHA, legal opinions obtained by other Councils, that the properties listed in the applications are eligible for rate exemption due to their use being exclusive for charitable purposes.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

The proposed effective date for rate exemptions if approved would be 1 July 2019 due to the applications being lodged in April 2019, prior to the issuance of the 2019/2020 annual rate notice.

ACCESS HOUSING
Leaders in Affordable Housing

2 April 2019

Mr David Nicholson
Rates Coordinator
City of Busselton
Via: email
david.nicholson@busselton.wa.gov.au

Dear David

Re: Rates Exemptions

Further to our previous correspondence and rates exemption applications, please find attached the applications for the additional properties erroneously omitted from the original application already approved.

For reference, Access Housing Australia Ltd seeks a Rates Exemption under the Local Government Act 1995 – Section 6.26 for properties used for the purpose of Community Housing, owned by Access Housing Australia Ltd and those leased by Access Housing from the Housing Authority.

Access Housing are a Not for Profit Community Housing Organisation, a registered Charity and Public Benevolent Institution. We are one of WA's largest non-government social housing tenancy / property managers, with more than 1,800 properties across the Perth metropolitan area and Peel and South West regions under management. Our tenants include seniors, people living with a disability or mental health illness, families and singles.

As a not-for-profit organisation, Access Housing reinvests any profits made through our core business into servicing our property portfolio, developing and purchasing additional affordable homes and funding programs to support tenants to access education, training and employment options to increase financial resilience and break welfare dependency. This approach allows the company to facilitate pathways into and out of the social housing system for current and prospective tenants while also providing a high quality, customer focused service.

The following properties and documents form part of this submission:

RAS	Unit	Number	Street	Suburb
100022846	1	37	Fairbairn Road	Busselton
100019878	7	78	Ford Road	Busselton
100046052	3	41	Harris Road	Busselton
Unknown	9	4	Maxted Street	West Busselton
Unknown	7	4	Maxted Street	West Busselton
Unknown	10	4	Maxted Street	West Busselton
100018680	4	116	Peel Terrace	Busselton
100020322	1	129	Peel Terrace	Busselton
100019933	9	22	Thomas Street	Busselton

1. Application for Rates Exemption
2. Supporting Statutory Declarations
3. Schedule of Properties inclusive of:
    a. Rates assessment number (if known)

Head Office
Level 7, 25 Rowe Ave
Rivervale WA 6103
PO Box 105
Burswood WA 6100
P (08) 9430 0900
F (08) 9430 5583
E info@accesshousing.org.au

ABN 67 128 888 157

Peel Office
4 Stevenson St
PO Box 1200
Mandurah WA 6210

P (08) 9534 0400
F (08) 9583 5173
E mandurah@accesshousing.org.au

accesshousing.org.au

South West Office
1st Floor, 25 Victoria St
PO Box 1539
Bunbury WA 6230

P (08) 9722 7200
F (08) 9721 7222
E bunbury@accesshousing.org.au

info@accesshousing.org.au

b. Address
c. Title details
d. Program Type (Note: all CDHP)
e. Control (Managed on behalf of Housing Authority)
f. Rent received per fortnight
g. Owner (Housing Authority)

4. Extract from Community Housing Agreement (CHA)
5. Letter of support from the Dept of Communities (Housing Authority)

The following documentation was provided in the original application and not included again within this application:

1. Certificate of Incorporation
2. Certificate of Tax Exemption
3. Constitution
4. 2 years audited financial statements

The properties are utilised under the Community Disability Housing Program (CDHP) with the purpose of:

- Disability Independent Living Units
- Transitional Housing and Support Program
- Housing for people with mental health support needs through the Independent Living Program (ILP), Independent Supported Accommodation (ISA) or Mental Health Housing Strategy

Access Housing lease these properties to tenants deemed eligible by the Housing Authority and are sourced from the Housing Authorities Joint Wait List. Lease payments are calculated based on 25% to 30% of the primary tenant's eligible assessable income to a maximum of 74.9% of market rental values.

Due to privacy issues, we are not able to provide a copy of the lease agreements between Access Housing and the tenant. The rental amount is included within the Schedule of Properties for reference.

Some properties may be contained within a complex which has not been individually titled. In this event, the Valuer Generals Office is able to provide the individual property GRV to assist with your assessment.

Access Housing manages these properties on behalf of the Housing Authority under multiple confidential individual and master agreements. I have attached an extract from our overarching Community Housing Agreement (CHA) between Access Housing and the Housing Authority plus their Letter of Support to assist with your assessment.

We look forward to your favourable response and should you have any queries please do not hesitate to contact me at any time.

Yours sincerely,

Duane Moroney
General Manager Property Assets
M: 041 938 2054
E: duane.moroney@accesshousing.org.au

ACCESS HOUSING
Leaders in Affordable Housing

Schedule of Properties - City of Busselton - Leased from Housing Authority										
LGA	RAS	Unit	Number	Street	Suburb	Title	Program	Control	Rent F/night	Owner
Busselton (WA)	100022846	1	37	Fairbairn Road	Busselton	2665/694	CDHP	Managed Lease	$336.50	Housing Authority
Busselton (WA)	100019878	7	78	Ford Road	Busselton	2578/307	CDHP	Managed Lease	$331.68	Housing Authority
Busselton (WA)	100046052	3	41	Harris Road	Busselton	2735/216	CDHP	Managed Lease	$491.20	Housing Authority
Busselton (WA)	Unknown	9	4	Maxted Street	West Busselton	2730/682	CDHP	Managed Lease	$330.62	Housing Authority
Busselton (WA)	Unknown	7	4	Maxted Street	West Busselton	2730/682	CDHP	Managed Lease	$351.33	Housing Authority
Busselton (WA)	Unknown	10	4	Maxted Street	West Busselton	2730/682	CDHP	Managed Lease	$361.82	Housing Authority
Busselton (WA)	100018680	4	116	Peel Terrace	Busselton	2566/622	CDHP	Managed Lease	$344.28	Housing Authority
Busselton (WA)	100020322	1	129	Peel Terrace	Busselton	2588/9	CDHP	Managed Lease	$333.74	Housing Authority
Busselton (WA)	100019933	9	22	Thomas Street	Busselton	2586/409	CDHP	Managed Lease	$334.28	Housing Authority

9

Program	
Community Housing (CH)	Subsidised rental housing for Eligible Persons on very low, to low to moderate incomes
Community Disability Housing Program (CDHP)	Disability Independent Living Units
	Transitional Housing and Support Program managed by the Drug and Alcohol Office
	Housing for people with mental health support needs through the Independent Living Program (ILP), Independent Supported Accommodation (ISA) or Mental Health Housing Strategy
Crisis Accommodation Program (CAP)	Short to medium term crisis accommodation for people who are homeless or at risk of homelessness

EXTRACT OF PAGES RELATING TO PAYMENT OF RATES
- Cover page
- Page 26 - for clause 27
- Pages 41 & 42 for reference clause 40.7
- Page 56 - execution page

Final

Community Housing Agreement

Department of Housing

Housing Authority

Access Housing Australia Limited (ABN 67 128 888 157)
(**Organisation**)

MinterEllison
LAWYERS

CENTRAL PARK, 152-158 ST GEORGES TCE, PERTH WA 6000, DX 124 PERTH
TEL: +61 8 9429 7444 FAX: +61 8 9429 7666
www.minterellison.com

(c) The Risk Management Plan must be provided to the Housing Authority and will be subject to annual review by the Parties.

26.2 Adverse Risk Event

(a) The Organisation must conduct its business and operations in a manner which seeks to avoid an Adverse Risk Event.

(b) The Organisation must notify the Housing Authority in writing immediately it becomes aware that an Adverse Risk Event has occurred or is likely to occur.

27. Financial management and budgets

(a) The Organisation must at all times keep and maintain proper and accurate accounting records that meet the applicable accounting standards under the *Corporations Act 2001* (Cth).

(b) Where the Organisation operates other non-community housing services (including support services or other housing options where the Housing Authority has no interest), it must separate the administrative and financial accounting in relation to the procurement and management of the Land and Premises from these other activities.

(c) The Organisation may not apply any funds or income related to the procurement or management of the Land and Premises under this Agreement to any other activities, services or initiatives of the Organisation, including client support services, unless it obtains the prior written consent of the Housing Authority.

(d) Subject to clause 40.7 and unless otherwise agreed between the Parties, the Organisation is responsible for all costs and outgoings associated with and incidental to the Land and Premises including but not limited to staff and administration costs, repairs and Maintenance, long term Maintenance, Local Government rates and licenses, water authority rates, strata company levies, insurances (including workers compensation insurance), all costs associated with and incidental to the Tenancy Agreements and any other costs the Housing Authority may reasonably determine as necessary from time to time.

(e) If the Housing Authority receives an account or invoice for any fees or charges which are the responsibility of the Organisation under this Agreement, the Housing Authority shall forward the same to the Organisation and the Organisation must make payment by the due date of the account.

(f) The Organisation must submit to the Housing Authority by no later than 30 June each year in accordance with the guidelines agreed by the Parties a budget for the following Financial Year relating to the Land and Premises, including but not limited to:

(i) profit and loss accounts;

(ii) cash flow statement;

(iii) balance sheet; and

(iv) future level of debt servicing obligations of the Organisation

(**Annual Budget Forecast**).

(g) The Organisation must provide the Housing Authority with audited annual financial statements of its operations for the immediate past Financial Year within four (4) months of the end of each Financial Year, such statements to include:

40.4 Alterations

(a) Other than to satisfy its responsibilities under clause 40.6, the Organisation may only initiate and carry out structural alterations or additions to the Managed Premises (including but not limited to Major Maintenance):

(i) with the prior written consent of the Housing Authority; and

(ii) at its own cost.

(b) The Organisation must obtain all necessary approvals prior to making any alterations or additions and must comply with the relevant Law.

(c) In the event the Organisation is no longer to be responsible for the management of the Managed Premises under the terms of this Agreement, the Housing Authority may require the Organisation at its own cost to remove any additions or alterations to the Managed Premises, make good any damage caused and return the Managed Premises to their original condition.

(d) In the event the Housing Authority is required to undertake any works contemplated by clause 40.4(c), the Organisation must reimburse the Housing Authority for any costs it incurs unless otherwise agreed in writing.

40.5 Access

The Housing Authority may enter upon the Managed Premises:

(a) immediately in the case of any emergency or otherwise in the event it is necessary to carry out urgent Maintenance to the Managed Premises;

(b) with the consent of the Tenant and the Organisation given at or immediately before the time of entry; or

(c) for inspection annually at a reasonable hour specified in a notice given to the Tenant by the Organisation no less than ten (10) days in advance.

40.6 Organisation's responsibilities

(a) The Organisation is responsible for managing and maintaining the Managed Premises listed in Schedule B in accordance with the terms of this Agreement, subject only to the exceptions provided for in clause 40.7.

(b) For the avoidance of doubt, the Organisation is responsible for the cost of repairing or causing to be repaired or compensating the Housing Authority for repairing any damage to the Managed Premises and associated fixtures and fittings which, in the opinion of the Housing Authority, become necessary or desirable as a result of neglect by the Organisation or the Tenant or any careless act or breach of any term of this Agreement by the Organisation, its employees, agents or contractors, the Tenants or any other third party who has gained access to the Premises with the express or implied consent of the Organisation.

40.7 Housing Authority's responsibilities

(a) Provided that the Managed Premises have at all times been used, managed and maintained in accordance with this Agreement, the Housing Authority is responsible for carrying out or causing to be carried out:

(i) any Major Maintenance deemed necessary by the Housing Authority in relation to the Managed Premises from time to time at its own cost; and

(ii) subject to clause 40.6(b), any works to repair damage caused to the Managed Premises not otherwise covered by the Insurance Policies.

(b) The Housing Authority is responsible for carrying out or causing to be carried out any asbestos-related remedial works or removal in relation to the Managed Premises in accordance with the relevant Policy.

(c) Where required by Law, the Housing Authority is responsible for the installation of Residual Current Devices and smoke alarms in the Managed Premises and the same are maintained in working order.

(d) For the avoidance of doubt, the Organisation is required to fulfill all other obligations in relation to the Land and Premises the subject of this Agreement (including Managed Premises) save to the extent that the Housing Authority has assumed specific obligations as set out in clause 40.7(a), (b) and (c).

Signing page

EXECUTED as an agreement

The common SEAL of Housing Authority was hereunto affixed in the presence of:

Signature of Authorised Officer ← Signature of Authorised Officer ←

Name of Authorised Officer (please print) Name of Authorised Officer (please print)

Executed by **Access Housing Australia Limited (ABN 67 128 888 157)** in accordance with section 127 of the Corporations Act by authority of its directors

Signature of director ← Signature of ~~director~~/company secretary ←

(Please delete as applicable)

GARRY ELLENDER
Name of director (print) CHIEF EXECUTING OFFICER

1ST OCTOBER 2010

BEN ENGLAND
Name of director/company secretary (print)

Government of **Western Australia**
Department of **Communities**

Mr Mike Archer
Chief Executive Officer
City of Busselton
Locked Bag 1
Busselton WA 6280

Dear Mr Archer,

This is a letter in support of Access Housings request for local government rates exemption.

Access Housing is a Registered Provider under the Department of Communities' Regulation and Compliance System. In order to achieve this status, the organisation has undergone an extensive assessment process and they have been recognised as being a high quality social housing manager.

Access Housing is a not for profit and charitable organisation dedicated to housing low income singles and families, persons with a disability, homeless and persons in crisis.

The housing is provided at a subsidised rate to households on low incomes. This significantly restricts Access Housing's rental income and restrains their ability to meet the cost of provision. Your assistance with rates exemption will make a significant difference to Access Housing's financial viability and their ability to assist local people in need.

Access Housing manages the properties under a Lease arrangement that currently operates on a periodic agreement basis. That is, the Lease Agreement is rolled over each week, fortnight or month on an indefinite basis post the initial lease expiry date, much like a periodic residential Tenancy Agreement commonly used in the rental sector.

The Department also has a Community Housing Agreement between the Department and Access Housing which establishes the terms on which the Organisation must discharge its functions as a Community Housing Organisation; facilitates and supports the agreed objectives and establishes robust and consistent standards for service delivery.

If you require any further clarification, please feel free to contact Mr John Hughes of this office on 9222 8167.

Yours sincerely

John Hughes
Property Management Coordinator | Contracting
Commissioning and Sector Engagement
Department of Communities

14 January 2019

Level 2, 169 Hay Street, East Perth Western Australia 6004
John.hughes@communities.wa.gov.au
Telephone (08) 9222 8167
www.housing.wa.gov.au

APPLICATION FOR RATES EXEMPTION

Local Government Act 1995 – Section 6.26

Privacy

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CITY OF BUSSELTON
LOCKED BAG 1
BUSSELTON WA 6280

ABN 87 285 608 991

Phone: 08 9781 0444
Fax: 08 9752 4958
Email : city@busselton.wa.gov.au
Website : www.busselton.wa.gov.au

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Please note that where exemption from rates is approved, the property will still be subject to the Emergency Services Levy and any other service fees or charges, if applicable, such as rubbish collection charges. All properties which are granted exemption from rates are subject to periodic reviews to ensure continued approval.

Instructions: Please print clearly in the spaces provided.

1. PROPERTY ADDRESS DETAILS

Street address	**1-37 Fairbairn Rd**
Suburb	**Busselton**
Rates Assessment Number (if known)	**100022846**

2. WHAT IS THE CURRENT USE OF THE PROPERTY? Please provide full details:

Community Housing for subsidised accommodation for the relief of poverty or distress for people in need

3. PROPERTY OWNER DETAILS

Organisation:	Access Housing Australia Ltd		
Property Owner: if different to above	Housing Authority		
Postal Address:	PO Box 105 Burswood WA 6100		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 38 054	**Facsimile:**	
E-mail:	duane.moroney@accesshousing.org.au		

4. APPLICANT DETAILS

Contact Person:	Duane Moroney		
Position Title:	General Manager Property Assets		
Postal Address:	PO Box 105 Burswood		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 382 054	**Facsimile:**	
E-mail:	duane.moroney@accesshousing.org.au		

5. ORGANISATION INFORMATION

Is/does the organisation:

An incorporated body as per the Associations Incorporations Act 1987 (WA)? *If yes, provide a Certificate of Incorporation*	Yes	X	No	
Considered "not for profit"?	Yes	X	No	
Have a tax exemption from the Australian Tax Office (ATO)? *If yes, provide a certificate of tax exemption from the ATO*	Yes	X	No	
Leasing the property? *If yes, provide a copy of the lease and confirm if the lessee is responsible for payment of the rates*	Yes	X	No	
Have planning approval for the land use of the property? *A site inspection may be required before the application is processed*	Yes	X	No	

6. DOCUMENTATION REQUIREMENTS

Please provide a copy of (in addition to those specified in Section 4):

☒ Organisation's Constitution

☒ Written statement outlining the nature of the Organisation's operations.

It should include the following details:

- Use and occupancy of the property
- Type of service provided (e.g. food, accommodation etc)
- Frequency of service provision (e.g. full-time, daily, weekly etc)
- Whether payment is received for the service

☐ A plan of the property, showing all buildings and outbuildings

OR

☐ A floor plan of the leased property area, if only part of the property is the subject of this application

☒ A Copy of the current years audited financial statements for the Organisation
(If this exemption applies to only a portion of land owned by this Organisation, provide the relevant statements for the land this application applies to.)

7. AUTHORISATION

By signing this application, I hereby certify that the information provided is true and correct to the best of my knowledge.

Name:	Duane Moroney		
Position:	General Manager Property Assets		
Organisation:	Access Housing Australia Ltd		
Signature: of CEO / Trustee		**Date:**	2 / 4 / 2019

WESTERN AUSTRALIA

OATHS, AFFIDAVITS AND STATUTORY DECLARATIONS ACT 2005

STATUTORY DECLARATION

APPLICATION FOR RATES EXEMPTION UNDER SECTION 6.26 OF THE LOCAL GOVERNMENT ACT 1995.

STATEMENT OF PROPERTY USE FOR THE YEAR ENDING 30 JUNE 20

(1) Christian name or names and surname of declarant in full	(1) I Duane Roy Moroney
(2) Address	(2) of C/- Level 7, 25 Rowe Ave Rivervale WA
	In the State of Western Australia
3) Occupation	(3) General Manager Property Assets

Sincerely declare as follows:-

The property located at	1-37 Fairbairn Rd Busselton
is used by	Access Housing Australia Ltd
for the purposes of	Community Housing
Description of the activities the property is used for	Subsidised accommodation for the relief of poverty or distress for people in need
for the period << ___ to ___ >>	or from 1st July 2018 to 30th June 2021 .

The applicant agrees to advise the Local Government's Rating Services Section as soon as there is **ANY** change to the purpose/s as stated above.

This declaration is made under the *Oaths, Affidavits and Statutory Declarations Act 2005*

Declared at Mandurah

this 2nd day of April 20 19

In the presence of

(Signature of authorised witness)

Mitchell Zeke Moroney Accountant IPA 215419

(Name of authorised witness and qualification as such a witness)

(4) Signature of person making the declaration

(4)

APPLICATION FOR RATES EXEMPTION

Local Government Act 1995 – Section 6.26

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Instructions: Please print clearly in the spaces provided.

1. PROPERTY ADDRESS DETAILS

Street address	**7-78 Ford Road**
Suburb	**Busselton**
Rates Assessment Number (if known)	**100019878**

2. WHAT IS THE CURRENT USE OF THE PROPERTY? Please provide full details:

Community Housing for subsidised accommodation for the relief of poverty or distress for people in need

3. PROPERTY OWNER DETAILS

Organisation:	Access Housing Australia Ltd		
Property Owner: if different to above	Housing Authority		
Postal Address:	PO Box 105 Burswood WA 6100		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 38 054	**Facsimile:**	
E-mail:	duane.moroney@accesshousing.org.au		

4. APPLICANT DETAILS

Contact Person:	Duane Moroney		
Position Title:	General Manager Property Assets		
Postal Address:	PO Box 105 Burswood		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 382 054	**Facsimile:**	
E-mail:	duane.moroney@accesshousing.org.au		

5. ORGANISATION INFORMATION

Is/does the organisation:

An incorporated body as per the Associations Incorporations Act 1987 (WA)? *If yes, provide a Certificate of Incorporation*	Yes	X	No	
Considered "not for profit"?	Yes	X	No	
Have a tax exemption from the Australian Tax Office (ATO)? *If yes, provide a certificate of tax exemption from the ATO*	Yes	X	No	
Leasing the property? *If yes, provide a copy of the lease and confirm if the lessee is responsible for payment of the rates*	Yes	X	No	
Have planning approval for the land use of the property? *A site inspection may be required before the application is processed*	Yes	X	No	

6. DOCUMENTATION REQUIREMENTS

Please provide a copy of (in addition to those specified in Section 4):

☒ Organisation's Constitution

☒ Written statement outlining the nature of the Organisation's operations.

It should include the following details:

- Use and occupancy of the property
- Type of service provided (e.g. food, accommodation etc)
- Frequency of service provision (e.g. full-time, daily, weekly etc)
- Whether payment is received for the service

☐ A plan of the property, showing all buildings and outbuildings

OR

☐ A floor plan of the leased property area, if only part of the property is the subject of this application

☒ A Copy of the current years audited financial statements for the Organisation
(If this exemption applies to only a portion of land owned by this Organisation, provide the relevant statements for the land this application applies to.)

7. AUTHORISATION

By signing this application, I hereby certify that the information provided is true and correct to the best of my knowledge.

Name:	Duane Moroney		
Position:	General Manager Property Assets		
Organisation:	Access Housing Australia Ltd		
Signature: of CEO / Trustee		**Date:**	2 / 4 / 2019

WESTERN AUSTRALIA

OATHS, AFFIDAVITS AND STATUTORY DECLARATIONS ACT 2005

STATUTORY DECLARATION

APPLICATION FOR RATES EXEMPTION UNDER SECTION 6.26 OF THE LOCAL GOVERNMENT ACT 1995.

STATEMENT OF PROPERTY USE FOR THE YEAR ENDING 30 JUNE 20

(1) Christian name or names and surname of declarant in full	(1) I Duane Roy Moroney
(2) Address	(2) of C/- Level 7, 25 Rowe Ave Rivervale WA
	In the State of Western Australia
3) Occupation	(3) General Manager Property Assets

Sincerely declare as follows:-

The property located at 7-78 Ford Rd Busselton
is used by Access Housing Australia Ltd
for the purposes of Community Housing
Description of the activities the property is used for Subsidised accommodation for the relief of poverty or distress for people in need
for the period << ___ to ___ >> or from 1st July 2018 to 30th June 2021 .

The applicant agrees to advise the Local Government's Rating Services Section as soon as there is **ANY** change to the purpose/s as stated above.

This declaration is made under the *Oaths, Affidavits and Statutory Declarations Act 2005*

Declared at Mandurah

this 2nd day of April 20 19

In the presence of _____
(Signature of authorised witness)

Mitchell Zeke Moroney Accountant IPA 215419
(Name of authorised witness and qualification as such a witness)

(4) Signature of person making the declaration

(4) _____

APPLICATION FOR RATES EXEMPTION

Local Government Act 1995 – Section 6.26

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Instructions: Please print clearly in the spaces provided.

1. PROPERTY ADDRESS DETAILS

Street address	**3-41 Harris Rd**
Suburb	**Busselton**
Rates Assessment Number (if known)	**100046052**

2. WHAT IS THE CURRENT USE OF THE PROPERTY? Please provide full details:

Community Housing for subsidised accommodation for the relief of poverty or distress for people in need

3. PROPERTY OWNER DETAILS

Organisation:	Access Housing Australia Ltd		
Property Owner: if different to above	Housing Authority		
Postal Address:	PO Box 105 Burswood WA 6100		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 38 054	**Facsimile:**	
E-mail:	duane.moroney@accesshousing.org.au		

4. APPLICANT DETAILS

Contact Person:	Duane Moroney		
Position Title:	General Manager Property Assets		
Postal Address:	PO Box 105 Burswood		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 382 054	**Facsimile:**	
E-mail:	duane.moroney@accesshousing.org.au		

5. ORGANISATION INFORMATION

Is/does the organisation:

An incorporated body as per the Associations Incorporations Act 1987 (WA)? *If yes, provide a Certificate of Incorporation*	Yes	X	No	
Considered "not for profit"?	Yes	X	No	
Have a tax exemption from the Australian Tax Office (ATO)? *If yes, provide a certificate of tax exemption from the ATO*	Yes	X	No	
Leasing the property? *If yes, provide a copy of the lease and confirm if the lessee is responsible for payment of the rates*	Yes	X	No	
Have planning approval for the land use of the property? *A site inspection may be required before the application is processed*	Yes	X	No	

6. DOCUMENTATION REQUIREMENTS

Please provide a copy of (in addition to those specified in Section 4):

☒ Organisation's Constitution

☒ Written statement outlining the nature of the Organisation's operations.

It should include the following details:

- Use and occupancy of the property
- Type of service provided (e.g. food, accommodation etc)
- Frequency of service provision (e.g. full-time, daily, weekly etc)
- Whether payment is received for the service

☐ A plan of the property, showing all buildings and outbuildings

OR

☐ A floor plan of the leased property area, if only part of the property is the subject of this application

☒ A Copy of the current years audited financial statements for the Organisation
(If this exemption applies to only a portion of land owned by this Organisation, provide the relevant statements for the land this application applies to.)

7. AUTHORISATION

By signing this application, I hereby certify that the information provided is true and correct to the best of my knowledge.

Name:	Duane Moroney		
Position:	General Manager Property Assets		
Organisation:	Access Housing Australia Ltd		
Signature: of CEO / Trustee		**Date:**	2 / 4 / 2019

WESTERN AUSTRALIA

OATHS, AFFIDAVITS AND STATUTORY DECLARATIONS ACT 2005

STATUTORY DECLARATION

APPLICATION FOR RATES EXEMPTION UNDER SECTION 6.26 OF THE LOCAL GOVERNMENT ACT 1995.

STATEMENT OF PROPERTY USE FOR THE YEAR ENDING 30 JUNE 20

(1) Christian name or names and surname of declarant in full	(1) I Duane Roy Moroney
(2) Address	(2) of C/- Level 7, 25 Rowe Ave Rivervale WA
	In the State of Western Australia
3) Occupation	(3) General Manager Property Assets

Sincerely declare as follows:-

The property located at	3 - 41 Harris Rd Busselton
is used by	Access Housing Australia Ltd
for the purposes of	Community Housing
Description of the activities the property is used for	Subsidised accommodation for the relief of poverty or distress for people in need
for the period << ___ to ___ >>	or from 1st July 2018 to 30th June 2021 .

The applicant agrees to advise the Local Government's Rating Services Section as soon as there is **ANY** change to the purpose/s as stated above.

This declaration is made under the *Oaths, Affidavits and Statutory Declarations Act 2005*

Declared at Mandurah

this 2nd day of April 20 19

In the presence of _____
(Signature of authorised witness)

Mitchell Zeke Moroney Accountant IPA 215419
(Name of authorised witness and qualification as such a witness)

(4) Signature of person making the declaration

(4) _____

APPLICATION FOR RATES EXEMPTION

Local Government Act 1995 – Section 6.26

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1. PROPERTY ADDRESS DETAILS

Street address	**Units 7, 9 & 10 / 4 Maxted St**
Suburb	**Busselton**
Rates Assessment Number (if known)	**Unknown**

2. WHAT IS THE CURRENT USE OF THE PROPERTY? Please provide full details:

Community Housing for subsidised accommodation for the relief of poverty or distress for people in need

3. PROPERTY OWNER DETAILS

Organisation:	Access Housing Australia Ltd		
Property Owner: if different to above	Housing Authority		
Postal Address:	PO Box 105 Burswood WA 6100		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 38 054	**Facsimile:**	
E-mail:	duane.moroney@accesshousing.org.au		

4. APPLICANT DETAILS

Contact Person:	Duane Moroney		
Position Title:	General Manager Property Assets		
Postal Address:	PO Box 105 Burswood		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 382 054	**Facsimile:**	
E-mail:	duane.moroney@accesshousing.org.au		

5. ORGANISATION INFORMATION

Is/does the organisation:

An incorporated body as per the Associations Incorporations Act 1987 (WA)? *If yes, provide a Certificate of Incorporation*	Yes	X	No	
Considered "not for profit"?	Yes	X	No	
Have a tax exemption from the Australian Tax Office (ATO)? *If yes, provide a certificate of tax exemption from the ATO*	Yes	X	No	
Leasing the property? *If yes, provide a copy of the lease and confirm if the lessee is responsible for payment of the rates*	Yes	X	No	
Have planning approval for the land use of the property? *A site inspection may be required before the application is processed*	Yes	X	No	

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7. AUTHORISATION

By signing this application, I hereby certify that the information provided is true and correct to the best of my knowledge.

Name:	Duane Moroney		
Position:	General Manager Property Assets		
Organisation:	Access Housing Australia Ltd		
Signature: of CEO / Trustee		**Date:**	2 / 4 / 2019

WESTERN AUSTRALIA

OATHS, AFFIDAVITS AND STATUTORY DECLARATIONS ACT 2005

STATUTORY DECLARATION

APPLICATION FOR RATES EXEMPTION UNDER SECTION 6.26 OF THE LOCAL GOVERNMENT ACT 1995.

STATEMENT OF PROPERTY USE FOR THE YEAR ENDING 30 JUNE 20

(1) Christian name or names and surname of declarant in full	(1) I Duane Roy Moroney
(2) Address	(2) of C/- Level 7, 25 Rowe Ave Rivervale WA **In the State of Western Australia**
3) Occupation	(3) General Manager Property Assets

Sincerely declare as follows:-

The property located at	Units 7,9 & 10 / 4 Maxted St Busselton
is used by	Access Housing Australia Ltd
for the purposes of	Community Housing
Description of the activities the property is used for	Subsidised accommodation for the relief of poverty or distress for people in need
for the period << ___ to ___ >>	or from 1st July 2018 to 30th June 2021 .

The applicant agrees to advise the Local Government's Rating Services Section as soon as there is **ANY** change to the purpose/s as stated above.

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this 2nd day of April 20 19

In the presence of _____
(Signature of authorised witness)

Mitchell Zeke Moroney Accountant IPA 215419
(Name of authorised witness and qualification as such a witness)

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Instructions: Please print clearly in the spaces provided.

1. PROPERTY ADDRESS DETAILS

Street address	**4/116 Peel Tce**
Suburb	**Busselton**
Rates Assessment Number (if known)	**100018680**

2. WHAT IS THE CURRENT USE OF THE PROPERTY? Please provide full details:

Community Housing for subsidised accommodation for the relief of poverty or distress for people in need

3. PROPERTY OWNER DETAILS

Organisation:	Access Housing Australia Ltd		
Property Owner: if different to above	Housing Authority		
Postal Address:	PO Box 105 Burswood WA 6100		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 38 054	**Facsimile:**	
E-mail:	duane.moroney@accesshousing.org.au		

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Contact Person:	Duane Moroney		
Position Title:	General Manager Property Assets		
Postal Address:	PO Box 105 Burswood		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 382 054	**Facsimile:**	
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Name:	Duane Moroney		
Position:	General Manager Property Assets		
Organisation:	Access Housing Australia Ltd		
Signature: of CEO / Trustee		**Date:**	2 / 4 / 2019

WESTERN AUSTRALIA

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	In the State of Western Australia
3) Occupation	(3) General Manager Property Assets

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The property located at 4-116 Peel Tce Busselton
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1. PROPERTY ADDRESS DETAILS

Street address	**1/129 Peel Tce**
Suburb	**Busselton**
Rates Assessment Number (if known)	**100020322**

2. WHAT IS THE CURRENT USE OF THE PROPERTY? Please provide full details:

Community Housing for subsidised accommodation for the relief of poverty or distress for people in need

3. PROPERTY OWNER DETAILS

Organisation:	Access Housing Australia Ltd		
Property Owner: if different to above	Housing Authority		
Postal Address:	PO Box 105 Burswood WA 6100		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 38 054	**Facsimile:**	
E-mail:	duane.moroney@accesshousing.org.au		

4. APPLICANT DETAILS

Contact Person:	Duane Moroney		
Position Title:	General Manager Property Assets		
Postal Address:	PO Box 105 Burswood		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 382 054	**Facsimile:**	
E-mail:	duane.moroney@accesshousing.org.au		

5. ORGANISATION INFORMATION

Is/does the organisation:

An incorporated body as per the Associations Incorporations Act 1987 (WA)? *If yes, provide a Certificate of Incorporation*	Yes	X	No	
Considered "not for profit"?	Yes	X	No	
Have a tax exemption from the Australian Tax Office (ATO)? *If yes, provide a certificate of tax exemption from the ATO*	Yes	X	No	
Leasing the property? *If yes, provide a copy of the lease and confirm if the lessee is responsible for payment of the rates*	Yes	X	No	
Have planning approval for the land use of the property? *A site inspection may be required before the application is processed*	Yes	X	No	

6. DOCUMENTATION REQUIREMENTS

Please provide a copy of (in addition to those specified in Section 4):

☒ Organisation's Constitution

☒ Written statement outlining the nature of the Organisation's operations.

It should include the following details:

- Use and occupancy of the property
- Type of service provided (e.g. food, accommodation etc)
- Frequency of service provision (e.g. full-time, daily, weekly etc)
- Whether payment is received for the service

☐ A plan of the property, showing all buildings and outbuildings

OR

☐ A floor plan of the leased property area, if only part of the property is the subject of this application

☒ A Copy of the current years audited financial statements for the Organisation
(If this exemption applies to only a portion of land owned by this Organisation, provide the relevant statements for the land this application applies to.)

7. AUTHORISATION

By signing this application, I hereby certify that the information provided is true and correct to the best of my knowledge.

Name:	Duane Moroney		
Position:	General Manager Property Assets		
Organisation:	Access Housing Australia Ltd		
Signature: of CEO / Trustee		**Date:**	2 / 4 / 2019

WESTERN AUSTRALIA

OATHS, AFFIDAVITS AND STATUTORY DECLARATIONS ACT 2005

STATUTORY DECLARATION

APPLICATION FOR RATES EXEMPTION UNDER SECTION 6.26 OF THE LOCAL GOVERNMENT ACT 1995.

STATEMENT OF PROPERTY USE FOR THE YEAR ENDING 30 JUNE 20

(1) Christian name or names and surname of declarant in full: (1) **I** Duane Roy Moroney

(2) Address: (2) **of** C/- Level 7, 25 Rowe Ave Rivervale WA **In the State of Western Australia**

3) Occupation: (3) General Manager Property Assets

Sincerely declare as follows:-

The property located at 1-129 Peel Tce Busselton

is used by Access Housing Australia Ltd

for the purposes of Community Housing

Description of the activities the property is used for: Subsidised accommodation for the relief of poverty or distress for people in need

for the period << ___ to ___ >> or from 1st July 2018 to 30th June 2021 .

The applicant agrees to advise the Local Government's Rating Services Section as soon as there is **ANY** change to the purpose/s as stated above.

This declaration is made under the *Oaths, Affidavits and Statutory Declarations Act 2005*

Declared at Mandurah

this 2nd day of April 20 19

In the presence of

(Signature of authorised witness)

Mitchell Zeke Moroney Accountant IPA 215419

(Name of authorised witness and qualification as such a witness)

(4) Signature of person making the declaration

(4)

APPLICATION FOR RATES EXEMPTION

Local Government Act 1995 – Section 6.26

Privacy

The personal information collected on this form will only be used by the **City of Busselton** for the sole purpose of providing requested and related services. Information will be stored securely by us will not be disclosed to any third parties without your express written consent.

CITY OF BUSSELTON
LOCKED BAG 1
BUSSELTON WA 6280

ABN 87 285 608 991

Phone: 08 9781 0444
Fax: 08 9752 4958
Email : city@busselton.wa.gov.au
Website : www.busselton.wa.gov.au

This application form is to be used by organisations seeking exemption from rates, pursuant to the provisions of Section 6.26 of the Local Government Act 1995. The application for exemption will be checked based on the information you have provided, and you will be advised of the outcome in due course. Please attach any additional documents requested, as failure to do so may result in the application being refused.

Please note that where exemption from rates is approved, the property will still be subject to the Emergency Services Levy and any other service fees or charges, if applicable, such as rubbish collection charges. All properties which are granted exemption from rates are subject to periodic reviews to ensure continued approval.

Instructions: Please print clearly in the spaces provided.

1. PROPERTY ADDRESS DETAILS

Street address	**9-22 Thomas St**
Suburb	**Busselton**
Rates Assessment Number (if known)	**100019933**

2. WHAT IS THE CURRENT USE OF THE PROPERTY? Please provide full details:

Community Housing for subsidised accommodation for the relief of poverty or distress for people in need

3. PROPERTY OWNER DETAILS

Organisation:	Access Housing Australia Ltd		
Property Owner: if different to above	Housing Authority		
Postal Address:	PO Box 105 Burswood WA 6100		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 38 054	**Facsimile:**	
E-mail:	duane.moroney@accesshousing.org.au		

4. APPLICANT DETAILS

Contact Person:	Duane Moroney		
Position Title:	General Manager Property Assets		
Postal Address:	PO Box 105 Burswood		
Telephone:	9430 0913	**Postcode:**	6100
Mobile:	0419 382 054	**Facsimile:**	
E-mail:	duane.moroney@accesshousing.org.au		

5. ORGANISATION INFORMATION

Is/does the organisation:

An incorporated body as per the Associations Incorporations Act 1987 (WA)? *If yes, provide a Certificate of Incorporation*	Yes	X	No	
Considered "not for profit"?	Yes	X	No	
Have a tax exemption from the Australian Tax Office (ATO)? *If yes, provide a certificate of tax exemption from the ATO*	Yes	X	No	
Leasing the property? *If yes, provide a copy of the lease and confirm if the lessee is responsible for payment of the rates*	Yes	X	No	
Have planning approval for the land use of the property? *A site inspection may be required before the application is processed*	Yes	X	No	

6. DOCUMENTATION REQUIREMENTS

Please provide a copy of (in addition to those specified in Section 4):

☒ Organisation's Constitution

☒ Written statement outlining the nature of the Organisation's operations.

It should include the following details:

- Use and occupancy of the property
- Type of service provided (e.g. food, accommodation etc)
- Frequency of service provision (e.g. full-time, daily, weekly etc)
- Whether payment is received for the service

☐ A plan of the property, showing all buildings and outbuildings

OR

☐ A floor plan of the leased property area, if only part of the property is the subject of this application

☒ A Copy of the current years audited financial statements for the Organisation
(If this exemption applies to only a portion of land owned by this Organisation, provide the relevant statements for the land this application applies to.)

7. AUTHORISATION

By signing this application, I hereby certify that the information provided is true and correct to the best of my knowledge.

Name:	Duane Moroney		
Position:	General Manager Property Assets		
Organisation:	Access Housing Australia Ltd		
Signature: of CEO / Trustee		**Date:**	2 / 4 / 2019

WESTERN AUSTRALIA

OATHS, AFFIDAVITS AND STATUTORY DECLARATIONS ACT 2005

STATUTORY DECLARATION

APPLICATION FOR RATES EXEMPTION UNDER SECTION 6.26 OF THE LOCAL GOVERNMENT ACT 1995.

STATEMENT OF PROPERTY USE FOR THE YEAR ENDING 30 JUNE 20

(1) Christian name or names and surname of declarant in full	(1) I Duane Roy Moroney
(2) Address	(2) of C/- Level 7, 25 Rowe Ave Rivervale WA In the State of Western Australia
3) Occupation	(3) General Manager Property Assets

Sincerely declare as follows:-

The property located at	9-22 Thomas St Busselton
is used by	Access Housing Australia Ltd
for the purposes of	Community Housing
Description of the activities the property is used for	Subsidised accommodation for the relief of poverty or distress for people in need
for the period << ___ to ___ >>	or from 1st July 2018 to 30th June 2021 .

The applicant agrees to advise the Local Government's Rating Services Section as soon as there is **ANY** change to the purpose/s as stated above.

This declaration is made under the *Oaths, Affidavits and Statutory Declarations Act 2005*

Declared at Mandurah

this 3rd day of April 20 19

In the presence of

(Signature of authorised witness)

Mitchell Zeke Moroney Accountant IPA 215419

(Name of authorised witness and qualification as such a witness)

(4) Signature of person making the declaration

(4)

12.2 Finance Committee - 21/11/2019 - APPLICATION FOR RATE EXEMPTION - SOUTH WEST COUNSELLING INC

STRATEGIC GOAL	6. LEADERSHIP Visionary, collaborative, accountable
STRATEGIC OBJECTIVE	6.1 Governance systems, process and practices are responsible, ethical and transparent.
SUBJECT INDEX	Exemptions & Appeals (Rates)
BUSINESS UNIT	Rates
REPORTING OFFICER	Rates Coordinator - David Nicholson
AUTHORISING OFFICER	Director Finance and Corporate Services - Tony Nottle
NATURE OF DECISION	Executive: substantial direction setting, including adopting strategies, plans and policies (excluding local planning policies), tenders, setting and amending budgets, funding, donations and sponsorships, reviewing committee recommendations
VOTING REQUIREMENT	Simple Majority
ATTACHMENTS	Attachment A South West Counselling Inc Rate Exemption Documentation

This item was considered by the Finance Committee at its meeting on 21 November 2019, the recommendations from which have been included in this report.

OFFICER RECOMMENDATION

That the Council declines the rate exemption application from South West Counselling Inc. for 122 Adelaide Street Busselton under section 6.26(2)(g) of the Local Government Act 1995, "land used exclusively for charitable purposes".

COMMITTEE RECOMMENDATION

That the Council approves the rate exemption application from South West Counselling Inc. for 122 Adelaide Street Busselton under section 6.26(2)(g) of the *Local Government Act 1995*, "land used exclusively for charitable purposes"

Reasons: The Committee deemed that the applicant uses the land exclusively for charitable purposes

EXECUTIVE SUMMARY

An application has been received from South West Counselling Inc. (SWCI) for a rate exemption on 122 Adelaide Street Busselton. This is a residential property that SWCI own and use to provide low fee or no fee counselling, advocacy and support to people across the South West region. SWCI also provide fee for service employee assistance programs and training. On the basis of the application, and background assessment, this report recommends that the application for exemption be declined.

BACKGROUND

SWCI is a not-for-profit organisation that has a charitable collections licence with Consumer Affairs, is a registered charity with the Australian Charities and Not–for-profits Commission and has deductible gift recipient endorsement with the Australian Taxation Office.

According to SWCI constitution their objects are to:

1) Provide counselling, welfare, benevolent and charitable facilities and services for the relief of suffering, distress, destitution, helplessness, and poverty and for meeting the needs of and providing help for individuals requiring support and assistance in the community generally and without discrimination.
2) Provide facilities for the support, education and training of staff
3) Provide other benevolent and charitable facilities and services for the welfare of the community

They also do provide Employee Assistance Programs on behalf of local employers on a fee-for-service basis.

Areas of Counselling according to SWCI web site are:

- Relationship Issues
- Depression
- Anxiety
- Stress
- Bereavement
- Family Separation
- Trauma
- Family and Domestic Violence
- Gambling Help
- Alcohol and Substance Misuse
- Sexual Abuse
- Grief
- Self Esteem Issues
- Health Issues
- Sexuality
- Workplace issues

The main income derived by SWCI for the 2017/2018 financial year was $473.9K from the Department of Child Protection, $71.8K from various grants plus donations and fundraising, and $59.6k from fees for services.

The property at 122 Adelaide Street Busselton is owned by SWCI and utilised on a full-time basis to provide all their counselling, advocacy and support services.

OFFICER COMMENT

In accordance with section 6.26(2)(g) of the *Local Government Act 1995* (the Act), land is not rateable if it is used exclusively for charitable purposes. Rate exemption applications need only be considered in two parts – being firstly is the use itself "charitable" and secondly if the use is considered to be charitable, then is the property being used "exclusively" for such use.

In considering the first part, that is, 'are the operations of SWCI considered to be a charitable use', legal opinions have been consistent in defining a charitable purpose as land used for:

1. The relief of poverty;
2. The advancement of education;
3. The advancement of religion; and
4. Other purposes beneficial to the community.

The use of 122 Adelaide Street Busselton by SWCI is considered to meet the "relief of poverty", "advancement of education" and "other purposes beneficial to the community" charitable definition.

In considering the second part, that is, 'is the property being exclusively used for a charitable purpose', it is acknowledged that fee for service is also part of the organisation's business model. SWCI are the sole occupants of the property from which they provide their services. Therefore the application does not meet this second part.

No physical inspection of the property has been undertaken as it is not considered that this would alter eligibility for rate exemption. This is also because the SWCI statutory declaration clearly states the purpose of the property.

In terms of the current usage of the property, there are no known planning, health or building compliance issues.

Considering that a commercial element is apparent for the services provided by SWCI and the risks associated with similar organisations claiming rate exemptions, this application is not recommended for approval.

Statutory Environment

Section 6.26 of the Act provides broad definitions for rateable and non-rateable land. Moreover, Section 6.26 (2)(g) states that land is not rateable if it is "used exclusively for charitable purposes".

Relevant Plans and Policies

There are no relevant plans or policies to consider in relation to this matter.

Financial Implications

The rate exemption application was lodged in July 2019 so if approved would be applied effective 1 July 2019. This would see a $1,869.34 reduction to the 2019/2020 rating income. There would be similar reductions plus annual increases for future financial periods.

In addition, the setting of a precedent for similar organisations is a concern for the City's future rate base.

Stakeholder Consultation

No external stakeholder consultation was required or undertaken in relation to this matter.

Risk Assessment

An assessment of the potential implications of implementing the officer recommendation has been undertaken using the City's risk management framework, with risks assessed taking into account any controls already in place. No risks of a medium or greater level have been identified.

Options

As an alternative to the proposed recommendation the Council could approve the rate exemption application on the basis that it considers that the property used by SWCI is providing a charitable service to the community.

If a rate exemption is approved then the applicant will be instructed to confirm by 30 April annually that they continue to lease the property and that its use remains as per the application. If a change has occurred and the new use is not eligible for rate exemption then the property will become rateable.

CONCLUSION

It is considered, based on the application and associated documentation provided by SWCI, and the fact that a portion of their activity provides fee-for-service arrangements, that the property listed in the application is not eligible for rate exemption.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

The applicant would be advised following Council resolution.

South West Counselling Inc.

Counselling Therapy Life-skills

Mailing Address: 122 Adelaide St, Busselton WA 6280
Telephone: 08 97542052
Email: admin@swcounselling.org.au
Website: www.swcounselling.org.au
ABN No. 11 899 521 734

23rd July 2019

Mr David Nicholson
Rates Coordinator
City of Busselton
Locked Bag 1
BUSSELTON WA 6280

Dear David

Re: 122 Adelaide St, Busselton

Thank you for your recent email advising the process for South West Counselling's (SWCI) application for rate exemption.

As indicated on the attached Rate Exemption Application SWCI is a not-for-profit charitable institution primarily providing low-fee or no-fee counselling, advocacy and support services to people residing across the South West region. In addition to this, SWCI also provides Employee Assistance Programs on behalf of local employers on a fee-for-service basis. The property at 122 Adelaide Street is utilised on a full-time basis to provide these services; specifically, Monday to Friday from 9am to 5pm, with appointments available on a Tuesday evening to 7pm.

I have attached documentation as requested at question 6 on the Application form.

If you require any further information, please do not hesitate to contact me and I look forward to hearing the outcome of our application in due course.

Yours sincerely

KAREN SOMMERVILLE
Chief Executive Officer

Attachments (10)

APPLICATION FOR RATES EXEMPTION

Local Government Act 1995 – Section 6.26

Privacy

The personal information collected on this form will only be used by the City of Busselton for the sole purpose of providing requested and related services. Information will be stored securely by the City and will not be disclosed to any third parties without your express written consent.

Copyright

I authorise the City of Busselton to reproduce any attachments provided with this form for internal purposes only.

City of Busselton
2 Southern Drive
Busselton WA 6280
Locked bag 1
Busselton WA 6280

ABN 87 285 608 991

Phone: (08) 9781 0444
Facsimile: (08) 9432 4634
Email: city@busselton.wa.gov.au
Web: www.busselton.wa.gov.au

This application form is to be used by organisations seeking exemption from rates, pursuant to the provisions of Section 6.26 of the Local Government Act 1995. The application for exemption will be checked based on the information you have provided, and you will be advised of the outcome in due course. Please attach all additional documents requested, as failure to do so may result in the application being refused.

Please note that this exemption application will only be considered where the properties rating assessment is up to date. Any approved exemption will be on rates only with Emergency Services Levy and other service charges such as waste services remaining payable. Any overpayment as a result of rate exemption being approved will be refunded. Properties which are granted rate exemption are subject to periodic reviews to ensure continued approval.

Instructions: Please print clearly in the spaces provided.

1. PROPERTY ADDRESS DETAILS

Street address	122 Adelaide St
Suburb	Busselton
Post code	6280

Property Reference Number (if known)	100003960

2. WHAT IS THE CURRENT USE OF THE PROPERTY? Please provide full details:

South West Counselling is a not-for-profit charitable institution providing low fee or no fee counselling, advocacy and support services to people residing in the South West region.

3. PROPERTY OWNER DETAILS

Organisation	South West Counselling Inc.
Property owner *(if different to above)*	
Postal address *(including post code)*	122 Adelaide St, Busselton WA 6280
Telephone	9754 2052
Facsimile	9754 7000
Mobile	
E-mail	admin@swcounselling.org.au

4. APPLICANT DETAILS

Contact Person	Karen Sommerville
Position Title	CEO
Postal address *(including post code)*	122 Adelaide St, Busselton WA 6280
Telephone	9754 2052
Facsimile	9754 7000
Mobile	0412 449 881
E-mail	karen@swcounselling.org.au

5. ORGANISATION INFORMATION

Is/does the organisation:

An incorporated body as per the Associations Incorporated Act 1987? *(If **yes**, provide a Certificate of Incorporation)*	☑ Yes	☐ No
Considered "not for profit"?	☑ Yes	☐ No
Have a tax exemption from the Australian Tax Office (ATO)? *(If yes, provide a certificate of tax exemption from the ATO)*	☑ Yes	☐ No
Leasing the property? *(If yes, provide a copy of the lease and confirm if the lessee is responsible for payment of the rates)*	☐ Yes	☑ No
Have planning approval for the land use of the property? *(A site inspection may be required before the application is processed)*	☑ Yes	☐ No

6. DOCUMENTATION REQUIREMENTS

Please provide the following documentation with this application:

- ☑ Formal request for rate exemption on the organisation's letter head that includes a written statement outlining the nature of the Organisation's operations, including the following details:
  - Use and occupancy of the property
  - Type of service provided (e.g. food, accommodation etc)
  - Frequency of service provision (e.g. full-time, daily, weekly etc)
  - Whether any payment is received for the services provided by the organisation;
- ☑ Copy of the organisation's constitution;
- ☑ Copy of the organisation's current certificate of incorporation;
- ☑ A statutory declaration from the organisation confirming the exact purpose for which the whole of the property is being used for;
- ☑ A plan of the property, showing all buildings and outbuildings **OR**
- ☐ Floor plan of the leased property area if only part of the property is the subject of this application.
- ☑ A copy of the organisations current years audited financial statements and details of its financial and funding support;
- ☑ Copies of any other relevant documentation that the organisation considers will support this application;

---

7. AUTHORISATION

By signing this application, I hereby certify that the information provided is true and correct to the best of my knowledge.

Name	**Karen Sommerville**
Position Title	**CEO**
Organisation	**South West Counselling Inc**
CEO/Trustee Signature	

OFFICE USE ONLY

1. CONSIDERATIONS

Approval with the City's Town Planning Scheme? YES ☐ NO ☐

Has the property been inspected? YES ☐ NO ☐

Recommend for non-rateable status? YES ☐ NO ☐

Section 6.26 (2) of the Local Government Act 1995 classification	
Person/s or Classes of Persons Affected by this decision	

Reason for non-rateable status:

New Application ☐ Review of Exemption ☐

Amount of rates to be exempted and date to be commenced from (if applicable):

Amount: $	Data (from): Click here to enter a date.

Rubbish bin changes to be levied and dates to be applicable from:

Amount: $	Data (from): Click here to enter a date.

Note: The approval will be for a period of 3 years, unless circumstances change.

2. DECISION – DELEGATED AUTHORITY (3.40)

Approving officer sub-delegated by the CEO to approve the granting of rate exemption status in accordance with the Local Government Act 1995.

Name	
Position	
Signature	

Determination by delegated officer:

☐ DENIED for non-rateable status ☐ APPROVED for partial non-rateable status ☐ APPROVED for non-rateable status

WESTERN AUSTRALIA

OATHS, AFFIDAVITS AND STATUTORY DECLARATIONS ACT 2005

STATUTORY DECLARATION

~~APPLICATION FOR RATES EXEMPTION UNDER~~
SECTION 6.26 OF THE LOCAL GOVERNMENT ACT 1995.
STATEMENT OF PROPERTY USE

(1) Christian name or names and surname of declarant in full	(1) **I** Karen Sommerville
(2) Address	(2) **Of** 122 Adelaide St, Busselton WA 6280 **In the State of Western Australia**
3) Occupation	(3) CEO

Sincerely declare as follows:-

The property located at 122 Adelaide St, Busselton WA 6280
is used by South West Counselling Inc.
for the purposes of providing low-fee or no-fee counselling, advocacy and support services to people across the South West region.
for the period from 1998 to ongoing.

The applicant agrees to advise the City of Busselton immediately that there is **ANY** change to the purpose/s as stated above.

This declaration is made under the *Oaths, Affidavits and Statutory Declarations Act 2005*

Declared at Busselton

this 25th day of July 2019

In the presence of _____
(Signature of authorised witness)

SHARN THOMPSON - TEACHER
(Name of authorised witness and qualification as such a witness)

(4) Signature of person making the declaration

(4) _____

MODEL RULES AND GUIDANCE NOTES

This document includes additional summaries of the obligations arising from the *Associations Incorporation Act 2015* and other explanatory material. These are presented in the form of 'Guidance Notes' and 'Act Requirements'. These summaries do not form part of the model rules. They have been included to assist associations adopting the model rules or modifying them to create a set of own rules to understand each of the various requirements.

Note for these rules:

If an association or incorporated association approves the adoption of these model rules as its own rules, section 7(4) or 29(5) of the Act, as appropriate, requires the association or incorporated association to notify the Commissioner of the following information —

(a) the name of the association;
(b) the objects or purposes of the association;
(c) the quorum for a general meeting of members of the association;
(d) the quorum for a meeting of the management committee of the association;
(e) if relevant, the period of the first financial year of the association.

Guidance Note – Information provided to the Commissioner under section 29(5) – This information is part of the rules of your association and must be attached to the copy of the rules provided to members.

The information provided to the Commissioner should be inserted here:

A. The name of the Association is: **South West Counselling Inc**

B. The objects of the Association are:

(1) To provide counselling, welfare, benevolent and charitable facilities and services for the relief of suffering, distress, destitution, helplessness, and poverty and for meeting the needs of and providing help for individuals requiring support and assistance in the community generally and without discrimination.

(2) To provide facilities for the support, education and training of staff.

(3) To provide other benevolent and charitable facilities and services for the welfare of the community.

C. Any **three (3)** members personally present (being members entitled to vote under these rules at a general meeting) will constitute a quorum for the conduct of business at a general meeting.

D. Any **three (3)** committee members constitute a quorum for the conduct of the business of a committee meeting.

E. The association's financial year will be the period of 12 months commencing on **1st July** and ending on **30th June** of each year.

THE CONSTITUTION

OF

SOUTH WEST COUNSELLING INCORPORATED

PART 1 — PRELIMINARY

1. TERMS USED

In these rules, unless the contrary intention appears —

Act means the *Associations Incorporation Act 2015*;

Associate member means a member with the rights referred to in rule 8(6);

Association means the incorporated association to which these rules apply;

Books, of the Association, includes the following —
(a) a register;
(b) financial records, financial statements or financial reports, however compiled, recorded or stored;
(c) a document;
(d) any other record of information;

By laws means by-laws made by the Association under rule 64

CEO means the chief executive officer of the Association;

Chairperson means the committee member holding office as the chairperson of the Association;

Commissioner means the person for the time being designated as the Commissioner under section 153 of the Act;

Committee meeting means a meeting of the committee of the Association;

Committee member means a member of the committee;

Deputy Chairperson means the Committee member holding office as the deputy chairperson of the Association.

Financial records includes —
(a) invoices, receipts, orders for the payment of money, bills of exchange, cheques, promissory notes and vouchers; and
(b) documents of prime entry; and
(c) working papers and other documents needed to explain —
    (i) the methods by which financial statements are prepared; and
    (ii) adjustments to be made in preparing financial statements;

Financial report, of a tier 2 association or a tier 3 association, has the meaning given in section 63 of the Act;

Financial statements means the financial statements in relation to the Association required under Part 5 Division 3 of the Act;

Financial year, of the Association, has the meaning of 1st July to 30th June;

General meeting, of the Association, means a meeting of the Association that all members are entitled to receive notice of and to attend;

Member means a person who is an ordinary member of the Association;

Ordinary committee member means a member who is not an office holder of the Association under rule 27(3);

Ordinary member means a member with the rights referred to in rule 8(5);

Register of members means the register of members referred to in section 53 of the Act;

Rules mean these rules of the Association, as in force for the time being;

Secretary means the committee member holding office as the secretary of the Association;

Special general meeting means a general meeting of the Association other than the annual general meeting;

Special resolution means a resolution passed by the members at a general meeting in accordance with section 51 of the Act;

Subcommittee means a subcommittee appointed by the committee under rule 48(1)(a);

Tier 1 association means an incorporated association to which section 64(1) of the Act applies;

Tier 2 association means an incorporated association to which section 64(2) of the Act applies;

Tier 3 association means an incorporated association to which section 64(3) of the Act applies;

Treasurer means the committee member holding office as the treasurer of the Association;

2. FINANCIAL YEAR

(1) The first financial year of the Association is to be the period notified to the Commissioner under section 7(4)(e) or, if relevant, section 29(5)(e) of the Act.

(2) Each subsequent financial year of the Association is the period of 12 months commencing at the termination of the first financial year or the anniversary of that termination.

(3) The association's financial year will be the period of 12 months commencing on 1st July and ending on 30th June of each year.

PART 2 — ASSOCIATION TO BE NOT FOR PROFIT BODY

NOT-FOR-PROFIT BODY

(1) The property and income of the Association must be applied solely towards the promotion of the objects or purposes of the Association and no part of that property or income may be paid or otherwise distributed, directly or indirectly, to any member, except in good faith in the promotion of those objects or purposes.

(2) A payment may be made to a member out of the funds of the Association only if it is authorised under sub-rule (3).

(3) A payment to a member out of the funds of the Association is authorised if it is —
   (a) the payment in good faith to the member as reasonable remuneration for any services provided to the Association, or for goods supplied to the Association, in the ordinary course of business; or
   (b) the payment of interest, on money borrowed by the Association from the member, at a rate not greater than the cash rate published from time to time by the Reserve Bank of Australia; or
   (c) the payment of reasonable rent to the member for premises leased by the member to the Association; or
   (d) the reimbursement of reasonable expenses properly incurred by the member on behalf of the Association.

Note for this rule-

Section 5(1) of the Act provides that an association is not eligible to be incorporated under the Act if it is formed or carried on for the purpose of securing pecuniary profit for its members from its transactions, and section 5(3) of the Act provides details about when an association is not ineligible under section 5(1) of the Act.

Act Requirements – Powers of Incorporated Association - *Under section 14 of the Act the Association may do all things necessary or convenient for carrying out its objects or purposes. Section 14(1)(a)-(g) provides particular examples.*

PART 3 — MEMBERS

Act Requirements - Membership - *Under sections 4 and 17 of the Act an association must always have at least 6 members with full voting rights.*

Act Requirements – Liabilities of the association - *Under section 19 of the Act a member of the management committee, trustee or a member of the association is not liable in respect of the liabilities of the association. This does not apply to liabilities incurred by or on behalf of the association prior to incorporation.*

Guidance Note – Liability of Members - *A member is only liable for their own outstanding membership fees (if any) payable under rule 12.*

DIVISION 1 — MEMBERSHIP

4. ELIGIBILITY FOR MEMBERSHIP

(1) Any person who supports the objects or purposes of the Association is eligible to apply to become a member.

(2) An individual who has not reached the age of 15 years is not eligible to apply for a class of membership that confers full voting rights.

Guidance Note – Eligibility for membership

- *The by-laws may require members to hold specified educational, trade or professional qualifications.*
- *The association must comply with all legal and regulatory obligations that may apply to the association under any other law when assessing eligibility of an applicant for membership.*

5. APPLYING FOR MEMBERSHIP

(1) A person who wants to become a member must apply in writing to the Association.

(2) The application must be signed by the applicant and the member nominating the applicant.

(3) The applicant must specify in the application the class of membership, if there is more than one, to which the application relates.

6. DEALING WITH MEMBERSHIP APPLICATIONS

(1) The committee must consider each application for membership of the Association and decide whether to accept or reject the application.

(2) Subject to sub-rule (3), the committee must consider applications in the order in which they are received by the Association.

(3) The committee may delay its consideration of an application if the Committee considers that any matter relating to the application needs to be clarified by the applicant or that the applicant needs to provide further information in support of the application.

(4) The committee must not accept an application unless the applicant —
(a) is eligible under rule 4; and
(b) has applied under rule 5.

(5) The committee may reject an application even if the applicant —

(a) is eligible under rule 4; and
(b) has applied under rule 5.

(6) The committee must notify the applicant of the committee's decision to accept or reject the application as soon as practicable after making the decision.

(7) If the committee rejects the application, the committee is not required to give the applicant its reasons for doing so.

7. BECOMING A MEMBER

An applicant for membership of the Association becomes a member when —
(a) the committee accepts the application; and
(b) the applicant pays any membership fees payable to the Association under rule 12.

Guidance Note – ***Becoming a member -*** *The applicant immediately becomes a member, when rule 7 has been fulfilled, and is entitled to exercise all the rights and privileges of membership, including the right to vote (if applicable), and must comply with all of the obligations of membership under these rules.*

Act requirement – Member to receive rules – *section 36(1)(b) of the Act provides that the association must give each person who become a member of the association of copy of the rules in force at the time their membership commences.*

Guidance note – Format of rules provided - *It is acceptable for the association to provide a copy of the rules to new members by electronic transmission or providing the details for the website whether the rules may be downloaded. A hard copy must be provided if the member requests that the rules be provided in that manner.*

8. CLASSES OF MEMBERSHIP

(1) The Association consists of ordinary members and any associate members provided for under sub-rule (2).

(2) The Association may have any class of associate membership approved by resolution at a general meeting, including junior membership, senior membership, honorary membership and life membership.

(3) An individual who has not reached the age of 15 years is only eligible to be an associate member.

(4) A person can only be an ordinary member or belong to one class of associate membership.

(5) An ordinary member has full voting rights and any other rights conferred on members by these rules or approved by resolution at a general meeting or determined by the committee.

(6) An associate member has the rights referred to in sub-rule (5) other than full voting rights.

(7) The number of members of any class is not limited unless otherwise approved by resolution at a general meeting.

Guidance Note - Voting rights of Members

- *Each ordinary member of the Association has one vote at a general meeting of the Association.*
- *Each ordinary member of the Association that is a body corporate has one vote at a general meeting of the Association.*

9. WHEN MEMBERSHIP CEASES

(1) A person ceases to be a member when any of the following takes place —
(a) for a member who is an individual, the individual dies;
(b) the person resigns from the Association under rule 10;
(c) the person is expelled from the Association under rule 15;
(d) the person ceases to be a member under rule 12(4).

(2) The CEO must keep a record, for at least one year after a person ceases to be a member, of —
(a) the date on which the person ceased to be a member; and
(b) the reason why the person ceased to be a member.

10 RESIGNATION

(1) A member may resign from membership of the Association by giving written notice of the resignation to the chairperson or CEO.

(2) The resignation takes effect —
(a) when the chairperson or CEO receives the notice; or
(b) if a later time is stated in the notice, at that later time.

(3) A person who has resigned from membership of the Association remains liable for any fees that are owed to the Association (the ***owed amount***) at the time of resignation.

(4) The owed amount may be recovered by the Association in a court of competent jurisdiction as a debt due to the Association.

11. RIGHTS NOT TRANSFERABLE

The rights of a member are not transferable and end when membership ceases.

DIVISION 2 — MEMBERSHIP FEES

12. MEMBERSHIP FEES

(1) The committee must determine the entrance fee (if any) and the annual membership fee (if any) to be paid for membership of the Association.

(2) The fees determined under sub-rule (1) may be different for different classes of membership.

(3) A member must pay the annual membership fee to the CEO or another person authorised by the committee to accept payments, by the date (the ***due date***) determined by the committee.

(4) If a member has not paid the annual membership fee within the period of 3 months after the due date, the member ceases to be a member on the expiry of that period.

(5) If a person who has ceased to be a member under sub-rule (4) offers to pay the annual membership fee after the period referred to in that sub-rule has expired —
(a) the committee may, at its discretion, accept that payment; and
(b) if the payment is accepted, the person's membership is reinstated from the date the payment is accepted.

(6) The committee has the option to set or change an annual fee for any class of membership of the Association from time to time.

DIVISION 3 — REGISTER OF MEMBERS

13. REGISTER OF MEMBERS

Act Requirements – Register of members

Section 53 of the Act requires an incorporated association to maintain a register of its members and record in the register any change in the membership of the association. Any change to the register must be recorded within 28 days after the change occurs.

Under section 53(2) of the Act the register of members must include each member's name and a residential, postal or email address.

Under section 54 of the Act a member is entitled to inspect the register free of charge. The member may make a copy of, or take an extract from, the register but has no right to remove the register for that purpose.

Under section 56 of the Act the management committee is authorised by to determine a reasonable charge for providing a copy of the register.

(1) The CEO or another person authorised by the committee, is responsible for the requirements imposed on the Association under section 53 of the Act to maintain the register of members and record in that register any change in the membership of the Association.

(2) In addition to the matters referred to in section 53(2) of the Act, the register of members must include the class of membership (if applicable) to which each member belongs and the date on which each member becomes a member.

(3) The register of members must be kept by the CEO at the Association's primary business address, or at another place determined by the committee.

(4) A member who wishes to inspect the register of members must contact the CEO to make the necessary arrangements.

(5) If —
(a) a member inspecting the register of members wishes to make a copy of, or take an extract from, the register under section 54(2) of the Act; or
(b) a member makes a written request under section 56(1) of the Act to be provided with a copy of the register of members,

the committee may require the member to provide a statutory declaration setting out the purpose for which the copy or extract is required and declaring that the purpose is connected with the affairs of the Association.

PART 4 — DISCIPLINARY ACTION, DISPUTES AND MEDIATION

DIVISION 1 — TERM USED

14. TERM USED: MEMBER

In this Part

member, in relation to a member who is expelled from the Association, includes former member.

DIVISION 2 — DISCIPLINARY ACTION

15. SUSPENSION OR EXPULSION

(1) The committee may decide to suspend a member's membership or to expel a member from the Association if —
  (a) the member contravenes any of these rules; or
  (b) the member acts detrimentally to the interests of the Association.

(2) The chairperson or CEO must give the member written notice of the proposed suspension or expulsion at least 28 days before the committee meeting at which the proposal is to be considered by the committee.

(3) The notice given to the member must state —
  (a) when and where the committee meeting is to be held; and
  (b) the grounds on which the proposed suspension or expulsion is based; and
  (c) that the member, or the member's representative, may attend the meeting and will be given a reasonable opportunity to make written or oral (or both written and oral) submissions to the committee about the proposed suspension or expulsion;

(4) At the committee meeting, the committee must —
  (a) give the member, or the member's representative, a reasonable opportunity to make written or oral (or both written and oral) submissions to the committee about the proposed suspension or expulsion; and
  (b) give due consideration to any submissions so made; and
  (c) decide —
    (i) whether or not to suspend the member's membership and, if the decision is to suspend the membership, the period of suspension; or
    (ii) whether or not to expel the member from the Association.

(5) A decision of the committee to suspend the member's membership or to expel the member from the Association takes immediate effect.

(6) The committee must give the member written notice of the committee's decision, and the reasons for the decision, within 7 days after the committee meeting at which the decision is made.

(7) A member whose membership is suspended or who is expelled from the Association may, within 14 days after receiving notice of the committee's decision under sub-rule (6), give written notice to the chairperson, secretary or CEO requesting the appointment of a mediator under rule 23.

(8) If notice is given under sub-rule (7), the member who gives the notice and the committee are the parties to the mediation.

Guidance Note – Suspension or expulsion of a Member - *Once the committee has decided to suspend or expel a member under rule 15(5) the member is immediately suspended or expelled.*

16. CONSEQUENCES OF SUSPENSION

(1) During the period a member's membership is suspended, the member —
(a) loses any rights (including voting rights) arising as a result of membership; and
(b) is not entitled to a refund, rebate, relief or credit for membership fees paid, or payable, to the Association.

(2) When a member's membership is suspended, the CEO or another person authorised by the committee must record in the register of members —
(a) that the member's membership is suspended; and
(b) the date on which the suspension takes effect; and
(c) the period of the suspension.

(3) When the period of the suspension ends, the CEO or another person authorised by the committee must record in the register of members that the member's membership is no longer suspended.

DIVISION 3 — RESOLVING DISPUTES

17. TERMS USED

In this Division —

grievance procedure means the procedures set out in this Division;

party to a dispute includes a person –
(a) who is a party to the dispute; and
(b) who ceases to be a member within 6 months before the dispute has come to the attention of each party to the dispute.

Guidance Note - Resolving disputes
For the purposes of rules 17 and 18, the term ***this Division*** *relates to rules 19 – 21.*

18. APPLICATION OF DIVISION

The procedure set out in this Division (the grievance procedure) applies to disputes —
(a) between members; or
(b) between one or more members and the Association.

19. PARTIES TO ATTEMPT TO RESOLVE DISPUTE

The parties to a dispute must attempt to resolve the dispute between themselves within 14 days after the dispute has come to the attention of each party.

20. HOW GRIEVANCE PROCEDURE IS STARTED

(1) If the parties to a dispute are unable to resolve the dispute between themselves within the time required by rule 19, any party to the dispute may start the grievance procedure by giving written notice to the chairperson or CEO of —
(a) the parties to the dispute; and
(b) the matters that are the subject of the dispute.

(2) Within 28 days after the chairperson or CEO is given the notice, a committee meeting must be convened to consider and determine the dispute.

(3) The chairperson or CEO must give each party to the dispute written notice of the committee meeting at which the dispute is to be considered and determined at least 7 days before the meeting is held.

(4) The notice given to each party to the dispute must state —
(a) when and where the committee meeting is to be held; and
(b) that the party, or the party's representative, may attend the meeting and will be given a reasonable opportunity to make written or oral (or both written and oral) submissions to the committee about the dispute.

(5) If —
(a) the dispute is between one or more members and the Association; and
(b) any party to the dispute gives written notice to the chairperson or CEO stating that the party
(i) does not agree to the dispute being determined by the committee; and
(ii) requests the appointment of a mediator under rule 23,

the committee must not determine the dispute.

21. DETERMINATION OF DISPUTE BY COMMITTEE

(1) At the committee meeting at which a dispute is to be considered and determined, the committee must —
(a) give each party to the dispute, or the party's representative, a reasonable opportunity to make written or oral (or both written and oral) submissions to the committee about the dispute; and
(b) give due consideration to any submissions so made; and
(c) determine the dispute.

(2) The committee must give each party to the dispute written notice of the committee's determination, and the reasons for the determination, within 7 days after the committee meeting at which the determination is made.

(3) A party to the dispute may, within 14 days after receiving notice of the committee's determination under sub-rule (1)(c), give written notice to the chairperson or CEO requesting the appointment of a mediator under rule 23.

(4) If notice is given under sub-rule (3), each party to the dispute is a party to the mediation.

DIIVISION 4 — MEDIATION

Guidance Note - Mediation
*For the purposes of rule 22, the term **this Division** relates to rules 22-25.*

22. APPLICATION OF DIVISION

(1) This Division applies if written notice has been given to the Chairperson or CEO requesting the appointment of a mediator —
(a) by a member under rule 15(7); or
(b) by a party to a dispute under rule 20(5)(b)(ii) or 21(3).

(2) If this Division applies, a mediator must be chosen or appointed under rule 23.

23. APPOINTMENT OF MEDIATOR

(1) The mediator must be a person chosen —
(a) if the appointment of a mediator was requested by a member under rule 15(7) — by agreement between the member and the Committee; or
(b) if the appointment of a mediator was requested by a party to a dispute under rule 20(5)(b)(ii) or 21(3) — by agreement between the parties to the dispute.

(2) If there is no agreement for the purposes of sub-rule (1)(a) or (b), then, subject to sub-rules (3) and (4), the committee must appoint the mediator.

(3) The person appointed as mediator by the committee must be a person who acts as a mediator for another not-for-profit body, such as a community legal centre, if the appointment of a mediator was requested by —
(a) a member under rule 15(7); or
(b) a party to a dispute under rule 20(5)(b)(ii); or
(c) a party to a dispute under rule 21(3) and the dispute is between one or more members and the Association.

(4) The person appointed as mediator by the committee may be a member or former member of the Association but must not —
(a) have a personal interest in the matter that is the subject of the mediation; or
(b) be biased in favour of or against any party to the mediation.

24. MEDIATION PROCESS

(1) The parties to the mediation must attempt in good faith to settle the matter that is the subject of the mediation.

(2) Each party to the mediation must give the mediator a written statement of the issues that need to be considered at the mediation at least 5 days before the mediation takes place.

(3) In conducting the mediation, the mediator must —
(a) give each party to the mediation every opportunity to be heard; and
(b) allow each party to the mediation to give due consideration to any written statement given by another party; and
(c) ensure that natural justice is given to the parties to the mediation throughout the mediation process.

(4) The mediator cannot determine the matter that is the subject of the mediation.

(5) The mediation must be confidential, and any information given at the mediation cannot be used in any other proceedings that take place in relation to the matter that is the subject of the mediation.

(6) The costs of the mediation are to be paid by the party or parties to the mediation that requested the appointment of the mediator.

Note for this rule:

Section 182(1) of the Act provides that an application may be made to the State Administrative Tribunal to have a dispute determined if the dispute has not been resolved under the procedure provided for in the incorporated association's rules.

25. IF MEDIATION RESULTS IN DECISION TO SUSPEND OR EXPEL BEING REVOKED

If —

(a) mediation takes place because a member whose membership is suspended or who is expelled from the Association gives notice under rule 15(7); and

(b) as the result of the mediation, the decision to suspend the member's membership or expel the member is revoked,

that revocation does not affect the validity of any decision made at a committee meeting or general meeting during the period of suspension or expulsion.

PART 5 — COMMITTEE

DIVISION 1 — POWERS OF COMMITTEE

26. COMMITTEE

(1) The committee members are the persons who, as the management committee of the Association, have the power to manage the affairs of the Association.

(2) Subject to the Act, these rules, the Association's Corporate Governance Framework and any resolution passed at a general meeting, the Committee has power to do all things necessary or convenient to be done for the proper management of the affairs of the Association.

(3) The committee must take all reasonable steps to ensure that the Association complies with the Act, these rules and the by-laws (if any).

(4) Each member of the committee shall at all times be indemnified and kept fully and effectively indemnified out of the assets of the Association from and against all liability for losses, costs, expenses and damages resulting from or in any way arising out of any act or omission in the performance by that member of any task or function for or on behalf of the Association or in the furtherance of its objects.

DIVISION 2 — COMPOSITION OF COMMITTEE AND DUTIES OF MEMBERS

27. COMMITTEE MEMBERS

(1) The committee members consist of —
(a) the office holders of the Association; and
(b) at least one ordinary committee member.

(2) The committee must determine the maximum number of members who may be ordinary Committee members.

(3) The following are the office holders of the Association —
(a) the chairperson;
(b) the deputy chairperson;
(c) the secretary;
(d) the treasurer.

(4) A person may be a committee member if the person is —
(a) an individual who has reached 18 years of age; and
(b) an ordinary member.

(5) A person must not hold 2 or more of the offices mentioned in sub-rule (3) at the same time.

(6) All committee members are required to sign and adhere to the Association's committee member's Code of Conduct.

Act Requirements – Persons who are not to be members of Committee
Under section 39 of the Act the following persons must not, without leave of the Commissioner, accept an appointment or act as a member of a management committee of an association:
- *a person who is, according to the Interpretation Act 1984 section 13D, a bankrupt or person whose affairs are under insolvency laws;*

- *a person who has been convicted, within our outside the State, of-*
  - *an indictable offence in relation to the promotion, formation or management of a body corporate; or*
  - *an offence involving fraud or dishonesty punishable by imprisonment for a period of not less than three months; or*
  - *an offence under Part 4 Division 3 or section 127 of the Act*

Section 39 only applies to a person who has been convicted of the above offences only for a period of 5 years from the time of the person's conviction, or if the conviction results in a term of imprisonment, from the time of the person's release from custody.

Act Requirements - Duties of Committee Members and Officers

Section 3 of the Act provides a definition of "officer". The duties provisions will apply to committee members and to those persons who have the ability to influence the management committee but who do not hold a formal committee position

- *Under section 44 of the Act an officer of an association must exercise his or her powers and discharge his or her duties with a degree of care and diligence that a reasonable person would exercise if that person-*
  - *were an officer of the association in the association's circumstances; and*
  - *occupied the office held by, and had the same responsibilities within the association as, the officer.*
- *Under section 45 of the Act an officer of an association must exercise his or her powers and discharge his or her duties-*
  - *in good faith in the best interests of the Association; and*
  - *for a proper purpose.*
- *Under section 46 an officer of an association must not improperly use his or her position to-*
  - *gain an advantage for the officer or another person; or*
  - *cause detriment to the Association.*
- *Under section 47 a person who obtains information because the person is, or has been, an officer of an association must not improperly use the information to-*
  - *gain an advantage for the person or another person; or*
  - *cause detriment to the Association.*

28. CHAIRPERSON

(1) It is the duty of the chairperson to consult with the CEO regarding the business to be conducted at each committee meeting and general meeting.

(2) The chairperson has the powers and duties relating to convening and presiding at committee meetings and presiding at general meetings provided for in these rules.

29. SECRETARY

The CEO has delegated responsibility for the following duties on behalf of the secretary of the Association —

(a) dealing with the Association's correspondence;
(b) consulting with the chairperson regarding the business to be conducted at each committee meeting and general meeting;
(c) preparing the notices required for meetings and for the business to be conducted at meetings;
(d) unless another member is authorised by the committee to do so, maintaining on behalf of the Association the register of members, and recording in the register any changes in the membership, as required under section 53(1) of the Act;
(e) maintaining on behalf of the Association an up-to-date copy of these rules, as required under section 35(1) of the Act;
(f) unless another member is authorised by the committee to do so, maintaining on behalf of the Association a record of committee members and other persons authorised to act on behalf of the Association, as required under section 58(2) of the Act;

(g) ensuring the safe custody of the books of the Association, other than the financial records, financial statements and financial reports, as applicable to the Association;
(h) ensuring there are full and accurate minutes of committee meetings and general meetings;
(i) carrying out any other duty given to the secretary under these rules or by the committee.

Guidance note – Record of Office Holders - *detailed information about what must be included in the record of office holders is included under rule 68.*

30. TREASURER

The CEO has delegated responsibility for the following duties on behalf of the treasurer of the Association —
(a) ensuring that any amounts payable to the Association are collected and issuing receipts for those amounts in the Association's name;
(b) ensuring that any amounts paid to the Association are credited to the appropriate account of the Association;
(c) ensuring that any payments to be made by the Association are made on time;
(d) ensuring that the Association complies with the relevant requirements of Part 5 of the Act;
(e) ensuring the safe custody of the Association's financial records, financial statements and financial reports, as applicable to the Association;
(f) if the Association is a tier 1 association, coordinating the preparation of the Association's financial statements before their submission to the Association's annual general meeting;
(g) if the Association is a tier 2 association or tier 3 association, coordinating the preparation of the Association's financial report before its submission to the Association's annual general meeting;
(h) providing any assistance required by an auditor or reviewer conducting an audit or review of the Association's financial statements or financial report under Part 5 Division 5 of the Act;
(i) carrying out any other duty given to the Treasurer under these rules or by the committee.

DIVISION 3 — ELECTION OF COMMITTEE MEMBERS AND TENURE OF OFFICE

31. HOW MEMBERS BECOME COMMITTEE MEMBERS

A member becomes a committee member if the member —
(a) is elected to the committee at an annual general meeting; or
(b) is appointed to the committee by the committee to fill a casual vacancy under rule 38.

32. NOMINATION OF COMMITTEE MEMBERS

(1) At least 42 days before an annual general meeting, the CEO must send written notice to all the members —
  (a) calling for nominations for election to the committee; and
  (b) stating the date by which nominations must be received by the CEO to comply with sub-rule (2).

(2) A member who wishes to be considered for election to the committee at the annual general meeting must nominate for election by completing a nomination form and submitting to the CEO at least 14 days before the annual general meeting.

(3) The nomination form must include a signed nomination by another member in support of the nomination.

(4) A member may nominate for one specified position of office holder of the Association or to be an ordinary committee member.

(5) A member whose nomination does not comply with this rule is not eligible for election to the committee unless the member is nominated under rule 33(2) or 34(2)(b).

33. ELECTION OF OFFICE HOLDERS

(1) At the annual general meeting, a separate election must be held for each position of office holder of the Association.

(2) If there is no nomination for a position, the chairperson of the meeting may call for nominations from the ordinary members at the meeting.

(3) If only one member has nominated for a position, the chairperson of the meeting must declare the member elected to the position.

(4) If more than one member has nominated for a position, the ordinary members at the meeting must vote in accordance with procedures that have been determined by the committee to decide who is to be elected to the position.

(5) Each ordinary member present at the meeting may vote for one member who has nominated for the position.

(6) A member who has nominated for the position may vote for himself or herself.

(7) On the member's election, the new chairperson of the Association may take over as the chairperson of the meeting.

34. ELECTION OF ORDINARY COMMITTEE MEMBERS

(1) At the annual general meeting, the committee must decide by resolution the number of ordinary committee members (if any) to hold office for the next year.

(2) If the number of members nominating for the position of ordinary committee member is not greater than the number to be elected, the chairperson of the meeting —
(a) must declare each of those members to be elected to the position; and
(b) may call for further nominations from the ordinary members at the meeting to fill any positions remaining unfilled after the elections under paragraph (a).

(3) If —
(a) the number of members nominating for the position of ordinary committee member is greater than the number to be elected; or
(b) the number of members nominating under sub-rule (2)(b) is greater than the number of positions remaining unfilled,
the ordinary members at the meeting must vote in accordance with procedures that have been determined by the committee to decide the members who are to be elected to the position of ordinary committee member.

(4) A member who has nominated for the position of ordinary committee member may vote in accordance with that nomination.

35. TERM OF OFFICE

(1) The term of office of a committee member begins when the member —
(a) is elected at an annual general meeting or under sub-rule 36(3)(b); or
(b) is appointed to fill a casual vacancy under rule 38.

(2) Subject to rule 37, a committee member holds office until the positions on the committee are declared vacant at the next annual general meeting.

(3) A committee member may be re-elected.

Guidance Note – Committee members upon incorporation - *The committee members appointed on incorporation of the association will hold office until the conclusion of the first annual general meeting of the association and will be eligible for re-election.*

36. RESIGNATION AND REMOVAL FROM OFFICE

(1) A committee member may resign from the Committee by written notice given to the chairperson or CEO.

(2) The resignation takes effect —
(a) when the notice is received by the chairperson or CEO; or
(b) if a later time is stated in the notice, at the later time.

(3) At a general meeting, the Association may by resolution —
(a) remove a committee member from office; and
(b) elect a member who is eligible under rule 27(4) to fill the vacant position.

(4) A committee member who is the subject of a proposed resolution under sub-rule (3)(a) may make written representations (of a reasonable length) to the chairperson or CEO and may ask that the representations be provided to the members.

(5) The chairperson or CEO may give a copy of the representations to each member or, if they are not so given, the committee member may require them to be read out at the general meeting at which the resolution is to be considered.

37. WHEN MEMBERSHIP OF COMMITTEE CEASES

A person ceases to be a committee member if the person —
(a) dies or otherwise ceases to be a member; or
(b) resigns from the committee or is removed from office under rule 36; or
(c) becomes ineligible to accept an appointment or act as a committee member under section 39 of the Act;
(d) becomes permanently unable to act as a committee member because of a mental or physical disability; or
(e) fails to attend 3 consecutive committee meetings, of which the person has been given notice, without having notified the committee that the person will be unable to attend.

Note for this rule:

Section 41 of the Act imposes requirements, arising when a person ceases to be a member of the management committee of an incorporated association, that relate to returning documents and records.

Act requirements – handing over documents and records *– where a person ceases to be a member of the association's committee section 41 of the Act requires that person to, as soon as practicable after their membership ceases, deliver to a member of the committee all of the relevant documents and records they hold pertaining to the management of the association's affairs.*

38. FILLING CASUAL VACANCIES

(1) The committee may appoint a member who is eligible under rule 27(4) to fill a position on the Committee that —
  (a) has become vacant under rule 37; or
  (b) was not filled by election at the most recent annual general meeting or under rule 36(3)(b).

(2) If the position of secretary becomes vacant, the committee must appoint a member who is eligible under rule 27(4) to fill the position within 28 days after the vacancy arises.

(3) Subject to the requirement for a quorum under rule 45, the committee may continue to act despite any vacancy in its membership.

(4) If there are fewer committee members than required for a quorum under rule 45, the committee may act only for the purpose of —
  (a) appointing Committee members under this rule; or
  (b) convening a general meeting.

39. VALIDITY OF ACTS

The acts of a committee or subcommittee, or of a committee member or member of a subcommittee, are valid despite any defect that may afterwards be discovered in the election, appointment or qualification of a committee member or member of a subcommittee.

40. PAYMENTS TO COMMITTEE MEMBERS

(1) In this rule —
Committee member includes a member of a subcommittee;
Committee meeting includes a meeting of a subcommittee.

(2) A committee member is entitled to be paid out of the funds of the Association for any out-of-pocket expenses for travel and accommodation properly incurred —
  (a) in attending a committee meeting or
  (b) in attending a general meeting; or
  (c) otherwise in connection with the Association's business.

DIVISION 4 — COMMITTEE MEETINGS

41. COMMITTEE MEETINGS

(1) The committee must meet at least 6 times in each year on the dates and at the times and places determined by the committee.

(2) The date, time and place of the first committee meeting must be determined by the committee members as soon as practicable after the annual general meeting at which the committee members are elected.

(3) Special committee meetings may be convened by the chairperson or any 2 committee members.

42. NOTICE OF COMMITTEE MEETINGS

(1) Notice of each Committee meeting must be given to each Committee member at least 48 hours before the time of the meeting.

(2) The notice must state the date, time and place of the meeting and must describe the general nature of the business to be conducted at the meeting.

(3) Unless sub-rule (4) applies, the only business that may be conducted at the meeting is the business described in the notice.

(4) Urgent business that has not been described in the notice may be conducted at the meeting if the committee members at the meeting unanimously agree to treat that business as urgent.

43. PROCEDURE AND ORDER OF BUSINESS

(1) The chairperson or, in the chairperson's absence, the deputy chairperson must preside as chairperson of each committee meeting.

(2) If the chairperson and deputy chairperson are absent or are unwilling to act as chairperson of a meeting, the committee members at the meeting must choose one of them to act as chairperson of the meeting.

(3) The procedure to be followed at a committee meeting must be determined from time to time by the committee.

(4) The order of business at a committee meeting may be determined by the committee members at the meeting.

(5) A committee member is required to declare any conflict of interest with items listed on the meeting agenda at the commencement of the committee meeting and leave the meeting room when the item is discussed at the meeting.

(6) A member or other person who is not a committee member may attend a committee meeting if invited to do so by the committee.

(7) A person invited under sub-rule (5) to attend a committee meeting —
(a) has no right to any agenda, minutes or other document circulated at the meeting; and
(b) must not comment about any matter discussed at the meeting unless invited by the committee to do so; and
(c) cannot vote on any matter that is to be decided at the meeting.

Act Requirements - Material Personal Interests of Committee Members

- *Under section 42 of the Act a member of the committee who has a material personal interest in a matter being considered at a committee meeting must:*
  - *as soon as he or she becomes aware of that interest, disclose the nature and extent of his or her interest to the Committee;*
  - *disclose the nature and extent of the interest at the next general meeting of the association*
- *Under section 42(3) of the Act this rule does not apply in respect of a material personal interest*
  - *(a) that exists only because the member-*
    - *is an employee of the incorporated association; or*
    - *is a member of a class of persons for whose benefit the association is established; or*
  - *(b) that the member has in common with all, or a substantial proportion of, the members of the Association.*
- *Under section 43 of the Act a member of the management committee who has a material personal interest in a matter being considered at a meeting of the management committee must not be present while the matter is being considered at the meeting or vote on the matter.*
- *Under section 42(6) of the Act the association must record every disclosure made by a committee member of a material personal interest in the minutes of the committee meeting at which the disclosure is made.*

44. USE OF TECHNOLOGY TO BE PRESENT AT COMMITTEE MEETINGS

(1) The presence of a committee member at a committee meeting need not be by attendance in person but may be by that committee member and each other committee member at the meeting being simultaneously in contact by telephone or other means of instantaneous communication.

(2) A member who participates in a committee meeting as allowed under sub-rule (1) is taken to be present at the meeting and, if the member votes at the meeting, the member is taken to have voted in person.

45. QUORUM FOR COMMITTEE MEETINGS

(1) Subject to rule 38(4), no business is to be conducted at a committee meeting unless a quorum is present.

(2) A quorum for committee meetings shall be –
  (a) three; or
  (b) half the number of members of the committee provided that if the number of members of the committee is not even the odd number shall be reduced by one for the purpose of the calculation, whichever is the greater.

(3) If a quorum is not present within 15 minutes after the notified commencement time of a committee meeting —
  (a) in the case of a special meeting — the meeting lapses; or
  (b) otherwise, the meeting is adjourned to the date of the next scheduled committee meeting.

(4) If —
  (a) a quorum is not present within 15 minutes after the commencement time of a committee meeting held under sub-rule (2)(b); and
  (b) at least 2 committee members are present at the meeting,

  those members present are taken to constitute a quorum.

Note for this rule:

If these model rules are adopted, the quorum for a committee meeting is as notified to the Commissioner under section 7(4)(d) or 29(5)(d) of the Act.

46. VOTING AT COMMITTEE MEETINGS

(1) Each committee member present at a committee meeting has one vote on any question arising at the meeting.

(2) A motion is carried if a majority of the committee members present at the committee meeting vote in favour of the motion.

(3) If the votes are divided equally on a question, the chairperson of the meeting has a second or casting vote.

(4) A vote may take place by the committee members present indicating their agreement or disagreement or by a show of hands, unless the committee decides that a secret ballot is needed to determine a particular question.

(5) If a secret ballot is needed, the chairperson of the meeting must decide how the ballot is to be conducted.

47. MINUTES OF COMMITTEE MEETINGS

(1) The committee must ensure that minutes are taken and kept of each committee meeting.

(2) The minutes must record the following —
(a) the names of the committee members present at the meeting;
(b) the name of any person attending the meeting under rule 43(5);
(c) the business considered at the meeting;
(d) any motion on which a vote is taken at the meeting and the result of the vote.

(3) The minutes of a committee meeting must be entered in the Association's minute book within 30 days after the meeting is held.

(4) The chairperson must ensure that the minutes of a committee meeting are reviewed and signed as correct by —
(a) the chairperson of the meeting; or
(b) the chairperson of the next committee meeting.

(5) When the minutes of a committee meeting have been signed as correct they are, until the contrary is proved, evidence that —
(a) the meeting to which the minutes relate was duly convened and held; and
(b) the matters recorded as having taken place at the meeting took place as recorded; and
(c) any appointment purportedly made at the meeting was validly made.

Note for this rule:

Section 42(6) of the Act requires details relating to the disclosure of a committee member's material personal interest in a matter being considered at a committee meeting to be recorded in the minutes of the meeting.

DIVISION 5 — SUBCOMMITTEES AND SUBSIDIARY OFFICES

48. SUBCOMMITTEES AND SUBSIDIARY OFFICES

(1) To help the committee in the conduct of the Association's business, the committee may, in writing, do either or both of the following —
(a) appoint one or more subcommittees;
(b) create one or more subsidiary offices and appoint people to those offices.

(2) A subcommittee may consist of the number of people, whether or not members, that the committee considers appropriate.

(3) A person may be appointed to a subsidiary office whether or not the person is a member.

(4) Subject to any directions given by the committee —
(a) a subcommittee may meet and conduct business as it considers appropriate; and
(b) the holder of a subsidiary office may carry out the functions given to the holder as the holder considers appropriate.

49. DELEGATION TO SUBCOMMITTEES AND HOLDERS OF SUBSIDIARY OFFICES

(1) In this rule —

non-delegable duty means a duty imposed on the committee by the Act or another written law.

(2) The committee may, in writing, delegate to a subcommittee or the holder of a subsidiary office the exercise of any power or the performance of any duty of the committee other than —
(a) the power to delegate; and
(b) a non-delegable duty.

(3) A power or duty, the exercise or performance of which has been delegated to a subcommittee or the holder of a subsidiary office under this rule, may be exercised or performed by the subcommittee or holder in accordance with the terms of the delegation.

(4) The delegation may be made subject to any conditions, qualifications, limitations or exceptions that the committee specifies in the document by which the delegation is made.

(5) The delegation does not prevent the committee from exercising or performing at any time the power or duty delegated.

(6) Any act or thing done by a subcommittee or by the holder of a subsidiary office, under the delegation has the same force and effect as if it had been done by the committee.

(7) The committee may, in writing, amend or revoke the delegation.

PART 6 — GENERAL MEETINGS OF ASSOCIATION

50. ANNUAL GENERAL MEETING

(1) The committee must determine the date, time and place of the annual general meeting.

(2) If it is proposed to hold the annual general meeting more than 6 months after the end of the Association's financial year, the CEO must apply to the Commissioner for permission under section 50(3)(b) of the Act within 4 months after the end of the financial year.

(3) The annual general meeting of the Association shall be held prior to the first day of November in every year.

(4) The ordinary business of the annual general meeting is as follows —
- (a) to confirm the minutes of the previous annual general meeting and of any special general meeting held since then if the minutes of that meeting have not yet been confirmed;
- (b) to receive and consider —
  - (i) the committee's annual report on the Association's activities during the preceding financial year; and
  - (ii) if the Association is a tier 1 association, the financial statements of the Association for the preceding financial year presented under Part 5 of the Act; and
  - (iii) if the Association is a tier 2 association or a tier 3 association, the financial report of the Association for the preceding financial year presented under Part 5 of the Act;
  - (iv) if required to be presented for consideration under Part 5 of the Act, a copy of the report of the review or auditor's report on the financial statements or financial report;
- (c) to elect the office holders of the Association and other committee members;
- (d) if applicable, to appoint or remove a reviewer or auditor of the Association in accordance with the Act;
- (e) to confirm or vary the entrance fees, subscriptions and other amounts (if any) to be paid by members.

(5) Any other business of which notice has been given in accordance with these rules may be conducted at the annual general meeting.

Note for this rule:

Unless the Commissioner allows otherwise, under section 50(3) of the Act the annual general meeting must be held within 6 months after the end of the Association's financial year. If it is the first annual general meeting, section 50(2) of the Act provides that it may be held at any time within 18 months after incorporation.

51. SPECIAL GENERAL MEETINGS

(1) The Committee may convene a special general meeting.

(2) The Committee must convene a special general meeting if at least 20% of the members require a special general meeting to be convened.

(3) The members requiring a special general meeting to be convened must —
(a) make the requirement by written notice given to the chairperson or CEO; and
(b) state in the notice the business to be considered at the meeting; and
(c) each sign the notice.

(4) The special general meeting must be convened within 28 days after notice is given under sub-rule (3)(a).

(5) If the committee does not convene a special general meeting within that 28 day period, the members making the requirement (or any of them) may convene the special general meeting.

(6) A special general meeting convened by members under sub-rule (5) —
(a) must be held within 3 months after the date the original requirement was made; and
(b) may only consider the business stated in the notice by which the requirement was made.

(7) The Association must reimburse any reasonable expenses incurred by the members convening a special general meeting under sub-rule (5).

52. NOTICE OF GENERAL MEETINGS

(1) The CEO or, in the case of a special general meeting convened under rule 51(5), the members convening the meeting, must give to each member —
(a) at least 21 days' notice of a general meeting if a special resolution is to be proposed at the meeting; or
(b) at least 14 days' notice of a general meeting in any other case.

(2) The notice must —
(a) specify the date, time and place of the meeting; and
(b) indicate the general nature of each item of business to be considered at the meeting; and
(c) if the meeting is the annual general meeting, include the names of the members who have nominated for election to the committee under rule 32(2); and
(d) if a special resolution is proposed —
(i) set out the wording of the proposed resolution as required by section 51(4) of the Act; and
(ii) state that the resolution is intended to be proposed as a special resolution; and
(iii) comply with rule 53(7).

Note for this paragraph:

Section 51(1) of the Act states that a resolution is a special resolution if it is passed —
(a) at a general meeting of an incorporated association; and
(b) by the votes of not less than three-fourths of the members of the association who cast a vote at the meeting.

Act requirements – Notice to be given to reviewer or auditor *– For Tier 2 and 3 associations – under section 86 of the Act a reviewer or auditor of an incorporated association is entitled to receive all notices of and other communications relating to any general meetings of the association that a member is entitled to receive.*

53. PROXIES

(1) Subject to sub-rule (2), an ordinary member may appoint an individual who is an ordinary member as his or her proxy to vote and speak on his or her behalf at a general meeting.

(2) An ordinary member may be appointed the proxy for not more than 5 other members.

(3) The appointment of a proxy must be in writing and signed by the member making the appointment.

(4) The member appointing the proxy may give specific directions as to how the proxy is to vote on his or her behalf.

(5) If no instructions are given to the proxy, the proxy may vote on behalf of the member in any matter as the proxy sees fit.

(6) If the committee has approved a form for the appointment of a proxy, the member may use that form or any other form —
(a) that clearly identifies the person appointed as the member's proxy; and
(b) that has been signed by the member.

(7) Notice of a general meeting given to an ordinary member under rule 52 must —
(a) state that the member may appoint an individual who is an ordinary member as a proxy for the meeting; and
(b) include a copy of any form that the Committee has approved for the appointment of a proxy.

(8) A form appointing a proxy must be given to the chairperson or CEO before the commencement of the general meeting for which the proxy is appointed.

(9) A form appointing a proxy sent by post or electronically is of no effect unless it is received by the Association not later than 24 hours before the commencement of the meeting.

54. USE OF TECHNOLOGY TO BE PRESENT AT GENERAL MEETINGS

(1) The presence of a member at a general meeting need not be by attendance in person but may be by that member and each other member at the meeting being simultaneously in contact by telephone or other means of instantaneous communication.

(2) A member who participates in a general meeting as allowed under sub-rule (1) is taken to be present at the meeting and, if the member votes at the meeting, the member is taken to have voted in person.

55. PRESIDING MEMBER AND QUORUM FOR GENERAL MEETINGS

(1) The chairperson or, in the chairperson's absence, the deputy chairperson must preside as chairperson of each general meeting.

(2) If the chairperson and deputy chairperson are absent or are unwilling to act as chairperson of a general meeting, the committee members at the meeting must choose one of them to act as chairperson of the meeting.

(3) No business is to be conducted at a general meeting unless a quorum is present.

(4) A quorum for meetings of the committee shall be –
(a) three; or
(b) half the number of members of the committee provided that if the number of members of the committee is not even the odd number shall be reduced by one for the purpose of the calculation, whichever is the greater.

(5) If a quorum is not present within 15 minutes after the notified commencement time of a general meeting —
  (a) in the case of a special general meeting — the meeting lapses; or
  (b) in the case of the annual general meeting — the meeting is adjourned to —
    (i) the same time and day in the following week; and
    (ii) the same place, unless the chairperson specifies another place at the time of the adjournment or written notice of another place is given to the members before the day to which the meeting is adjourned.

(6) If —
  (a) a quorum is not present within 15 minutes after the commencement time of an annual general meeting held under sub-rule (4)(b); and
  (b) at least 2 ordinary members are present at the meeting,
  those members present are taken to constitute a quorum.

Note for this rule:

If these model rules are adopted, the quorum for a general meeting is as notified to the Commissioner under section 7(4)(c) or 29(5)(c) of the Act.

56. ADJOURNMENT OF GENERAL MEETING

(1) The chairperson of a general meeting at which a quorum is present may, with the consent of a majority of the ordinary members present at the meeting, adjourn the meeting to another time at the same place or at another place.

(2) Without limiting sub-rule (1), a meeting may be adjourned —
  (a) if there is insufficient time to deal with the business at hand; or
  (b) to give the members more time to consider an item of business.

(3) No business may be conducted on the resumption of an adjourned meeting other than the business that remained unfinished when the meeting was adjourned.

(4) Notice of the adjournment of a meeting under this rule is not required unless the meeting is adjourned for 14 days or more, in which case notice of the meeting must be given in accordance with rule 52.

VOTING AT GENERAL MEETING

(1) On any question arising at a general meeting —
  (a) subject to sub-rule (6), each ordinary member has one vote unless the member may also vote on behalf of a body corporate under sub-rule (2); and
  (b) ordinary members may vote personally or by proxy.

(2) An ordinary member that is a body corporate may, in writing, appoint an individual, whether or not the individual is a member, to vote on behalf of the body corporate on any question at a particular general meeting or at any general meeting, as specified in the document by which the appointment is made.

(3) A copy of the document by which the appointment is made must be given to the chairperson or CEO before any general meeting to which the appointment applies.

(4) The appointment has effect until —
  (a) the end of any general meeting to which the appointment applies.

(5) Except in the case of a special resolution, a motion is carried if a majority of the ordinary members present at a general meeting vote in favour of the motion.

(6) If votes are divided equally on a question, the chairperson of the meeting has a second or casting vote.

(7) If the question is whether or not to confirm the minutes of a previous general meeting, only members who were present at that meeting may vote.

(8) For a person to be eligible to vote at a general meeting as an ordinary member, or on behalf of an ordinary member that is a body corporate under sub-rule (2), the ordinary member —
(a) must have been an ordinary member at the time notice of the meeting was given under rule 52; and
(b) must have paid any fee or other money payable to the Association by the member.

57. WHEN SPECIAL RESOLUTIONS ARE REQUIRED

(1) A special resolution is required if it is proposed at a general meeting —
(a) to affiliate the Association with another body; or
(b) to request the Commissioner to apply to the State Administrative Tribunal under section 109 of the Act for the appointment of a statutory manager.

(2) Sub-rule (1) does not limit the matters in relation to which a special resolution may be proposed.

Note for this rule:

Under the Act, a special resolution is required if an incorporated association proposes to do any of the following—
(a) to adopt these model rules (section 29(1));
(b) to alter its rules, including changing the name of the association (section 30(1));
(c) to decide to apply for registration or incorporation as a prescribed body corporate (section 93(1));
(d) to approve the terms of an amalgamation with one or more other incorporated associations (section 102(4);
(e) to be wound up voluntarily (section 121(2)) or by the Supreme Court (section 124(a) and Schedule 4 item 9);
(f) to cancel its incorporation (section 129).

59. DETERMINING WHETHER RESOLUTION CARRIED

(1) In this rule —
poll means the process of voting in relation to a matter that is conducted in writing.

(2) Subject to sub-rule (4), the chairperson of a general meeting may, on the basis of general agreement or disagreement or by a show of hands, declare that a resolution has been —
(a) carried; or
(b) carried unanimously; or
(c) carried by a particular majority; or
(d) lost.

(3) If the resolution is a special resolution, the declaration under sub-rule (2) must identify the resolution as a special resolution.

(4) If a poll is demanded on any question by the chairperson of the meeting or by at least 3 other ordinary members present in person or by proxy —
(a) the poll must be taken at the meeting in the manner determined by the chairperson;
(b) the chairperson must declare the determination of the resolution on the basis of the poll.

(5) If a poll is demanded on the election of the chairperson or on a question of an adjournment, the poll must be taken immediately.

(6) If a poll is demanded on any other question, the poll must be taken before the close of the meeting at a time determined by the chairperson.

(7) A declaration under sub-rule (2) or (4) must be entered in the minutes of the meeting, and the entry is, without proof of the voting in relation to the resolution, evidence of how the resolution was determined.

60. MINUTES OF GENERAL MEETING

(1) The secretary, or a person authorised by the committee, must take and keep minutes of each general meeting.

(2) The minutes must record the business considered at the meeting, any resolution on which a vote is taken and the result of the vote.

(3) In addition, the minutes of each annual general meeting must record —
(a) the names of the ordinary members attending the meeting; and
(b) any proxy forms given to the Chairperson of the meeting under rule 53(8); and
(c) the financial statements or financial report presented at the meeting, as referred to in rule 50(3)(b)(ii) or (iii); and
(d) any report of the review or auditor's report on the financial statements or financial report presented at the meeting, as referred to in rule 50(3)(b)(iv).

(4) The minutes of a general meeting must be entered in the Association's minute book within 30 days after the meeting is held.

(5) The chairperson must ensure that the minutes of a general meeting are reviewed and signed as correct by —
(a) the chairperson of the meeting; or
(b) the chairperson of the next general meeting.

(6) When the minutes of a general meeting have been signed as correct they are, in the absence of evidence to the contrary, taken to be proof that —
(a) the meeting to which the minutes relate was duly convened and held; and
(b) the matters recorded as having taken place at the meeting took place as recorded; and
(c) any election or appointment purportedly made at the meeting was validly made.

PART 7 — FINANCIAL MATTERS

61. SOURCE OF FUNDS

The funds of the Association may be derived from entrance fees, annual subscriptions, donations, fund-raising activities, grants, interest and any other sources approved by the committee.

62. CONTROL OF FUNDS

(1) The Association must open an account in the name of the Association with a financial institution from which all expenditure of the Association is made and into which all funds received by the Association are deposited.

(2) Subject to any restrictions imposed at a general meeting, the cCommittee may approve expenditure on behalf of the Association.

(3) The committee may authorise the CEO to expend funds on behalf of the Association up to a specified limit without requiring approval from the committee for each item on which the funds are expended..

63. FINANCIAL STATEMENTS AND FINANCIAL REPORTS

(1) For each financial year, the committee must ensure that the requirements imposed on the Association under Part 5 of the Act relating to the financial statements or financial report of the Association are met.

(2) Without limiting sub-rule (1), those requirements include —
- (a) if the Association is a tier 1 association, the preparation of the financial statements; and
- (b) if the Association is a tier 2 association or tier 3 association, the preparation of the financial report; and
- (c) if required, the review or auditing of the financial statements or financial report, as applicable; and
- (d) the presentation to the annual general meeting of the financial statements or financial report, as applicable; and
- (e) if required, the presentation to the annual general meeting of the copy of the report of the review or auditor's report, as applicable, on the financial statements or financial report.

Notes for this rule:

1. Under section 66 of the Act, an incorporated association must keep financial records that: -
   - (a) correctly record and explain its transactions and financial position and performance; and
   - (b) enable true and fair financial statements to be prepared in accordance with Part 5 Division 3 of the Act.

2. Under section 67 of the Act, an incorporated association must retain its financial records for at least 7 years after the transactions covered by the records are completed.

PART 8 — GENERAL MATTERS

64. BY-LAWS

Guidance Note – Status of By-laws - *A by-law must be consistent with the Act, the regulations and these rules. The rules of an association bind the association and the members as an enforceable contract between them. By-laws may not have that status. Therefore, the use of by-laws should be reserved for more procedural or administrative matters.*

(1) The Association may, by resolution at a general meeting, make, amend or revoke by-laws.

(2) By-laws may —
- (a) provide for the rights and obligations that apply to any classes of associate membership approved under rule 8(2); and
- (b) impose restrictions on the committee's powers, including the power to dispose of the association's assets; and
- (c) impose requirements relating to the financial reporting and financial accountability of the association and the auditing of the association's accounts; and
- (d) provide for any other matter the association considers necessary or convenient to be dealt with in the by-laws.

(3) A by-law is of no effect to the extent that it is inconsistent with the Act, the regulations or these rules.

(4) Without limiting sub-rule (3), a by-law made for the purposes of sub-rule (2)(c) may only impose requirements on the Association that are additional to, and do not restrict, a requirement imposed on the Association under Part 5 of the Act.

(5) At the request of a member, the Association must make a copy of the by-laws available for inspection by the member.

65. EXECUTING DOCUMENTS AND COMMON SEAL

(1) The Association may execute a document without using a common seal if the document is signed by —
- (a) 2 Committee members; or
- (b) one Committee member and the CEO.

(2) If the Association has a common seal —
- (a) the name of the Association must appear in legible characters on the common seal; and
- (b) a document may only be sealed with the common seal by the authority of the Committee and in the presence of —
- (i) 2 committee members; or
- (ii) one committee member and the CEO,

and each of them is to sign the document to attest that the document was sealed in their presence.

(3) The CEO must make a written record of each use of the common seal.

(4) The common seal must be kept in the custody of the CEO.

66. GIVING NOTICE TO MEMBERS

(1) In this rule —

recorded *means* recorded in the register of members.

(2) A notice or other document that is to be given to a member under these rules is taken not to have been given to the member unless it is in writing and —
(a) delivered by hand to the recorded address of the member; or
(b) sent by prepaid post to the recorded postal address of the member; or
(c) sent by facsimile or electronic transmission to an appropriate recorded number or recorded electronic address of the member.

67. CUSTODY OF BOOKS AND SECURITIES

(1) Subject to sub-rule (2), the books and any securities of the Association must be kept in the CEO's custody at the primary business address of the Association.

(2) The financial records and, as applicable, the financial statements or financial reports of the Association must be kept in the CEO's custody at the primary business address of the Association.

(3) Sub-rules (1) and (2) have effect except as otherwise decided by the committee.

(4) The books of the Association must be retained for at least 7 years.

68. RECORD OF OFFICE HOLDERS

Act Requirements – Record of office holders
Under section 58 of the Act an association must maintain a record of —

- *the names and addresses of the persons who are members of its management committee; or hold other offices of the association provided for by its rules;*
- *the name and address of any person who is authorised to use the common seal of the association (if it has a common seal); and*
- *the name and address of any person who is appointed or acts as trustee on behalf of the association.*

Under section 58 of the Act the association must, upon the request of a member of the association, make available the record for the inspection of the member. The member may make a copy of or take an extract from the record but does not have a right to remove the record for that purpose.

The record of committee members and other persons authorised to act on behalf of the Association that is required to be maintained under section 58(2) of the Act must be kept in the CEO's custody or under the CEO's control.

Note for this rule

Section 58 of the Act —

(a) sets out the details of the record that an incorporated association must maintain of the committee members and certain others; and
(b) provides for members to inspect, make a copy of or take an extract from the record; and
(c) prohibits a person from disclosing information in the record except for authorised purposes.

69. INSPECTION OF RECORDS AND DOCUMENTS

(1) Sub-rule (2) applies to a member who wants to inspect —
(a) the register of members under section 54(1) of the Act; or
(b) the record of the names and addresses of committee members, and other persons authorised to act on behalf of the Association, under section 58(3) of the Act; or
(c) any other record or document of the association.

(2) The member must contact the CEO to make the necessary arrangements for the inspection.

(3) The inspection must be free of charge.

(4) If the member wants to inspect a document that records the minutes of a committee meeting, the right to inspect that document is subject to any decision the committee has made about minutes of Committee meetings generally, or the minutes of a specific committee meeting, being available for inspection by members.

(5) The member may make a copy of or take an extract from a record or document referred to in sub-rule (1)(c) but does not have a right to remove the record or document for that purpose.

Note for this sub-rule:

Sections 54(2) and 58(4) of the Act provide for the making of copies of, or the taking of extracts from, the register referred to in sub-rule (1)(a) and the record referred to in sub-rule (1)(b).

(6) The member must not use or disclose information in a record or document referred to in sub-rule (1)(c) except for a purpose —
(a) that is directly connected with the affairs of the Association; or
(b) that is related to complying with a requirement of the Act.

Note for this sub-rule:

Sections 57(1) and 58(5) of the Act impose restrictions on the use or disclosure of information in the register referred to in sub-rule (1)(a) and the record referred to in sub-rule (1)(b).

70. PUBLICATION BY COMMITTEE MEMBERS OF STATEMENTS ABOUT ASSOCIATION BUSINESS PROHIBITED

A committee member must not publish, or cause to be published, any statement about the business conducted by the Association at a general meeting or committee meeting unless —
(a) the Committee member has been authorised to do so at a Committee meeting; and
(b) the authority given to the committee member has been recorded in the minutes of the committee meeting at which it was given.

71. DISTRIBUTION OF SURPLUS PROPERTY ON CANCELLATION OF INCORPORATION OR WINDING UP

Act Requirements – Distribution of surplus property

Under section 24(1) of the Act surplus property can only be distributed to one or more of the following —

- *an incorporated association;*
- *a company limited by guarantee that is registered as mentioned in the Corporations Act section 150;*
- *a company holding a licence that continues in force under the Corporations Act section 151;*
- *a body corporate that at the time of the distribution is the holder of a licence under the Charitable Collections Act 1946;*
- *a body corporate that —*
  - *is a member or former member of the incorporated association; and*
  - *at the time of the distribution of surplus property, has rules that prevent the distribution of property to its members;*
- *a trustee for a body corporate referred to in paragraph (e);*
- *a co-operative registered under the Co-operatives Act 2009 that, at the time of the distribution of surplus property, is a non-distributing co-operative as defined in that Act.*

(1) In this rule —
surplus property, in relation to the Association, means property remaining after satisfaction of —
(a) the debts and liabilities of the Association; and
(b) the costs, charges and expenses of winding up or cancelling the incorporation of the Association,

but does not include books relating to the management of the Association.

(2) On the cancellation of the incorporation or the winding up of the Association, its surplus property must be distributed as determined by special resolution by reference to the persons mentioned in section 24(1) of the Act.

Note for this rule:

Section 24(1) of the Act sets out a provision that is implied in these rules describing the entities to which the surplus property of an incorporated association may be distributed on the cancellation of the incorporation or the winding up of the association.
Part 9 of the Act deals with the winding up of incorporated associations, and
Part 10 of the Act deals with the cancellation of the incorporation of incorporated associations.

72. ALTERATION OF RULES

If the Association wants to alter or rescind any of these rules, or to make additional rules, the Association may do so only by special resolution and by otherwise complying with Part 3 Division 2 of the Act.

Note for this rule:

Section 31 of the Act requires an incorporated association to obtain the Commissioner's approval if the alteration of its rules has effect to change the name of the association.
Section 33 of the Act requires an incorporated association to obtain the Commissioner's approval if the alteration of its rules has effect to alter the objects or purposes of the association or the manner in which surplus property of the association must be distributed or dealt with if the association is wound up or its incorporation is cancelled.

Guidance Note – Alteration of Rules. *Amendments to the rules do not take effect until required documents are lodged with the Commissioner, even if the amendments do not require the approval of the Commissioner under section 31 or section 33. The required documents must be lodged within one month after the special resolution is passed.*

Australian Government

Australian Charities and Not-for-profits Commission

THIS CERTIFIES THAT

South West Counselling Incorporated

ABN:11 899 521 734

IS A REGISTERED CHARITY
AND HAS BEEN TRANSFERRED FROM THE

Australian Taxation Office

TO THE

Australian Charities and Not-for-profits Commission

ON THE DATE OF
3 December 2012

CERTIFIED BY

Susan Pascoe

Susan Pascoe AM
Commissioner
Australian Charities and Not-for-profits Commission

Copy only. Original available on request

ASSOCIATIONS INCORPORATION ACT 1987
SECTION 18 (6)

Registered No. 820082

Certificate of Incorporation on change of name

This is to certify that
MOBILE COUNSELLING INC.

which was on the 12th day of July 1982
incorporated under the Associations Incorporation Act 1987
changed its name to:-
SOUTH WEST COUNSELLING INC.

Dated this 14th day of July 1994

.....
FOR THE COMMISSIONER FOR CORPORATE AFFAIRS

04335/10/91—10M—S/11099

Government of **Western Australia**
Department of **Commerce**

CHARITABLE COLLECTIONS LICENCE

CHARITABLE COLLECTIONS ACT 1946
(SECTION 12)

LICENCE NO. **CC 17888**

This is to certify that, in accordance with the provisions of the *Charitable Collections Act 1946*, a licence has been granted to **South West Counselling Inc.**, a charitable organisation, to collect money or goods for the objects of the organisation being a charitable purpose.

Conditions

(a) This licence is valid to 12 December 2019.

(b) An appeal for support of a charitable purpose is to be authorised by the governing body of the charitable organisation or by a person authorised by the governing body to act on their behalf.

(c) Collectors participating in an appeal should be issued, and display, an identification badge which is consecutively numbered. The badge should indicate the name of the collectors, the name of the charitable organisation and specify the period the authority shall remain in force. The collector shall present the Authority when making the appeal.

(d) No person under the age of sixteen years (16) shall act or be permitted to act as a collector without the approval of the Minister or their delegate.

(e) Collectors must give receipts for all monies received and goods sold. The receipts are to be consecutively numbered and bear the name and address of the organisation for which the appeal is being made.

(f) Collecting boxes are to bear the name of the charitable organisation for which the appeal is being made.

Given under my hand at Perth this 11th day of November 2016

DAVID HILLYARD
A/COMMISSIONER FOR CONSUMER PROTECTION

GPO Box 1003, HOBART TAS 7001

Australian Taxation Office

SOUTH WEST COUNSELLING INCORPORATED
122 ADELAIDE ST
BUSSELTON WA 6280

Date of Issue
14 August 2000

Client Enquiries
Telephone: 13 24 78

Notification for endorsement as a deductible gift recipient

You have recently applied for endorsement as a deductible gift recipient (DGR).

Please find enclosed your DGR notification. The fact that you have been endorsed as a DGR, together with the date or period of effect, will be shown on the Australian Business Register. This information will be publicly available.

Your endorsement is based on the information you have supplied. You are required to notify the Commissioner of Taxation should you cease to be entitled to endorsement as a DGR. This is a requirement of section 30-160 of the *Income Tax Assessment Act 1997*. The Australian Taxation Office (ATO) publication entitled *GiftPack* explains the conditions for entitlement to endorsement.

Should you require any further information the ATO has available a range of publications to assist you. You can obtain a copy of the *GiftPack* and other publications by calling the business Tax Reform Infoline on **13 24 78** or from our website at **www.taxreform.ato.gov.au.** You should contact the Tax Reform Infoline if you need further assistance.

Michael Carmody

Michael Carmody
Commissioner of Taxation and
Registrar of the Australian Business Register

C_ADV184-GDG-0000679

Australian Taxation Office

Date of Issue
14 August 2000

Endorsement as a deductible gift recipient

Endorsement as a deductible gift recipient under Subdivision 30-BA of the *Income Tax Assessment Act 1997* is provided as detailed below.

Name	**SOUTH WEST COUNSELLING INCORPORATED**
Australian Business Number	**11 899 521 734**
Endorsement date of effect	**1 July 2000**
Provision for gift deductibility	**item 1 of the table in section 30-15 of the *Income Tax Assessment Act 1997***
Item(s) in Subdivision 30-B of the *Income Tax Assessment Act 1997*	**4.1.1 public benevolent institution**

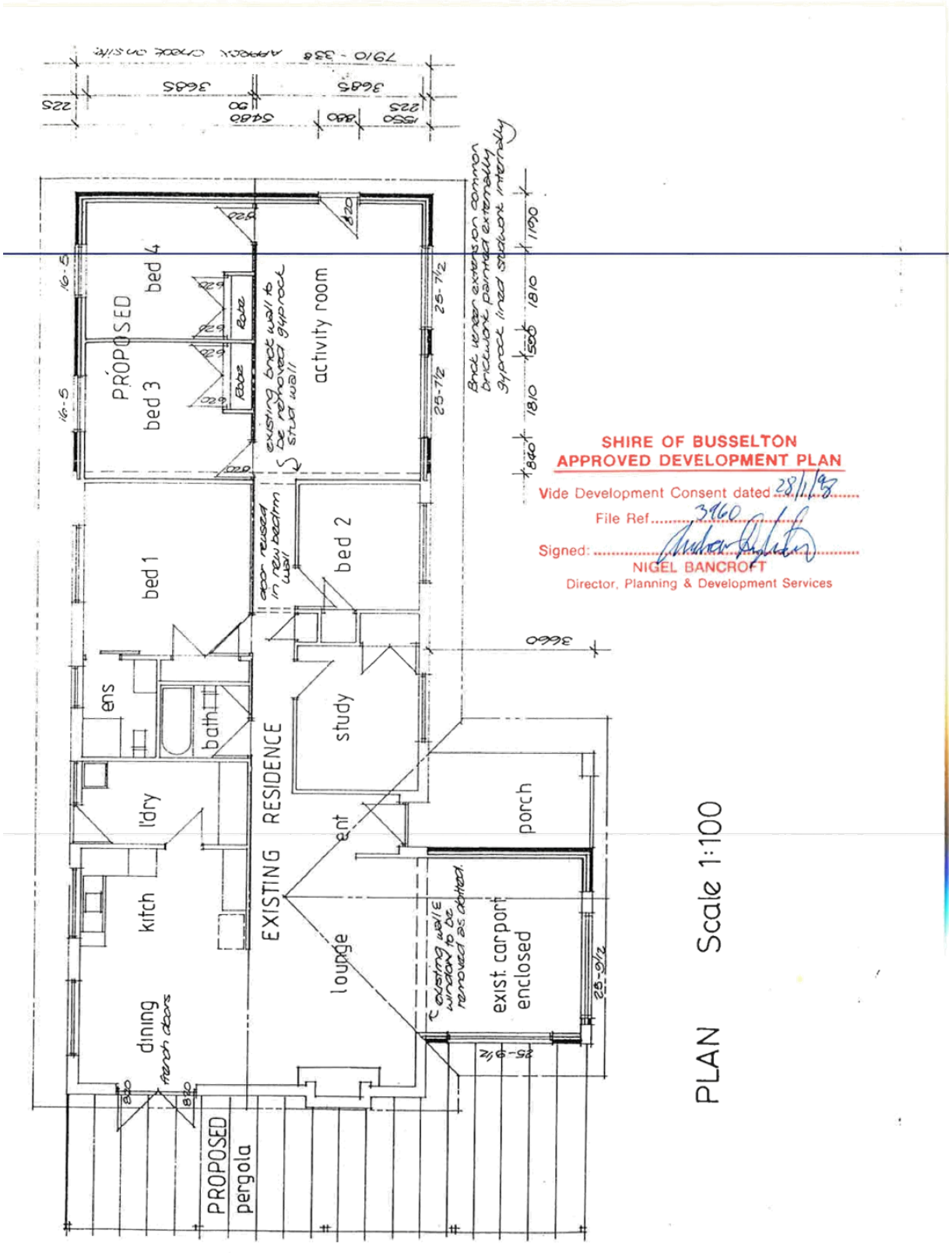
The fact that you have been endorsed, together with the date or period of effect, is entered in the public register maintained by the Australian Business Registrar.

Endorsement imposes certain obligations on the endorsed entity. The obligations include the maintenance of a gift fund, advising the ATO when entitlement to endorsement ceases, and inclusion of certain details on receipts. Each of these is explained in the ATO publication *Giftpack*. These obligations are imposed by sections 30-125, 30-160 and 30-228 of the *Income Tax Assessement Act 1997*.

Michael Carmody

Michael Carmody
Commissioner of Taxation and
Registrar of the Australian Business Register

C_ADV184-GDG-0000679


PROPOSED
bed 4
bed 3
activity room
bed 1
bed 2
ens
bath
study
l'dry
kitch
dining
EXISTING RESIDENCE
ent
lounge
porch
exist. carport enclosed
PROPOSED pergola
PLAN Scale 1:100
SHIRE OF BUSSELTON
APPROVED DEVELOPMENT PLAN
Vide Development Consent dated 28/1/98
File Ref. 3960
Signed:
NIGEL BANCROFT
Director, Planning & Development Services

12.3 Finance Committee - 21/11/2019 - BUDGET AMENDMENT REQUEST / REVIEW - LGIS 2019 Surplus Distribution

STRATEGIC GOAL	6. LEADERSHIP Visionary, collaborative, accountable
STRATEGIC OBJECTIVE	6.1 Governance systems, process and practices are responsible, ethical and transparent.
SUBJECT INDEX	Budget Planning and Reporting
BUSINESS UNIT	Financial Services
REPORTING OFFICER	Manager Financial Services - Paul Sheridan
AUTHORISING OFFICER	Director Finance and Corporate Services - Tony Nottle
NATURE OF DECISION	Executive: substantial direction setting, including adopting strategies, plans and policies (excluding local planning policies), tenders, setting and amending budgets, funding, donations and sponsorships, reviewing committee recommendations
VOTING REQUIREMENT	Absolute Majority
ATTACHMENTS	Nil

This item was considered by the Finance Committee at its meeting on 21 November 2019, the recommendations from which have been included in this report.

COMMITTEE RECOMMENDATION AND OFFICER RECOMMENDATION

That the Council endorse the requested budget amendment outlined in Tables 1 below resulting in no change to the budgeted cash position:

Table 1:

Cost Code	Description	Current Budget	Change	Resulting Proposed Amended Budget
Revenue				
211-10200-1509-0000	Reimbursements - Insurance	-$50,000	-$50,689	-$100,689
Current Assets				
9000-7001	Municipal Cash at Bank	$50,000	$50,689	$100,689
9000-7001	Municipal Cash at Bank	$0	-$50,689	-$50,689
9000-7054	Restricted Cash at Bank	$0	$50,689	$50,689
Reserves				
9000-2500	Transfer from Reserves	$0	$50,689	$50,689
111-9102	Transfer to Legal Reserve	$0	-$50,689	-$50,689
	Net Total	**$0**	**$0**	**$0**

EXECUTIVE SUMMARY

This report seeks recommendation of the Finance Committee to Council for the approval of budget amendments as detailed in this report. Adoption of the officer recommendation will result in no change to the Municipal cash balance.

BACKGROUND

Council adopted its 2019/2020 municipal budget on Wednesday 31 July 2019 with a balanced budget position. Since this time, Council has been advised of certain expense changes that have impacted the original budget. The Finance Committee is now being asked to consider recommending to Council a budget amendment for the following item:

- Recognition of the additional LGIS 2019/20 insurance reimbursement.
- The proceeds of a fine received in the 2018/19 financial year into the legal reserve.

OFFICER COMMENT

In the 2018/19 year the City received proceeds from a fine of $76,070 from a supplier in relation to a compliance issue involving unauthorised extraction of sand. At the time it was not transferred into the legal reserve as intended, but rather, remained in Municipal Funds.

During the 2019/20 financial year the City's insurer, LGIS, finalised their 2018/19 result, which realised a surplus distribution to member Local Governments, of which the City's share was $100,689. This is in excess ($50,689) of the budgeted distribution of $50,000.

It was determined by management that the additional funds received from LGIS should be utilised to bring into effect the transfer to legal reserve that should have occurred in the 2018/19 financial year. The City's legal reserve is utilised to engage suitable qualified practitioners to assist with legal matters or procedures that can occur unexpectedly.

While $50,689 is not the full amount of what was originally paid to the City for the fine, it allows a transfer to happen without a negative impact on our cash position while keeping to the principles of the original intention of transferring funds from the fine into the legal reserve.

Planned Amendment Items

Officers propose that the 2019/2020 adopted budget be amended to reflect the following changes, shown in Table 1.

Table 1:

Cost Code	Description	Current Budget	Change	Resulting Proposed Amended Budget
Revenue				
211-10200-1509-0000	Reimbursements - Insurance	-$50,000	-$50,689	-$100,689
Current Assets				
9000-7001	Municipal Cash at Bank	$50,000	$50,689	$100,689
9000-7001	Municipal Cash at Bank	$0	-$50,689	-$50,689
9000-7054	Restricted Cash at Bank	$0	$50,689	$50,689
Reserves				
9000-2500	Transfer from Reserves	$0	$50,689	$50,689
111-9102	Transfer to Legal Reserve	$0	-$50,689	-$50,689
	Net Total	**$0**	**$0**	**$0**

Statutory Environment

Section 6.8 of the *Local Government Act 1995* refers to expenditure from the municipal fund that is not included in the annual budget. In the context of this report, where no budget allocation exists, expenditure is not to be incurred until such time as it is authorised in advance, by an absolute majority decision of the Council.

Relevant Plans and Policies

There are multiple plans and policies that support the proposed budget amendments.

Financial Implications

The financial implications of this recommendation are contained within the report.

Stakeholder Consultation

No external stakeholder consultation was required or undertaken in relation to this matter.

Risk Assessment

An assessment of the potential implications of implementing the officer recommendation has been undertaken using the City's risk management framework, with risks assessed taking into account any controls already in place.

There is a risk to the City, as there is with all projects undertaken, that the final cost could exceed budget. If this looks to be the case, Council will be notified so a suitable offset / project scope back can be identified.

Options

The Council could decide not to go ahead with the proposed budget amendment request.

CONCLUSION

Council's approval is sought to amend the budget as per the details contained in this report. Upon approval the proposed works will be planned, organised and completed.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

Should the officer recommendation be endorsed, the associated budget amendment will be processed within a month of being approved.

12.4 Finance Committee - 21/11/2019 - FINANCIAL ACTIVITY STATEMENTS - YEAR TO DATE AS AT 31 OCTOBER 2019

STRATEGIC GOAL	6. LEADERSHIP Visionary, collaborative, accountable
STRATEGIC OBJECTIVE	6.1 Governance systems, process and practices are responsible, ethical and transparent.
SUBJECT INDEX	Budget Planning and Reporting
BUSINESS UNIT	
REPORTING OFFICER	Manager Financial Services - Paul Sheridan
AUTHORISING OFFICER	Director Finance and Corporate Services - Tony Nottle
NATURE OF DECISION	Executive: substantial direction setting, including adopting strategies, plans and policies (excluding local planning policies), tenders, setting and amending budgets, funding, donations and sponsorships, reviewing committee recommendations
VOTING REQUIREMENT	Simple Majority
ATTACHMENTS	Attachment A Investment Report October 2019 Attachment B Financial Activity Statement Year to Date October 2019

This item was considered by the Finance Committee at its meeting on 21 November 2019, the recommendations from which have been included in this report.

COMMITTEE RECOMMENDATION AND OFFICER RECOMMENDATION

That the Council receives the statutory financial activity statement reports for the period ending 31 October 2019, pursuant to Regulation 34(4) of the *Local Government (Financial Management) Regulations*.

EXECUTIVE SUMMARY

Pursuant to Section 6.4 of *the Local Government Act 1995* (the Act) and Regulation 34(4) of the *Local Government (Financial Management) Regulations 1996* (the Regulations), a local government is to prepare, on a monthly basis, a statement of financial activity that reports on the City's financial performance in relation to its adopted / amended budget.

This report has been compiled to fulfil the statutory reporting requirements of the Act and associated Regulations, whilst also providing the Council with an overview of the City's financial performance on a year to date basis for the period ending 31 October 2019.

BACKGROUND

The Regulations detail the form and manner in which financial activity statements are to be presented to the Council on a monthly basis, and are to include the following:

- Annual budget estimates
- Budget estimates to the end of the month in which the statement relates
- Actual amounts of revenue and expenditure to the end of the month in which the statement relates
- Material variances between budget estimates and actual revenue/expenditure (including an explanation of any material variances)
- The net current assets at the end of the month to which the statement relates (including an explanation of the composition of the net current position)

Additionally, and pursuant to Regulation 34(5) of the Regulations, a local government is required to adopt a material variance reporting threshold in each financial year. At its meeting of 31 July 2019, the Council adopted (C1907/131) the following material variance reporting threshold for the 2019/20 financial year:

> "That pursuant to Regulation 34(5) of the *Local Government (Financial Management) Regulations*, the Council adopts a material variance reporting threshold with respect to financial activity statement reporting for the 2019/20 financial year as follows:
>
> - Variances equal to or greater than 10% of the year to date budget amount as detailed in the Income Statement by Nature and Type/Statement of Financial Activity report, however variances due to timing differences and/or seasonal adjustments are to be reported on a quarterly basis; and
> - Reporting of variances only applies for amounts greater than $25,000."

OFFICER COMMENT

In order to fulfil statutory reporting requirements and to provide the Council with a synopsis of the City's overall financial performance on a full year basis, the following financial reports are attached hereto:

Statement of Financial Activity
This report provides details of the City's operating revenues and expenditures on a year to date basis, by nature and type (i.e. description). The report has been further extrapolated to include details of non-cash adjustments and capital revenues and expenditures, to identify the City's net current position; which reconciles with that reflected in the associated Net Current Position report.

Net Current Position
This report provides details of the composition of the net current asset position on a full year basis, and reconciles with the net current position as per the Statement of Financial Activity.

Capital Acquisition Report
This report provides full year budget performance (by line item) in respect of the following capital expenditure activities:

- Land and Buildings
- Plant and Equipment
- Furniture and Equipment
- Infrastructure

Reserve Movements Report
This report provides summary details of transfers to and from reserve funds, and associated interest earnings' on reserve funds, on a full year basis.

Additional reports and/or charts are also provided as required to further supplement the information comprised within the statutory financial reports.

Comments on Financial Activity to 31 October 2019

The Statement of Financial Activity for the year to date as at 31 October 2019 shows an overall Net Current Position of $39.6M as opposed to the amended budget of $25.9M. The following summarises the major variances in accordance with Council's adopted material variance reporting threshold that collectively make up the above difference:

Description	2019/20 Actual YTD	2019/20 Amended Budget YTD	2019/20 Amended Budget	2019/20 YTD Bud Variance	2019/20 YTD Bud Variance
	$	$	$	%	$
Revenue from Ordinary Activities					
1. Operating Grants, Subsidies and Contributions	1,722,448	949,758	4,926,958	81.36	772,690
2. Interest Earnings	831,474	694,405	1,955,000	19.74	137,069
Expenses from Ordinary Activities					
3. Materials & Contracts	(4,503,182)	(5,776,747)	(18,298,949)	22.05	1,273,565
4. Utilities (Gas, Electricity, Water etc)	(778,197)	(911,298)	(2,774,257)	14.61	133,101
5. Allocations	478,342	721,306	2,161,452	(33.68)	(242,964)
6. Non-Operating Grants, Subsidies and Contributions	1,713,236	2,231,126	32,050,712	(23.21)	(517,890)
Capital Revenue & (Expenditure)					
7. Land & Buildings	(704,153)	(5,596,608)	(18,097,358)	87.42	4,892,455
Plant & Equipment	(460,436)	(1,358,332)	(4,493,000)	66.10	897,896
Furniture & Equipment	(51,552)	(366,352)	(1,113,069)	85.93	314,800
Infrastructure	(3,661,821)	(8,807,818)	(36,920,295)	58.43	5,145,997
8. Proceeds from Sale of Assets	242,683	370,550	3,476,580	(34.51)	(127,867)
9. Repayment Capital Lease	(319,526)	(189,824)	(759,300)	(68.33)	(129,702)
10. Transfer to Restricted Assets	(83,962)	(20,036)	(60,100)	(319.06)	(63,926)
11. Transfer from Restricted Assets	484,951	0	6,319,121	100	484,951
12. Transfer from Reserves	1,232,906	1,657,906	34,970,205	(25.63)	(425,000)

Revenue from Ordinary Activities

Year to date (YTD) actual income from ordinary activities is $1.454M more than expected when compared to year to date amended budget with the following items meeting the material variance reporting threshold being:

1. Operating Grants, Subsidies and Contributions are $773K (net) better than amended budget. This variance is mainly due to the following:
    - Grants Commission (10152) -$46K – local roads grant, special grants for bridges. This variance arose as we did not receive the quarterly grants for the Kaloorup and Boallia roads bridges. It should be noted that as this is a pass through to Main Roads, the related capital expenditure items have not occurred either, so it is a neutral position on cash basis. The Director of EWS advises that should work on these particular bridges actually go ahead, Main Roads may hold the grants directly themselves;
    - Insurance Reimbursements (10200) $76K – Insurance recoveries not yet allocated to correct section and contributions credit (1st and 2nd instalments), received earlier than expected;
    - Legal Fees Reimbursements (10500) -$26K – budget item included for a fine that was received in the 18/19 financial year;
    - Environmental Management Administration (10830) $170K – grant received for the Revitalizing Geographe Waterways Phase 2 project earlier than forecast;
    - Protective burning and firebreaks reserve (10931) $166K. This variance relates to receiving 50% grant awarded to the City under the mitigation activity fund (Emergency Services Levy) and will be subject to a Council report requesting that the

2019/20 budget be amended to reflect this additional income. Details of the cost codes for this amendment are being finalised;

- Bushfire risk management planning (10942) DFES $115K. This variance relates to the payment of grant in full for the bushfire risk planning coordinator position within the City of Busselton. This represents a timing difference between budget allocations (over 12 months), and actual funds received;
- Fire Prevention DFES (10940) $49K – this is due to a combination of receiving the quarterly ESL grant a month earlier than forecast ($90K over), and not receiving the prior period grant acquittal adjustment that was forecast in October ($41K under);
- Reimbursements Old Butter Factory (B1401 & B9610) $193K – timing difference due to difficulties in predicting when LGIS would process the claims;

2. Interest earnings is $137K better than amended budget. This variance is mainly due to the following:
    - Late payment interest (NA1203) $29K
    - Instalment plan interest (NA1204) $52K
    - Interest on municipal funds (NA1760) $72K
    - Interest on reserve funds (NA1761) -$41K
    - Interest on restricted funds (NA1762) $25K

Expenses from Ordinary Activities

Expenditure from ordinary activities is $1.66M less than expected when compared to amended YTD budget, with the following items meeting the material variance reporting threshold:

3. Materials and Contracts $1.27M

The main contributing items are listed below:

Cost Code	Cost Code Description / GL Activity	Variance YTD $
Finance and Corporate Services		
10000	Members of Council	(33,793)
10250	Information & Communication Technology Services	(113,255)
10500	Legal and Compliance Services	25,554
Community and Commercial Services		
10380	Busselton Library	36,298
10600	Busselton Jetty Tourist Park	108,166
Planning and Development Services		
10820	Strategic Planning	80,471
10830	Environmental Management Administration	90,897
10850	Implement Management Plans Other	29,649
Engineering and Works Services		
Various	Busselton Jetty Maintenance	272,830
12620	Rural-Tree Pruning	(114,942)
12621	Urban-Tree Pruning	(54,063)
Various	Bridge Maintenance	66,839
Various	Building Maintenance	77,631
Various	Other Infrastructure Maintenance	32,973
Various	Waste services	235,625
Various	Road Maintenance	(66,270)
Various	Reserve Maintenance	192,017

4. Utilities $133K better than amended YTD budget:
   This relates mainly to a total underspend YTD in the 140 electricity accounts of $108K, $14K in water and $10K in telephones. Anecdotally this relates to timing differences of when the various invoices are received and processed, which, based on previous years, usually resolves itself closer to budget by year end. The accounts are monitored and reviewed with any major anomalies investigated.

5. Allocations
   In addition to administration based allocations which clear each month, this category also includes plant and overhead related allocations. Due to the nature of these line items, the activity reflects as a net offset against operating expenditure, in recognition of those expenses that are of a capital nature (and need to be recognised accordingly). It should be noted that performance in the category has no direct impact on the closing position.

Non-Operating Grants, Subsidies and Contributions

6. Non-Operating Grants, Subsidies and Contributions are less than budget by $518K with the main items impacting on the above result being the timing of the receipt of funding which is also offset with less than anticipated capital expenditure at this time.

Cost Code	Cost Code Description	Variance YTD
Finance and Corporate Services		
10239	Contributions - Community Facilities	(250,674)
R0288/R0228	Contributions - Capital Activities - Locke Estate	48,000
Community and Commercial Services		
C6099	Airport Development - Project Grant	477,978
Engineering and Works Services		
C1512	Port Geographe Boat Ramp Renewal Works	(55,000)
C3113	Busselton Tennis Club - Infrastructure	80,000
C3168	Busselton Foreshore Jetty Precinct	(102,740)
C3186	Lou Weston Oval - Courts	(65,000)
F0019	College Avenue	72,000
S0035	Strelly Street / Barlee Street Roundabout	39,158
S0051	Causeway Road / Rosemary Drive Roundabout	(266,668)
S0064	Peel Terrace (Stanley Pl/Cammilleri St Intersection Upgrade)	(66,668)
S0069	Peel Terrace (Brown Street Intersection Upgrades)	(33,332)
S0070	Peel & Queen Street Roundabout Service Relocation	33,332
S0071	Ludlow-Hithergreen Road Safety Improvements	230,600
S0072	Kaloorup Road - Reconstruct and Seal Shoulders	100,000
T0019	Wonnerup South Road - Reconstruct and Widening (narrow seal)	(208,180)
T0085	Yoongarillup Road - Reconstruct Intersection at Vasse H/Way	(70,000)
T0086	Yoongarillup Road - Reconstruct & Widen (Western Section)	(492,700)

Capital Expenditure

7. As at 31 October 2019, there is a variance of 69.8% or $11.2M in total capital expenditure with YTD actual at $4.9M against YTD amended budget of $16.1M.

The attachments to this report include detailed listings of all capital expenditure (project) items, however the main areas of variance are summarised as follows:

a. Buildings on the whole are $4.9M below budget with the main variance attributable to the Airport Terminal Stage 2, with a budget amendment pending Council approval at the time of writing;
b. Plant and equipment is $897K below budget, however at this stage this is mainly related to budget timing differences. It should be noted that there are budget amendments pending;
c. Furniture & Office Equipment is $315K under budget, with major variances attributable to Information & Communication Technology being $220K below budget, and the delays in the Airport fit-out amounting to $100K;
d. Busselton foreshore is $678K below budget, mainly due to a timing underspend compared to budget for the Busselton Tennis Club Infrastructure;
e. Administration building carpark $25K below budget;
f. Lou Western Oval Courts $269K below budget;
g. Various footpaths construction $131K below budget;
h. Various car parking construction $68K below budget;
i. Townscape works $226K below budget;
j. Boat Ramps Construction $212 over budget;
k. Depot Construction $28K below budget;
l. Beach restoration works $250K over budget;
m. Parks and gardens works $436K below budget;
n. Beach Front Infrastructure Works $30K below budget;
o. Sanitation infrastructure works $1,081K below budget;
p. Airport development works (not included in 1. above) $588K below budget;
q. Main Roads road construction works $766K below budget;
r. Roads to Recovery road works $760K below budget;
s. Black spot works $84K over budget;
t. Council road initiatives road works $580K below budget.

Many of these items of under expenditure e.g. Main Roads construction works, also assists in explaining the above current YTD shortfall in Non-Operating Grants. In the main, many of these projects have yet to be commenced at this time of year and represent a timing difference.

Proceeds from Sale of Assets

8. There is a variance for the proceeds from sale of assets of -$128K, due to delays in the changeover of vehicles.

Repayment of Capital Leases

9. There is a variance for the repayments of capital leases as compared to year to date budget of -$130k. This variance is a timing issue as this is the first year that the City has brought to account leases as a capital repayment in accordance with the requirements of AASB 16. Under AASB 16 there is no longer a distinction between finance and operating leases. Lessees are now required to bring to account a right-to-use asset and lease liability onto their statement of financial position for all leases. Effectively this means the vast majority of operating leases as defined by the current AASB 117 Leases which currently did not previously impact the statement of financial position are now required to be capitalised on the statement of financial position. A budget amendment that is pending Council approval will rectify this budget anomaly.

Transfer to Restricted Assets

10. There is a variance for transfer to restricted assets of $64K more than amended budget. The reason for this is as follows:
    - Transfer to deposits and bonds of $38K as opposed to a budget of $0. These funds do not have a budget allocation as they are not able to be reliably measured;
    - Interest earned on government grants of $25K transferred to restricted cash, for which there was no budget allocated as it was expected that the grant would have been utilized by this stage.

Transfer from Restricted Assets

11. There is a variance for transfer from restricted assets of $485K more than amended budget. The reason for this is as follows:
    - Transfer from Roadwork Bonds of $469K as opposed to a budget of $0. These funds do not have a budget allocation as they are not able to be reliably measured.

Transfer from Reserves

12. There is a variance for transfer from reserves of $425K less than amended budget. The reason for this is as follows:
    - Transfer from Jetty Maintenance Reserve of $425K did not occur due to works not being undertaken on cost code C3497 (see 7m above).

Investment Report

Pursuant to the Council's Investment Policy, a report is to be provided to the Council on a monthly basis, detailing the investment portfolio in terms of performance and counterparty percentage exposure of total portfolio. The report is also to provide details of investment income earned against budget, whilst confirming compliance of the portfolio with legislative and policy limits.

As at 31st October 2019 the value of the City's invested funds totalled $84.48M, up slightly from $84.47M as at 30th September. The increase is due to interest earnings.

During the month of October four term deposits held with three different institutions totalling $13.5M matured. All were renewed for a further 181 days at 1.55% (on average).

The balance of the 11am account (an intermediary account which offers immediate access to the funds compared to the term deposits and a higher rate of return compared to the cheque account) remained steady.

The balance of the Airport Development ANZ and WATC cash accounts remained steady, other than a small increase due to interest earnings.

The RBA announced a 0.25% decrease to official rates in September. No change was announced in November. Future movements are unknown at this time although further drops are possible in coming months.

Chief Executive Officer – Corporate Credit Card

Details of monthly (September to October) transactions made on the Chief Executive Officer's corporate credit card are provided below to ensure there is appropriate oversight and awareness of credit card transactions made.

Date	$ Amount	Payee	Description
7/10/19	1,068.89	Qantas	Flights to attend RCE board meeting Canberra (Grant Henley – cancelled 11/10)
8/10/19	230.00	APVC Ltd / The Sebel	Accom. - Mayoral Prayer Guest Speaker (Lisa Haste)
9/10/19	50.00	Reg Now Busselton Runner	Bsn Half Marathon - Sister City Participants (Tonia Kilian)
9/10/19	50.00	Reg Now Busselton Runner	Bsn Half Marathon - Sister City Participants (Tonia Kilian)
14/10/19	80.91	Reg Now Jetty Swim 2020	1 Mile Jetty Swim - Sister City Participant (Tonia Kilian)
16/10/19	179.89	Hertz Australia Melbourne	Car Hire - LGCOG Conference (Mike Archer)

**Funds debited against CEO Annual Professional Development Allowance as per employment Contract Agreement*
+ Allocated against CEO Hospitality Expenses Allowance

Statutory Environment

Section 6.4 of the Act and Regulation 34 of the Regulations detail the form and manner in which a local government is to prepare financial activity statements.

Relevant Plans and Policies

There are no relevant plans or policies to consider in relation to this matter.

Financial Implications

Any financial implications are detailed within the context of this report.

Stakeholder Consultation

No external stakeholder consultation was required or undertaken in relation to this matter.

Risk Assessment

An assessment of the potential implications of implementing the officer recommendation has been undertaken using the City's risk management framework, with risks assessed taking into account any controls already in place. No risks of a medium or greater level have been identified.

Options

The Statements of Financial Activity are presented in accordance with Section 6.4 of the Act and Regulation 34 of the Regulations and are to be received. Council may wish to make additional resolutions as a result of having received these reports.

CONCLUSION

As at 31 October 2019, the City's financial performance is considered satisfactory.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

Not applicable.

CITY OF BUSSELTON - INVESTMENT PERFORMANCE REPORT
For the month of October 2019

11am Bank Account			As at 31 October 2019
INSTITUTION		**RATE**	**AMOUNT**
ANZ 11am At Call Deposit		0.70%	$ 5,000,000

Term Deposits - Miscellaneous Funds					As at 31 October 2019
INSTITUTION	**RATING**	**DAYS**	**MATURITY**	**RATE**	**AMOUNT**
NAB	AA	152	11-Nov-19	2.09%	$ 2,000,000
Bendigo	BBB	180	09-Dec-19	2.10%	$ 1,000,000
NAB	AA	182	09-Dec-19	2.10%	$ 2,000,000
Westpac	AA	183	17-Dec-19	2.35%	$ 1,500,000
NAB	AA	150	03-Jan-20	1.63%	$ 2,000,000
Westpac	AA	184	12-Jan-20	2.20%	$ 4,000,000
NAB	AA	184	24-Jan-20	1.90%	$ 3,000,000
NAB	AA	150	21-Feb-20	1.67%	$ 2,000,000
Westpac	AA	184	22-Feb-20	1.85%	$ 1,500,000
Bankwest	AA	181	24-Feb-20	1.65%	$ 4,000,000
Bankwest	AA	182	09-Mar-20	1.60%	$ 4,000,000
Bankwest	AA	181	23-Mar-20	1.55%	$ 4,000,000
Westpac	AA	182	24-Mar-20	1.75%	$ 3,000,000
NAB	AA	182	24-Mar-20	1.66%	$ 2,000,000
NAB	AA	180	01-Apr-20	1.59%	$ 4,000,000
NAB	AA	183	10-Apr-20	1.58%	$ 3,000,000
ANZ	AA	183	15-Apr-20	1.54%	$ 3,500,000
Westpac	AA	213	24-Apr-20	1.75%	$ 4,000,000
ANZ	AA	213	24-Apr-20	1.62%	$ 3,000,000
Bendigo	BBB	180	28-Apr-20	1.50%	$ 3,000,000
Westpac	AA	274	06-May-20	2.10%	$ 5,000,000
Westpac	AA	243	24-May-20	1.75%	$ 4,000,000
ANZ	AA	243	24-May-20	1.62%	$ 3,000,000
Westpac	AA	274	27-May-20	1.80%	$ 2,000,000
NAB	AA	274	24-Jun-20	1.63%	$ 4,000,000
			Total of Term Deposits		**$ 74,500,000**
			Weighted Average Annual Rate of Return		**1.76%**

Airport Redevelopment Funds					As at 31 October 2019
WA Treasury Corp. - Overnight Cash Deposit Facility				0.70%	$ 4,975,742
WA Treasury Corp. - State Bonds			02-Sep-19	Matured	
			Total of Airport Redevelopment Funds - WATC		$ 4,975,742
					Nil
			Total of Airport Redevelopment Funds - Bank Term Deposits		$ -
ANZ Cash Account	AA	NA	NA	0.75%	$ 2,785
			Total of Airport Redevelopment Funds - Other		$ 2,785
			Total of Airport Redevelopment Funds		**$ 4,978,527**
			Interest Received 2015/16		$ 609,666
			Interest Received 2016/17		$ 1,158,623
			Interest Received 2017/18		$ 631,835
			Interest Received 2018/19		$ 121,836
			Interest Received 2019/20		$ 25,415
			Interest Accrued but not yet Received		$ 2,992
			Total Interest Airport Funds (Non-Reserve) at month's end		**$ 2,550,368**
			Interest Transferred out and held in City Reserve Account 136		$ 1,085,630
			Interest Transferred out to Municipal Funds		$ 19,097
			Interest Earnt (incl. Accrued) on Funds Held in City Reserve A/c 136		$ 60,302

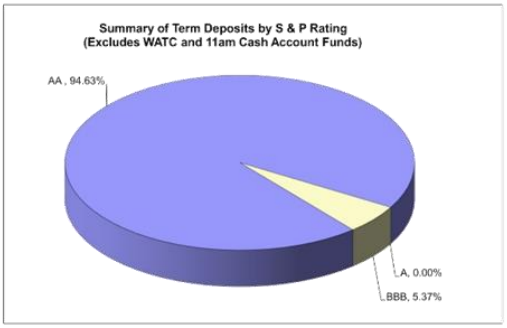
(Note: Funds held with the WATC are in accordance with the Airport Redevelopment Funding Contract and the Foreshore Development Contract and are not held within the requirements of the City's Investment Policy 218)

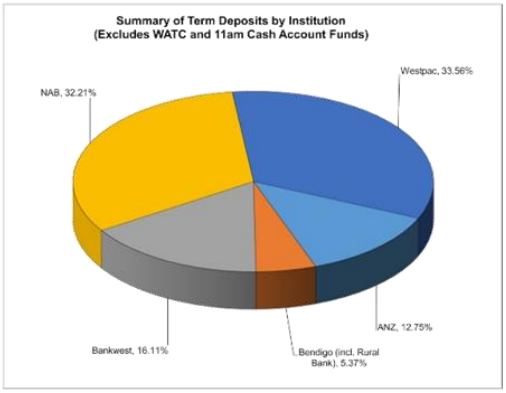
SUMMARY OF ALL INVESTMENTS HELD	As at 1 year ago	As at 30 June 2019	As at 31 October 2019
11am Bank Account	$ 7,500,000	$ 11,500,000	$ 5,000,000
Term Deposits - Misc. Funds	$ 69,500,000	$ 54,000,000	$ 74,500,000
Foreshore Development Funds - WATC	$ 38,350	$ -	$ -
Airport Redevelopment - WATC Deposits	$ 4,850,679	$ 4,950,336	$ 4,975,742
Airport Redevelopment - Bank Term Deposit	$ -	$ -	$ -
Airport Redevelopment - ANZ Cash A/c	$ 1,460,004	$ 2,785	$ 2,785
Total of all Investments Held	$ 83,349,033	$ 70,453,122	$ 84,478,527
TOTAL INTEREST RECEIVED AND ACCRUED	**$ 559,386**	**$ 1,724,414**	**$ 408,129**
INTEREST BUDGET	**$ 394,588**	**$ 1,182,760**	**$ 377,405**

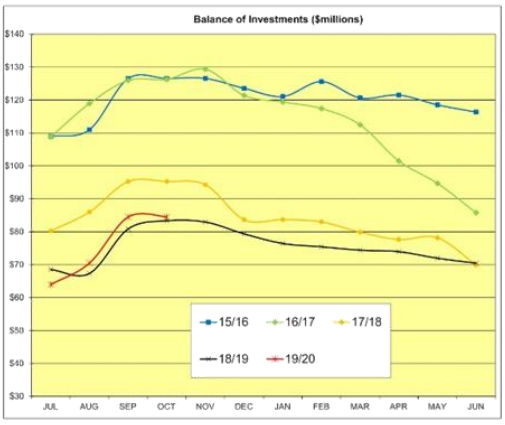
(Note: Interest figures relate to City general funds only and does not include interest allocated to specific areas such as the Airport Redevelopment)

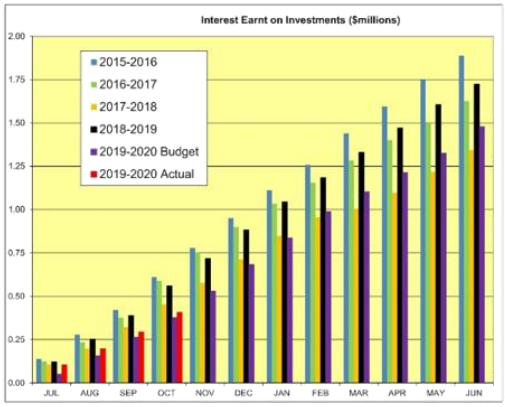
Statement of Compliance with Council's Investment Policy 218	
1. All funds are to be invested within legislative limits.	**Fully Compliant**
2. All individual funds held within the portfolio are not to exceed a set percentage of the total portfolio value.	**Fully Compliant**
3. The amount invested based upon the Fund's Rating is not to exceed the set percentages of the total portfolio.	**Fully Compliant**
4. The amount invested based upon the Investment Horizon is not to exceed the set percentages of the total portfolio.	**Fully Compliant**

Investment Graphs









City of Busselton

Statement of Financial Activity

Year To Date As At 31 October 2019

	2019/2020 Actual YTD	2019/2020 Amended Budget YTD	2019/2020 Original Budget YTD	2019/2020 Amended Budget	2019/2020 Original Budget	2019/20 YTD Bud (A) Variance
	$	$	$	$	$	%
Revenue from Ordinary Activities						
Rates	51,742,508	51,268,453	51,268,453	51,617,412	51,617,412	0.92%
Operating Grants, Subsidies and Contributions	1,722,448	949,758	949,758	4,926,958	4,926,958	81.36%
Fees & Charges	9,686,713	9,629,056	9,629,056	16,292,090	16,292,090	0.60%
Other Revenue	190,438	177,691	177,691	551,510	551,510	7.17%
Interest Earnings	831,474	694,405	694,405	1,955,000	1,955,000	19.74%
	64,173,581	**62,719,363**	**62,719,363**	**75,342,970**	**75,342,970**	**2.32%**
Expenses from Ordinary Activities						
Employee Costs	(11,178,007)	(11,680,181)	(11,680,181)	(33,303,930)	(33,303,930)	4.30%
Materials & Contracts	(4,503,182)	(5,776,747)	(5,771,379)	(18,298,949)	(18,226,504)	22.05%
Utilities (Gas, Electricity, Water etc)	(778,197)	(911,298)	(911,298)	(2,774,257)	(2,774,257)	14.61%
Depreciation on non current assets	(7,688,113)	(7,742,690)	(7,742,690)	(22,870,222)	(22,870,222)	0.70%
Insurance Expenses	(727,986)	(678,466)	(678,466)	(733,960)	(733,960)	-7.30%
Other Expenditure	(979,035)	(964,079)	(964,079)	(4,920,811)	(4,920,811)	-1.55%
Allocations	478,342	721,306	721,306	2,161,452	2,161,452	33.68%
	(25,376,178)	**(27,032,155)**	**(27,026,787)**	**(80,740,677)**	**(80,668,232)**	**6.13%**
Borrowings Cost Expense						
Interest Expenses	(401,977)	(399,300)	(399,300)	(1,273,688)	(1,273,688)	-0.67%
	(401,977)	**(399,300)**	**(399,300)**	**(1,273,688)**	**(1,273,688)**	**-0.67%**
Non-Operating Grants, Subsidies and Contributions	1,713,236	2,231,126	2,231,126	32,050,712	32,042,712	-23.21%
Profit on Asset Disposals	15,058	45,243	45,243	78,050	78,050	-66.72%
Loss on Asset Disposals	(42,407)	(10,406)	(10,406)	(161,135)	(161,135)	-307.52%
	1,685,887	**2,265,963**	**2,265,963**	**31,967,627**	**31,959,627**	**-25.60%**
Net Result	**40,081,313**	**37,553,871**	**37,559,239**	**25,296,232**	**25,360,677**	**6.73%**
Adjustments for Non-cash Revenue & Expenditure						
Depreciation	7,688,113	7,742,690	7,742,690	22,870,222	22,870,222	
Donated Assets	0	0	0	(8,224,000)	(8,224,000)	
(Profit)/Loss on Sale of Assets	27,349	(34,837)	(34,837)	83,085	83,085	
Allocations & Other Adjustments	274,078	0	0	0	0	
Deferred Pensioner Movements (Non-current)	17,421	0	0	0	0	
Recording of Employee Benefit Provisions (NC)	0	0	0	0	0	
Deposit & Bonds Movements (cash backed NC)	(446,819)	0	0	0	0	
Capital Revenue & (Expenditure)						
Land & Buildings	(704,153)	(5,596,608)	(5,596,608)	(18,097,358)	(18,097,358)	87.42%
Plant & Equipment	(460,436)	(1,358,332)	(1,358,332)	(4,493,000)	(4,493,000)	66.10%
Furniture & Equipment	(51,552)	(366,352)	(371,720)	(1,113,069)	(1,129,169)	85.93%
Infrastructure	(3,661,821)	(8,807,818)	(8,807,818)	(36,920,295)	(36,851,773)	58.43%
Proceeds from Sale of Assets	242,683	370,550	370,550	3,476,580	3,476,580	-34.51%
Proceeds from New Loans	0	0	0	150,000	150,000	0.00%
Self Supporting Loans - Repayment of Principal	26,174	16,365	16,365	76,055	76,055	59.94%
Total Loan Repayments - Principal	(1,086,213)	(1,076,406)	(1,076,406)	(3,297,412)	(3,297,412)	-0.91%
Repayment Capital Lease	(319,526)	(189,824)	(189,824)	(759,300)	(759,300)	
Advances to Community Groups	0	0	0	(150,000)	(150,000)	0.00%
Transfer to Restricted Assets	(83,962)	(20,036)	(20,036)	(60,100)	(60,100)	-319.06%
Transfer from Restricted Assets	484,951	0	0	6,319,121	6,315,599	0.00%
Transfer to Reserves	(5,441,876)	(5,784,706)	(5,784,706)	(21,878,042)	(21,878,042)	5.93%
Transfer from Reserves	1,232,906	1,657,906	1,657,906	34,970,205	34,856,860	-25.63%
Opening Funds Surplus/ (Deficit)	1,751,076	1,751,076	1,751,076	1,751,076	1,751,076	
Net Current Position - Surplus / (Deficit)	**39,569,705**	**25,857,539**	**25,857,539**	**0**	**0**	

City of Busselton

Net Current Position

Year To Date As At 31 October 2019

	2019/20 Actual YTD	2019/20 Amended Budget	2019/20 Original Budget	2018/19 Actual
	$	$	$	$
NET CURRENT ASSETS				
CURRENT ASSETS				
Cash - Unrestricted	16,472,595	646,604	646,604	3,204,485
Cash - Restricted	70,915,343	47,716,649	47,833,516	67,067,833
Sundry Debtors	2,136,530	1,800,000	1,800,000	1,809,547
Rates Outstanding - General	24,673,726	1,280,000	1,280,000	1,284,090
Stock on Hand	16,543	24,981	24,981	24,980
	114,214,737	**51,468,234**	**51,585,101**	**73,390,935**
LESS: CURRENT LIABILITIES				
Bank Overdraft	0	0	0	0
Sundry Creditors	3,729,689	3,751,585	3,751,585	4,572,026
Performance Bonds	2,496,691	2,943,510	2,943,510	2,943,510
	6,226,380	**6,695,095**	**6,695,095**	**7,515,536**
Current Position (inclusive of Restricted Funds)	107,988,357	44,773,139	44,890,006	65,875,399
Add: Cash Backed Liabilities (Deposits & Bonds)	2,496,691	2,943,510	2,943,510	2,943,510
Less: Cash - Restricted Funds	(70,915,343)	(47,716,649)	(47,833,516)	(67,067,833)
NET CURRENT ASSET POSITION	**39,569,705**	**0**	**0**	**1,751,076**

City of Busselton

Capital Acquisition Report

Property, Plant & Equipment, Infrastructure

For the Period Ended 31 October 2019

	Description	2019/20 Actual YTD	2019/20 Amended Budget YTD	2019/20 Original Budget YTD	2019/20 Amended Budget	2019/20 Original Budget	2019/20 Budget YTD Variance
		$	$	$	$	$	%
>> Property, Plant & Equipment							
	Land						
10370	Busselton Cemetery	4,562	0	0	100,000	100,000	0.00%
10610	Property Services Administration	0	0	0	100,000	100,000	0.00%
		4,562	0	0	200,000	200,000	0.00%
	Buildings						
	Major Projects						
	Major Project - Busselton Foreshore						
B9570	Foreshore East-Youth Precinct Community Youth Building/SLSC	0	2,500	2,500	10,000	10,000	-100.00%
B9584	Jetty Depot - Maintenance Compound	19,870	0	0	0	0	0.00%
B9600	Old Vasse Lighthouse	25,755	43,000	43,000	120,000	120,000	-40.10%
		45,625	45,500	45,500	130,000	130,000	0.28%
	Major Project - Library Expansion						
B9516	Busselton Library Upgrade	0	45,125	45,125	361,000	361,000	-100.00%
		0	45,125	45,125	361,000	361,000	-100.00%
	Major Project - Administration Building						
B9010	Civic and Administration Centre Minor Upgrades	31,769	17,666	17,666	53,000	53,000	79.83%
		31,769	17,666	17,666	53,000	53,000	79.83%
	Buildings (Other)						
B9109	Hithergreen Building Renovations	0	22,964	22,964	68,890	68,890	-100.00%
B9300	Aged Housing Capital Improvements - Winderlup	13,434	20,000	20,000	80,000	80,000	-32.83%
B9301	Aged Housing Capital Improvements - Harris Road	0	20,000	20,000	60,000	60,000	-100.00%
B9302	Aged Housing Capital Improvements - Winderlup Court (City)	5,070	0	0	151,000	151,000	0.00%
B9407	Busselton Senior Citizens	41,600	387,816	387,816	1,163,450	1,163,450	-89.27%
B9511	ArtGeo Building	41,413	10,968	10,968	32,900	32,900	277.58%
B9517	GLC - Pool Relining	0	16,668	16,668	50,000	50,000	-100.00%
B9534	Community Resource Centre	3,727	2,578	2,578	5,160	5,160	44.58%
B9556	NCC Upgrade	64	16,666	16,666	50,000	50,000	-99.62%
B9588	Old Court House Building Upgrade	37,722	25,000	25,000	75,000	75,000	50.89%
B9591	Performing Arts Convention Centre	8,524	0	0	500,000	500,000	0.00%
B9596	GLC Building Improvements	58,105	175,300	175,300	525,900	525,900	-66.85%
B9604	Womens Change Facility Bovell	90,174	27,896	27,896	83,685	83,685	223.25%
B9605	Energy Efficiency Initiatives (Various Buildings	7,945	59,126	59,126	177,378	177,378	-86.56%
B9606	King Street Toilets	0	0	0	200,000	200,000	0.00%
B9607	General Buildings Asset Renewal Allocation (Various Building	34,920	33,334	33,334	100,000	100,000	4.76%
B9608	Demolition Allocation (Various Buildings)	4,500	4,167	4,167	25,000	25,000	7.99%
B9609	GLC Stadium Expansion	0	7,500	7,500	30,000	30,000	-100.00%
B9610	Old Butter Factory	177,326	216,796	216,796	650,385	650,385	-18.21%
B9716	Airport Terminal Stage 2	71,468	4,166,668	4,166,668	12,500,000	12,500,000	-98.28%
B9717	Airport Construction, Existing Terminal Upgrade	0	166,668	166,668	500,000	500,000	-100.00%
B9719	Busselton Works Depot - Toilets and Sewer	0	16,666	16,666	50,000	50,000	-100.00%
B9808	Busselton Jetty Tourist Park Upgrade	26,203	91,536	91,536	274,610	274,610	-71.37%
		622,197	5,488,317	5,488,317	17,353,358	17,353,358	-88.66%
	Total Buildings	**699,592**	**5,596,608**	**5,596,608**	**17,897,358**	**17,897,358**	**-87.50%**
	Plant & Equipment						
10000	Members of Council	0	0	0	40,000	40,000	0.00%
10001	Office of the CEO	61,283	65,000	65,000	65,000	65,000	-5.72%
10115	Major Projects Administration	0	80,000	80,000	80,000	80,000	-100.00%
10200	Financial Services	0	40,000	40,000	40,000	40,000	-100.00%
10250	Information & Communication Technology Services	0	35,000	35,000	35,000	35,000	-100.00%
10510	Governance Support Services	0	0	0	40,000	40,000	0.00%
10521	Human Resources & Payroll	0	0	0	35,000	35,000	0.00%
10530	Community Services Administration	6,975	0	0	0	0	0.00%
10591	Geographe Leisure Centre	0	0	0	35,000	35,000	0.00%
10600	Busselton Jetty Tourist Park	0	16,000	16,000	16,000	16,000	-100.00%
10800	Planning Directorate Support	0	0	0	40,000	40,000	0.00%
10910	Building Services	0	35,000	35,000	70,000	70,000	-100.00%
10950	Animal Control	25,149	50,000	50,000	50,000	50,000	-49.70%
10980	Other Law, Order & Public Safety	75,448	55,000	55,000	55,000	55,000	37.18%
11101	Engineering Services Administration	0	40,000	40,000	40,000	40,000	-100.00%
11107	Engineering Services Design	0	0	0	9,000	9,000	0.00%
11150	Asset Management Administration	0	35,000	35,000	35,000	35,000	-100.00%
11151	Airport Operations	0	30,000	30,000	30,000	30,000	-100.00%

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	Description	2019/20 Actual YTD	2019/20 Amended Budget YTD	2019/20 Original Budget YTD	2019/20 Amended Budget	2019/20 Original Budget	2019/20 Budget YTD Variance
11156	Airport Development Operations	26,950	0	0	0	0	0.00%
11401	Transport - Workshop	0	10,332	10,332	31,000	31,000	-100.00%
11402	Plant Purchases (P10)	0	325,000	325,000	2,295,000	2,295,000	-100.00%
11403	Plant Purchases (P11)	264,631	447,000	447,000	632,000	632,000	-40.80%
11404	Plant Purchases (P12)	0	95,000	95,000	595,000	595,000	-100.00%
11406	Plant Purchases (P14)	0	0	0	40,000	40,000	0.00%
11407	P&E - P&G Smart Technologies	0	0	0	150,000	150,000	0.00%
11500	Operations Services Administration	0	0	0	35,000	35,000	0.00%
		460,436	1,358,332	1,358,332	4,493,000	4,493,000	-66.10%
	Furniture & Office Equipment						
10250	Information & Communication Technology Services	5,474	226,276	226,276	678,842	678,842	-97.58%
10530	Community Services Administration	0	12,000	12,000	12,000	12,000	-60.42%
10590	Naturaliste Community Centre	7,292	5,408	5,408	19,227	19,227	34.84%
10591	Geographe Leisure Centre	5,000	11,000	11,000	33,000	33,000	-54.55%
10616	Winderlup Villas Aged Housing	0	0	2,834	0	8,500	0.00%
10617	Harris Road Aged Housing	0	0	2,534	0	7,600	0.00%
10625	Art Geo Administration	10,000	10,000	10,000	10,000	10,000	0.00%
10900	Cultural Planning	23,786	0	0	55,000	55,000	0.00%
11156	Airport Development Operations	0	100,000	100,000	300,000	300,000	-100.00%
B1361	YCAB (Youth Precinct Foreshore)	0	1,668	1,668	5,000	5,000	-100.00%
		51,552	366,352	371,720	1,113,069	1,129,169	-84.63%
	Sub-Total Property, Plant & Equipment	**1,220,891**	**7,321,292**	**7,326,660**	**23,703,427**	**23,719,527**	**-83.32%**
>> Infrastructure							
	Major Project - Busselton Foreshore						
C0053	Car Parking - Rear of Hotel Site 1	1,297	62,500	62,500	500,000	500,000	-97.92%
C0054	Barnard East Car Parking	0	6,598	6,598	79,180	79,180	-100.00%
C3094	Busselton Foreshore - Stage 3	46,026	79,024	79,024	237,082	237,082	-41.76%
C3112	Busselton Foreshore - Exercise Equipment	0	41,132	41,132	123,400	123,400	-100.00%
C3113	Busselton Tennis Club - Infrastructure	262,200	687,646	687,646	868,604	868,604	-61.87%
C3168	Busselton Foreshore Jetty Precinct	82,313	60,592	60,592	181,774	181,774	35.85%
C3182	Relocation of Veteran Car Club	84,006	105,071	105,071	109,640	109,640	-20.05%
C3189	Fencing Possum Park Barnard East	163	11,250	11,250	30,000	30,000	-98.55%
C3206	Landscaping - Old Busselton Tennis Club Site	0	62,500	62,500	500,000	500,000	-100.00%
C3207	Barnard East Underground Power	0	13,854	13,854	166,250	166,250	-100.00%
C3208	Barnard East Landscaping	3,540	20,000	20,000	240,000	240,000	-82.30%
F0089	Barnard East Footpaths	0	7,603	7,603	91,240	91,240	-100.00%
		479,545	1,157,770	1,157,770	3,127,170	3,127,170	-58.58%
	Major Project - Administration Building						
C0043	Administration Building Carpark	0	25,000	25,000	100,000	100,000	-100.00%
		0	25,000	25,000	100,000	100,000	-100.00%
	Major Project - Lou Weston Oval						
C3186	Lou Weston Oval - Courts	44,434	313,900	313,900	1,883,400	1,883,400	-85.84%
		44,434	313,900	313,900	1,883,400	1,883,400	-85.84%
	Footpaths Construction						
F0019	College Avenue	79,088	120,000	120,000	360,000	360,000	-34.09%
F0051	Chester Way Dunsborough - New Footpath	55,335	33,332	33,332	100,000	100,000	66.01%
F0066	Bussell Highway Footpath Sections	168,118	117,680	117,680	353,047	353,047	42.86%
F0080	Margaret St DUP Renewal	661	26,668	26,668	80,000	80,000	-97.52%
F0081	Windlemere Drive Dunsborough - New Path	193	49,000	49,000	147,000	147,000	-99.61%
F0082	King Street - New Path	0	60,000	60,000	180,000	180,000	-100.00%
F0083	Bell Drive - New Path Completing Missing Sections	38,957	17,336	17,336	52,000	52,000	124.72%
F0084	Thompson Way - New Path	193	12,336	12,336	37,000	37,000	-98.44%
F0085	Paterson Drive - New Footpath & Foot Bridge	193	25,572	25,572	76,720	76,720	-99.25%
F0086	Holgate Road Path - Renewal as per AMP	0	5,120	5,120	15,360	15,360	-100.00%
F0087	Sanctuary Grove Path - Renewal as per AMP	0	13,332	13,332	40,000	40,000	-100.00%
F0088	Ella Gladstone Drive Path - Renewal as per AMP	198	4,576	4,576	13,720	13,720	-95.68%
F0090	DAIP - Disability Access	15,618	16,668	16,668	50,000	50,000	-6.30%
F0091	Criterion Track Bovell Oval	17,768	5,924	5,924	17,768	17,768	199.94%
		376,323	507,544	507,544	1,522,615	1,522,615	-25.85%
	Drainage Construction - Street						
D0009	Busselton LIA - Geocatch Drain Partnership WSUD Improvements	120	0	0	30,000	30,000	0.00%
D0017	Chain Avenue - Drainage Works	35,059	0	0	0	0	0.00%
D0020	Glenmeer Ramble Drainage Upgrade	0	16,900	16,900	50,700	50,700	-100.00%

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D0021	Chugg Road Drainage Upgrade	180	33,336	33,336	100,000	100,000	-99.46%
D0022	West Street Drainage Improvements	12,507	4,184	4,184	12,551	12,551	198.92%
		47,866	54,420	54,420	193,251	193,251	-12.04%
	Car Parking Construction						
C0013	Yallingup Beach Car Park	74,478	22,156	22,156	66,472	66,472	236.15%
C0044	Meelup Coastal Nodes - Carpark upgrade	50,348	0	0	138,270	138,270	0.00%
C0050	Forth Street Groyne Carpark - Formalise and Seal	0	18,200	18,200	54,600	54,600	-100.00%
C0051	Vasse Oval Gravel Car Parking - Dawson (Eastern Side)	0	66,668	66,668	200,000	200,000	-100.00%
C0052	Vasse Kaloorup Oval Carpark Development	910	86,668	86,668	260,000	260,000	-98.95%
		125,736	193,692	193,692	719,342	719,342	-35.08%
	Bridges Construction						
A0014	Bussell Highway - 0241	0	0	0	744,000	744,000	0.00%
A0022	Yallingup Beach Road Bridge - 3347	0	0	0	700,000	700,000	0.00%
A0023	Kaloorup Road Bridge - 3381	0	0	0	138,000	138,000	0.00%
A0024	Boallia Road Bridge - 4854	0	0	0	138,000	138,000	0.00%
		0	0	0	1,720,000	1,720,000	0.00%
	Cycleways Construction						
F1005	End of Trip Facilities for Cyclists	1,260	11,668	11,668	35,000	35,000	-89.20%
F1021	Wayfinding for Cyclists	0	5,000	5,000	15,000	15,000	-100.00%
		1,260	16,668	16,668	50,000	50,000	-92.44%
	Townscape Construction						
C1001	Queen Street Upgrade - Duchess to Kent Street	0	0	0	120,000	120,000	0.00%
C1024	Dunsborough Road Access Improvements Stage 1	9,316	64,408	64,408	193,221	193,221	-85.54%
C1026	Townscape Works Dunsborough	3,296	174,336	174,336	523,000	523,000	-98.11%
		12,612	238,744	238,744	836,221	836,221	-94.72%
	Boat Ramps Construction						
C1502	Old Dunsborough Boat Ramp Finger Jetty	1,800	0	0	10,000	10,000	0.00%
C1503	Quindalup Sea Rescue Boat Ramp	0	0	0	10,000	10,000	0.00%
C1504	Abbey Boat Ramp Upgrade	0	0	0	10,000	10,000	0.00%
C1512	Port Geographe Boat Ramp Renewal Works	367,082	156,936	156,936	470,810	470,810	133.91%
		368,882	156,936	156,936	500,810	500,810	135.05%
	Depot Construction						
C2006	Depot Washdown Facility Upgrades	0	27,500	27,500	82,500	82,500	-100.00%
		0	27,500	27,500	82,500	82,500	-100.00%
	Beach Restoration						
C2504	Groyne Construction	0	7,584	7,584	22,754	22,754	-100.00%
C2512	Sand Re-Nourishment	202,378	127,662	127,662	259,240	259,240	58.53%
C2520	Coastal Protection Works	12,360	18,332	18,332	55,000	55,000	-32.58%
C2523	Broadwater Beach Coastal Protection Stage 1 of 4	72,105	34,452	34,452	403,355	403,355	109.29%
C2524	Wonnerup Coastal Defence (Groyne)	3,321	0	0	0	0	0.00%
C2525	Wonnerup Groynes 3, 5, & 6	143,696	45,332	45,332	136,000	136,000	216.99%
C2526	Baudin/ Wonnerup Groynes	9,660	96,140	96,140	288,419	288,419	-89.95%
C2527	Storm Damage Renewal of Infrastructure	0	3,896	3,896	11,692	11,692	-100.00%
C2528	Craig Street Groyne and Sea Wall	167,724	28,068	28,068	84,209	84,209	497.56%
		611,244	361,466	361,466	1,260,669	1,260,669	69.10%
	Parks, Gardens & Reserves						
C3007	Park Furniture Replacement - Replace aged & unsafe Equip	4,505	10,000	10,000	30,000	30,000	-54.95%
C3017	Bovell Park - Upgrade Lighting	59,927	24,032	24,032	72,100	72,100	149.36%
C3024	Dunsborough Oval - Lighting Upgrade	42,591	18,332	18,332	55,000	55,000	132.33%
C3046	Dunsborough - BMX / Skatebowl	0	0	0	5,000	5,000	0.00%
C3048	BBQ Placement and Replacement	128	3,750	3,750	15,000	15,000	-96.59%
C3066	West Swim Jetty	0	0	0	20,000	20,000	0.00%
C3096	Yallingup Park - Upgrades	0	14,000	14,000	14,000	14,000	-100.00%
C3103	Youth Skate Park	0	0	0	15,000	15,000	0.00%
C3116	Dawson Park (Mcintyre St Pos)	0	0	0	110,000	110,000	0.00%
C3122	Rails to Trails - Continuation of Implementation Plan	124,601	46,224	46,224	544,757	544,757	169.56%
C3136	Vasse Oval Kaloorup - Grassing of Existing Oval	279	120,000	120,000	120,000	120,000	-99.77%
C3145	Churchill Park	23,835	27,812	27,812	533,439	533,439	-14.30%
C3146	Dunsborough Town Centre/ Foreshore	0	0	0	15,000	15,000	0.00%

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	Description	2019/20 Actual YTD	2019/20 Amended Budget YTD	2019/20 Original Budget YTD	2019/20 Amended Budget	2019/20 Original Budget	2019/20 Budget YTD Variance
C3158	Port Geographe - Casurina Replacements on Layman Road	11,571	5,888	5,888	17,664	17,664	96.53%
C3159	Port Geographe - Burgee Cove (Western Side of Bridge)	23,140	13,828	13,828	24,000	24,000	67.34%
C3160	Port Geographe - Reticulated POS at Layman Road	3,189	11,660	11,660	17,500	17,500	-72.65%
C3163	Port Geographe - Outstanding Minor Repairs	11,571	5,000	5,000	15,000	15,000	131.43%
C3166	Vasse River Foreshore - Bridge to Bridge	20,279	36,468	36,468	109,399	109,399	-44.39%
C3176	Geographe Bay Road (Earnshaw) Coastal Fencing Renewal	0	0	0	10,000	10,000	0.00%
C3177	Shade Sail Program Dawson Park/ Cloisters	171	0	0	50,000	50,000	0.00%
C3187	Port Geographe Reticulation Upgrades	0	22,276	22,276	66,823	66,823	-100.00%
C3192	Foreshore Renewal HighStreet to CareyStreet	0	0	0	26,000	26,000	0.00%
C3193	Cricket Wicket Renewal	186	4,332	4,332	13,000	13,000	-95.70%
C3194	Meelup Regional Park - Capital Projects	0	0	0	163,000	163,000	0.00%
C3195	Centennial Park (West of Banks Ave) - Lighting Renewal	0	3,332	3,332	10,000	10,000	-100.00%
C3196	Centennial Park (West of Banks Av) - Renewal of Beach Shower	0	3,332	3,332	10,000	10,000	-100.00%
C3197	Riverbank POS - Renewal of Riverbank Platform	267	0	0	10,000	10,000	0.00%
C3198	Vasse SAR Area General Improvements to the Area	7,815	0	0	25,000	25,000	0.00%
C3199	Vasse SAR Area Installation of Shade Sails	0	0	0	25,000	25,000	0.00%
C3200	Provence SAR Area General Improvements to the Area	0	0	0	75,000	75,000	0.00%
C3201	Port Geographe - Stage 3 Reticulation Upgrade	21,570	50,000	50,000	150,000	150,000	-56.86%
C3202	Port Geographe Street Light Replacement	0	0	0	50,000	50,000	0.00%
C3203	Port Geographe General Improvements/ Foreshore	0	0	0	30,000	30,000	0.00%
C3204	Port Geographe Eastern Side of Footbridge Landscaping Upgrad	0	0	0	20,000	20,000	0.00%
C3205	Port Geographe Native Planting area in front Sensations cafe	0	0	0	15,000	15,000	0.00%
C3209	Busselton Town Centre CBD	0	0	0	15,000	15,000	0.00%
C3210	McBride Park - POS Upgrade	0	0	0	32,538	32,538	0.00%
C3211	Tulloh St (Geographe Bay Road) - POS Upgrade	0	0	0	90,332	90,332	0.00%
C3212	Siesta Park -Beach Acesss - POS Upgrade	0	0	0	13,056	13,056	0.00%
C3213	Cabarita Road - POS Upgrade	0	0	0	100,000	100,000	0.00%
C3214	Kingsford Road - POS Upgrade	0	0	0	150,653	150,653	0.00%
C3215	Monash Way - POS Upgrade	0	0	0	167,174	167,174	0.00%
C3216	Wagon Road - POS Upgrade	0	0	0	167,174	167,174	0.00%
C3217	Limestone Quarry - POS Upgrade	0	0	0	167,174	167,174	0.00%
C3218	Dolphin Road - POS Upgrade	0	0	0	91,000	91,000	0.00%
C3219	Kingfish/ Costello - POS Upgrade	0	0	0	91,000	91,000	0.00%
C3220	Quindalup Old Tennis Courts Site - POS Upgrade	0	0	0	149,587	149,587	0.00%
C3221	Cape Naturalise - POS Upgrade	0	0	0	167,392	167,392	0.00%
C3222	King St Reserve Park - POS Upgrade	0	0	0	147,348	147,348	0.00%
C3497	Busselton Jetty - Capital Expenditure	53,660	425,000	425,000	1,700,000	1,700,000	-87.37%
		409,287	845,266	845,266	5,731,110	5,731,110	-51.58%
	Airport Construction						
C6025	Installation of Bird Netting	0	0	0	185,240	185,240	0.00%
		0	0	0	185,240	185,240	0.00%
	Cemetery Capital Works						
C1604	Pioneer Cemetery Infrastructure Upgrades	6,502	16,808	16,808	50,425	50,425	-61.32%
C1605	Busselton Cemetery Infrastructure Upgrades	256	0	0	40,000	40,000	0.00%
C1608	Dunsborough Cemetery - Car Park & Internal Upgrades	0	0	0	74,000	74,000	0.00%
C1609	Pioneer Cemetery - Implement Conservation Plan	13,500	0	0	20,000	20,000	0.00%
C1610	Dunsborough Cemetery	0	0	0	20,000	20,000	0.00%
		20,258	16,808	16,808	204,425	204,425	20.53%
	Beach Front Infrastructure Works						
C1758	Beach Access Stairs - Bay View Cresent	0	6,636	6,636	19,910	19,910	-100.00%
C1760	King Street Reserve - Park Upgrade (Coastal Node)	0	23,832	23,832	71,499	71,499	-100.00%
C1761	Geographe Bay Road (Seagrott Road) Beach Access Renewal	0	0	0	25,000	25,000	0.00%
		0	30,468	30,468	116,409	116,409	-100.00%
	Aged Housing - Infrastructure Works						
C3451	Aged Housing Infrastructure (Upgrade)	0	6,000	6,000	12,000	12,000	-100.00%
		0	6,000	6,000	12,000	12,000	-100.00%
	Sanitation Infrastructure						
C3479	Vidler Road Waste Site Capital Improvements	22,725	129,492	129,492	388,480	388,480	-82.45%
C3481	Transfer Station Development	8,324	151,504	151,504	454,510	454,510	-94.51%
C3485	Site Rehabilitation - Busselton	2,138	333,336	333,336	1,000,000	1,000,000	-99.36%
C3487	Site Rehabilitation - Dunsborough	0	500,000	500,000	1,500,000	1,500,000	-100.00%
		33,188	1,114,332	1,114,332	3,342,990	3,342,990	-97.02%
	Airport Development						
C6087	Airport Construction Stage 2, Landside Civils & Services Inf	8,850	0	0	0	0	0.00%
C6091	Airport Construction Stage 2, Noise Management Plan	0	289,852	289,852	869,550	869,550	-100.00%

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	Description	2019/20 Actual YTD	2019/20 Amended Budget YTD	2019/20 Original Budget YTD	2019/20 Amended Budget	2019/20 Original Budget	2019/20 Budget YTD Variance
C6092	Airport Construction Stage 2, Airfield	6,200	0	0	0	0	0.00%
C6099	Airport Development - Project Expenses	82,972	396,252	396,252	1,187,110	1,187,110	-79.06%
		98,022	686,104	686,104	2,056,660	2,056,660	-85.71%
	Main Roads						
S0035	Strelly Street / Barlee Street Roundabout	141,128	5,420	5,420	16,259	16,259	2503.84%
S0051	Causeway Road / Rosemary Drive Roundabout	850	468,892	468,892	1,406,680	1,406,680	-99.82%
S0064	Peel Terrace (Stanley Pl/Cammilleri St Intersection Upgrade)	0	141,972	141,972	425,912	425,912	-100.00%
S0068	Georgiana Molloy Bus Bay Facilities	10,848	0	0	0	0	0.00%
S0069	Peel Terrace (Brown Street Intersection Upgrades)	0	81,948	81,948	245,849	245,849	-100.00%
S0070	Peel & Queen Street Roundabout Service Relocation	0	250,000	250,000	750,000	750,000	-100.00%
S0071	Ludlow-Hithergreen Road Safety Improvements	127,332	0	0	576,500	576,500	0.00%
S0072	Kaloorup Road - Reconstruct and Seal Shoulders	240	35,000	35,000	420,000	420,000	-99.31%
S0317	Naturaliste Terrace Asphalt Overlay	45,291	0	0	0	0	0.00%
S0321	Yoongarillup Road - Second Coat Seal	0	17,000	17,000	51,000	51,000	-100.00%
S0322	Wonnerup East Road - Prune re-Shoulder an Reseal	1,379	43,004	43,004	129,000	129,000	-96.79%
S0323	Piggot Road - Second Coat Seal	0	4,340	4,340	13,000	13,000	-100.00%
S0324	Georgette Street - Reconstruction & Kerbs	0	22,336	22,336	67,000	67,000	-100.00%
S0325	Hansen Road - Asphalt Overlay & Kerbing	2,895	22,008	22,008	66,000	66,000	-86.85%
S0326	Pries Road - Gravel Resheet	4,949	4,420	4,420	13,250	13,250	11.96%
S0327	Florence Road - Gravel Resheet	0	4,264	4,264	12,783	12,783	-100.00%
		334,911	1,100,604	1,100,604	4,193,233	4,193,233	-69.57%
	Roads to Recovery						
T0019	Wonnerup South Road - Reconstruct and Widening (narrow seal)	540	208,180	208,180	624,535	624,535	-99.74%
T0085	Yoongarillup Road - Reconstruct Intersection at Vasse H/Way	3,032	70,000	70,000	210,000	210,000	-95.67%
T0086	Yoongarillup Road - Reconstruct & Widen (Western Section)	7,418	492,704	492,704	1,478,100	1,478,100	-98.49%
		10,990	770,884	770,884	2,312,635	2,312,635	-98.57%
	Black Spot						
V0002	Eastern Link - Busselton Traffic Study	38,465	0	0	2,500,000	2,500,000	0.00%
V0003	Roundabout to Eastern Link Bridge	0	0	0	300,000	300,000	0.00%
V0004	Eastern Link Shared Path & Environmental Offsets	770	0	0	200,000	200,000	0.00%
V0005	Eastern Link Ford Road Environmental Approvals	44,800	0	0	150,000	150,000	0.00%
		84,035	0	0	3,150,000	3,150,000	0.00%
	Council Roads Initiative						
W0003	Franklin Road - Gravel Resheet	18,472	11,668	11,668	35,000	35,000	58.32%
W0015	Gale Road - Reconstruction (50% Council)	4,110	10,000	10,000	30,000	30,000	-58.90%
W0055	Lindberg Road	29,983	6,212	6,212	18,641	18,641	382.67%
W0067	Ford Road Reconstruct and Asphalt Overlay	1,120	96,668	96,668	290,000	290,000	-98.84%
W0084	Vasse Yallingup Siding Road	18,190	6,672	6,672	20,013	20,013	172.63%
W0091	Carbunup South Road - Gravel Resheet	12,604	6,268	6,268	18,800	18,800	101.09%
W0094	Fairway Drive - Intersection Works	558	90,000	90,000	270,000	270,000	-99.38%
W0114	Wonnerup South Road - Reconstruct and Widening (narrow seal)	1,379	235,152	235,152	705,465	705,465	-99.41%
W0126	Gulberti Road - Gravel Resheet	148	20,000	20,000	60,000	60,000	-99.26%
W0176	Signage (Alternate CBD Entry)	0	5,332	5,332	16,000	16,000	-100.00%
W0195	Yallingup Beach Road	43,039	0	0	0	0	0.00%
W0216	Fredrick Street Partial Reconstruction	300	13,332	13,332	40,000	40,000	-97.75%
W0224	Jones Way Asphalt Overlay	92,430	24,728	24,728	74,182	74,182	273.79%
W0227	William Drive - Asphalt Overlay, Kerb & Drainage	38,531	57,328	57,328	171,992	171,992	-32.79%
W0230	Short Street - Asphalt Overlay & Kerb	16,014	22,336	22,336	67,000	67,000	-28.30%
W0231	Carey Street - Asphalt Overlay & Kerb	931	58,336	58,336	175,000	175,000	-98.40%
W0232	Stanley Street - Asphalt Overlay, Kerbing & Parking	0	49,004	49,004	147,000	147,000	-100.00%
W0233	Centurion Way - Asphalt Overlay & Kerbing	83,432	43,336	43,336	130,000	130,000	92.52%
W0234	King Street - Reconstruction, Drainage & Asphalt Overlay	10,155	172,668	172,668	518,000	518,000	-94.12%
W0235	Eagle Place - Asphalt Overlay & Kerbing	8,815	10,668	10,668	32,000	32,000	-17.37%
W0236	Achurch Place - Asphalt Overlay & Kerbing	18,900	30,008	30,008	90,000	90,000	-37.02%
W0237	Hovea Cresent - Asphalt Overlay, Kerb & Intersection Works	152,269	72,000	72,000	216,000	216,000	111.48%
W0238	Sutton Way - Asphalt Overlay & Kerb	42,095	23,664	23,664	71,000	71,000	77.89%
W0239	Silverglen Avenue - Asphalt Overlay, Kerb & Drainage	387	13,328	13,328	40,000	40,000	-97.09%
W0240	Metricup Yelverton Road - Gravel Resheet	0	19,000	19,000	57,000	57,000	-100.00%
W0241	Hemsley Road - Gravel Resheet	198	14,004	14,004	42,000	42,000	-98.59%
W0242	Doyle Road - Gravel Resheet	9,048	7,332	7,332	22,000	22,000	23.41%
W0243	Alfred Road - Gravel Resheet	0	16,668	16,668	50,000	50,000	-100.00%
W0244	Koorabin Drive - Reconstruction & Intersection	120	48,000	48,000	144,000	144,000	-99.75%
W0245	Wilson Avenue Quindalup	0	0	0	68,522	0	0.00%
		603,229	1,183,712	1,183,712	3,619,615	3,551,093	-49.04%
	Sub-Total Infrastructure	**3,661,821**	**8,807,818**	**8,807,818**	**36,920,295**	**36,851,773**	**-58.43%**
	Grand Total - Capital Acquisitions	**4,882,712**	**16,129,110**	**16,134,478**	**60,623,722**	**60,571,300**	

City of Busselton

Reserves Movement Report

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		2019/2020 Actual YTD	2019/2020 Amended Budget YTD	2019/2020 Original Budget YTD	2019/2020 Amended Budget	2019/2020 Original Budget	2018/2019 Actual
		$	$	$	$	$	$
100	**Airport Infrastructure Renewal Reserve**						
	Accumulated Reserves at Start of Year	1,821,552.89	1,821,552.89	1,821,552.89	1,821,552.89	1,821,552.89	1,325,501.46
	Interest transfer to Reserves	10,877.54	13,516.00	13,516.00	40,548.00	40,548.00	41,231.55
	Transfer from Muni	0.00	0.00	0.00	0.00	0.00	536,450.00
	Transfer to Muni	0.00	0.00	0.00	(156,250.00)	(156,250.00)	(81,630.12)
		1,832,430.43	1,835,068.89	1,835,068.89	1,705,850.89	1,705,850.89	1,821,552.89
136	**Airport Marketing and Incentive Reserve**						
	Accumulated Reserves at Start of Year	3,396,150.77	3,396,150.77	3,396,150.77	3,396,150.77	3,396,150.77	1,583,014.10
	Interest transfer to Reserves	21,201.65	25,204.00	25,204.00	75,612.00	75,612.00	77,306.67
	Transfer from Muni	129,400.00	129,400.00	129,400.00	526,416.00	526,416.00	1,735,830.00
	Transfer to Muni	0.00	0.00	0.00	(1,360,230.00)	(1,360,230.00)	0.00
		3,546,752.42	3,550,754.77	3,550,754.77	2,637,948.77	2,637,948.77	3,396,150.77
143	**Airport Noise Mitigation Reserve**						
	Accumulated Reserves at Start of Year	890,709.89	890,709.89	890,709.89	890,709.89	890,709.89	0.00
	Interest transfer to Reserves	5,315.09	6,612.00	6,612.00	19,836.00	19,836.00	21,159.89
	Transfer from Muni	0.00	0.00	0.00	0.00	0.00	869,550.00
	Transfer to Muni	0.00	0.00	0.00	(869,550.00)	(869,550.00)	0.00
		896,024.98	897,321.89	897,321.89	40,995.89	40,995.89	890,709.89
147	**Airport Development Reserve**						
	Interest transfer to Reserves	183.70	0.00	0.00	0.00	0.00	0.00
	Transfer from Muni	55,296.00	55,296.00	55,296.00	165,882.00	165,882.00	0.00
	Transfer to Muni	0.00	0.00	0.00	(165,882.00)	(165,882.00)	0.00
		55,479.70	55,296.00	55,296.00	0.00	0.00	0.00
148	**Airport Existing Terminal Building Reserve**						
	Accumulated Reserves at Start of Year	39,882.21	39,882.21	39,882.21	39,882.21	39,882.21	0.00
	Interest transfer to Reserves	237.98	296.00	296.00	888.00	888.00	882.21
	Transfer from Muni	0.00	0.00	0.00	0.00	0.00	39,000.00
		40,120.19	40,178.21	40,178.21	40,770.21	40,770.21	39,882.21
106	**Building Asset Renewal Reserve**						
	Accumulated Reserves at Start of Year	1,725,055.66	1,725,055.66	1,725,055.66	1,725,055.66	1,725,055.66	1,193,933.21
	Interest transfer to Reserves	10,751.95	12,800.00	12,800.00	38,400.00	38,400.00	29,072.58
	Transfer from Muni	242,384.00	242,384.00	242,384.00	727,148.00	727,148.00	894,362.38
	Transfer to Muni	0.00	0.00	0.00	(751,536.00)	(751,536.00)	(392,312.51)
		1,978,191.61	1,980,239.66	1,980,239.66	1,739,067.66	1,739,067.66	1,725,055.66
404	**Barnard Park Sports Pavilion Building Reserve**						
	Accumulated Reserves at Start of Year	10,666.20	10,666.20	10,666.20	10,666.20	10,666.20	0.00
	Interest transfer to Reserves	100.15	80.00	80.00	240.00	240.00	166.20
	Transfer from Muni	10,076.00	10,076.00	10,076.00	30,226.00	30,226.00	10,500.00
		20,842.35	20,822.20	20,822.20	41,132.20	41,132.20	10,666.20
405	**Railway House Building Reserve**						
	Accumulated Reserves at Start of Year	16,761.18	16,761.18	16,761.18	16,761.18	16,761.18	0.00
	Interest transfer to Reserves	126.52	124.00	124.00	372.00	372.00	261.18
	Transfer from Muni	6,544.00	6,544.00	6,544.00	19,635.00	19,635.00	16,500.00
		23,431.70	23,429.18	23,429.18	36,768.18	36,768.18	16,761.18

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		2019/2020 Actual YTD	2019/2020 Amended Budget YTD	2019/2020 Original Budget YTD	2019/2020 Amended Budget	2019/2020 Original Budget	2018/2019 Actual
		$	$	$	$	$	$
406	**Youth and Community Activities Building Reserve**						
	Accumulated Reserves at Start of Year	45,712.30	45,712.30	45,712.30	45,712.30	45,712.30	0.00
	Interest transfer to Reserves	333.22	340.00	340.00	1,020.00	1,020.00	712.30
	Transfer from Muni	14,280.00	14,280.00	14,280.00	42,840.00	42,840.00	45,000.00
	Transfer to Muni	0.00	0.00	0.00	(10,000.00)	(10,000.00)	0.00
		60,325.52	60,332.30	60,332.30	79,572.30	79,572.30	45,712.30
407	**Busselton Library Building Reserve**						
	Accumulated Reserves at Start of Year	85,071.29	85,071.29	85,071.29	85,071.29	85,071.29	0.00
	Interest transfer to Reserves	598.42	632.00	632.00	1,896.00	1,896.00	1,440.29
	Transfer from Muni	15,232.00	15,232.00	15,232.00	45,696.00	45,696.00	83,631.00
	Transfer to Muni	0.00	0.00	0.00	(111,000.00)	(111,000.00)	0.00
		100,901.71	100,935.29	100,935.29	21,663.29	21,663.29	85,071.29
131	**Busselton Community Resource Centre Reserve**						
	Accumulated Reserves at Start of Year	190,875.82	190,875.82	190,875.82	190,875.82	190,875.82	156,653.93
	Interest transfer to Reserves	1,245.61	1,416.00	1,416.00	4,248.00	4,248.00	4,352.89
	Transfer from Muni	21,599.00	21,599.00	21,599.00	86,394.00	86,394.00	29,869.00
	Transfer to Muni	0.00	0.00	0.00	(5,160.00)	(5,160.00)	0.00
		213,720.43	213,890.82	213,890.82	276,357.82	276,357.82	190,875.82
408	**Busselton Jetty Tourist Park Reserve**						
	Accumulated Reserves at Start of Year	159,725.80	159,725.80	159,725.80	159,725.80	159,725.80	0.00
	Interest transfer to Reserves	1,088.85	1,184.00	1,184.00	3,552.00	3,552.00	3,454.93
	Transfer from Muni	86,236.00	86,236.00	86,236.00	258,708.00	258,708.00	218,272.00
	Transfer to Muni	0.00	0.00	0.00	(287,610.00)	(287,610.00)	(62,001.13)
		247,050.65	247,145.80	247,145.80	134,375.80	134,375.80	159,725.80
409	**Geographe Leisure Centre Building Reserve**						
	Accumulated Reserves at Start of Year	381,186.42	381,186.42	381,186.42	381,186.42	381,186.42	0.00
	Interest transfer to Reserves	2,692.65	2,828.00	2,828.00	8,484.00	8,484.00	7,716.49
	Transfer from Muni	86,840.00	86,840.00	86,840.00	260,521.00	260,521.00	476,928.00
	Transfer to Muni	0.00	0.00	0.00	(555,900.00)	(555,900.00)	(103,458.07)
		470,719.07	470,854.42	470,854.42	94,291.42	94,291.42	381,186.42
331	**Joint Venture Aged Housing Reserve**						
	Accumulated Reserves at Start of Year	1,085,870.41	1,085,870.41	1,085,870.41	1,085,870.41	1,085,870.41	997,854.77
	Interest transfer to Reserves	6,271.17	8,060.00	8,060.00	24,180.00	24,180.00	27,824.81
	Transfer from Muni	42,912.00	42,912.00	42,912.00	128,741.00	128,741.00	182,877.12
	Transfer to Muni	0.00	0.00	0.00	(152,000.00)	(152,000.00)	(122,686.29)
		1,135,053.58	1,136,842.41	1,136,842.41	1,086,791.41	1,086,791.41	1,085,870.41
403	**Winderlup Aged Housing Resident Funded Reserve**						
	Accumulated Reserves at Start of Year	212,501.16	212,501.16	212,501.16	212,501.16	212,501.16	186,717.69
	Interest transfer to Reserves	1,340.75	1,576.00	1,576.00	4,728.00	4,728.00	4,702.72
	Transfer from Muni	0.00	0.00	0.00	0.00	0.00	63,103.70
	Transfer to Muni	0.00	0.00	0.00	(126,000.00)	(126,000.00)	(42,022.95)
		213,841.91	214,077.16	214,077.16	91,229.16	91,229.16	212,501.16
410	**Naturaliste Community Centre Building Reserve**						
	Accumulated Reserves at Start of Year	63,745.73	63,745.73	63,745.73	63,745.73	63,745.73	0.00
	Interest transfer to Reserves	486.19	472.00	472.00	1,416.00	1,416.00	2,078.93
	Transfer from Muni	19,904.00	19,904.00	19,904.00	59,708.00	59,708.00	159,147.00
	Transfer to Muni	0.00	0.00	0.00	(12,000.00)	(12,000.00)	(97,480.20)
		84,135.92	84,121.73	84,121.73	112,869.73	112,869.73	63,745.73

City of Busselton

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		2019/2020 Actual YTD	2019/2020 Amended Budget YTD	2019/2020 Original Budget YTD	2019/2020 Amended Budget	2019/2020 Original Budget	2018/2019 Actual
		$	$	$	$	$	$
411	**Civic and Administration Building Reserve**						
	Accumulated Reserves at Start of Year	187,928.40	187,928.40	187,928.40	187,928.40	187,928.40	0.00
	Interest transfer to Reserves	1,487.12	1,396.00	1,396.00	4,188.00	4,188.00	2,928.40
	Transfer from Muni	94,000.00	94,000.00	94,000.00	282,000.00	282,000.00	185,000.00
	Transfer to Muni	0.00	0.00	0.00	(105,920.00)	(105,920.00)	0.00
		283,415.52	283,324.40	283,324.40	368,196.40	368,196.40	187,928.40
412	**Vasse Sports Pavilion Building Reserve**						
	Interest transfer to Reserves	0.60	0.00	0.00	0.00	0.00	0.00
	Transfer from Muni	180.00	180.00	180.00	536.00	536.00	0.00
		180.60	180.00	180.00	536.00	536.00	0.00
110	**Jetty Maintenance Reserve**						
	Accumulated Reserves at Start of Year	4,806,278.94	4,806,278.94	4,806,278.94	4,806,278.94	4,806,278.94	4,193,450.51
	Interest transfer to Reserves	30,217.34	35,668.00	35,668.00	107,004.00	107,004.00	108,240.24
	Transfer from Muni	64,440.00	64,440.00	64,440.00	1,286,516.00	1,286,516.00	1,249,044.00
	Transfer to Muni	0.00	(425,000.00)	(425,000.00)	(2,982,095.00)	(2,982,095.00)	(744,455.81)
		4,900,936.28	4,481,386.94	4,481,386.94	3,217,703.94	3,217,703.94	4,806,278.94
150	**Jetty Self Insurance Reserve**						
	Accumulated Reserves at Start of Year	365,698.37	365,698.37	365,698.37	365,698.37	365,698.37	0.00
	Interest transfer to Reserves	2,352.60	2,712.00	2,712.00	8,136.00	8,136.00	5,698.37
	Transfer from Muni	20,000.00	20,000.00	20,000.00	60,000.00	60,000.00	360,000.00
		388,050.97	388,410.37	388,410.37	433,834.37	433,834.37	365,698.37
222	**Asset Depreciation Reserve**						
	Accumulated Reserves at Start of Year	0.00	0.00	0.00	0.00	0.00	563,412.18
	Interest transfer to Reserves	0.00	0.00	0.00	0.00	0.00	14,029.57
	Transfer to Muni	0.00	0.00	0.00	0.00	0.00	(577,441.75)
		0.00	0.00	0.00	0.00	0.00	0.00
223	**Road Asset Renewal Reserve**						
	Accumulated Reserves at Start of Year	1,119,116.75	1,119,116.75	1,119,116.75	1,119,116.75	1,119,116.75	1,299,765.50
	Interest transfer to Reserves	9,122.27	8,304.00	8,304.00	24,912.00	24,912.00	49,255.16
	Transfer from Muni	1,152,708.00	1,152,708.00	1,152,708.00	3,458,128.00	3,458,128.00	2,550,956.00
	Transfer to Muni	0.00	0.00	0.00	(4,218,474.00)	(4,161,474.00)	(2,780,859.91)
		2,280,947.02	2,280,128.75	2,280,128.75	383,682.75	440,682.75	1,119,116.75
224	**Footpath/ Cycle Ways Reserve**						
	Accumulated Reserves at Start of Year	3,670.90	3,670.90	3,670.90	3,670.90	3,670.90	0.00
	Interest transfer to Reserves	600.99	28.00	28.00	84.00	84.00	3,670.90
	Transfer from Muni	394,868.00	394,868.00	394,868.00	1,184,602.00	1,184,602.00	231,906.00
	Transfer to Muni	0.00	0.00	0.00	(1,147,590.00)	(1,147,590.00)	(231,906.00)
		399,139.89	398,566.90	398,566.90	40,766.90	40,766.90	3,670.90
226	**Other Infrastructure (Drainage, Signage, Etc.) Reserve**						
	Interest transfer to Reserves	384.29	0.00	0.00	0.00	0.00	0.00
	Transfer from Muni	115,668.00	115,668.00	115,668.00	347,000.00	347,000.00	0.00
	Transfer to Muni	0.00	0.00	0.00	(316,950.00)	(316,950.00)	0.00
		116,052.29	115,668.00	115,668.00	30,050.00	30,050.00	0.00

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		2019/2020 Actual YTD	2019/2020 Amended Budget YTD	2019/2020 Original Budget YTD	2019/2020 Amended Budget	2019/2020 Original Budget	2018/2019 Actual
		$	$	$	$	$	$
225	**Parks, Gardens and Reserves Reserve**						
	Interest transfer to Reserves	1,344.45	0.00	0.00	0.00	0.00	0.00
	Transfer from Muni	404,668.00	404,668.00	404,668.00	1,214,001.00	1,214,001.00	0.00
	Transfer to Muni	0.00	0.00	0.00	(1,134,000.00)	(1,134,000.00)	0.00
		406,012.45	404,668.00	404,668.00	80,001.00	80,001.00	0.00
151	**Furniture and Equipment Reserve**						
	Transfer from Muni	0.00	0.00	0.00	364,900.00	364,900.00	0.00
	Transfer to Muni	0.00	0.00	0.00	(364,900.00)	(364,900.00)	0.00
		0.00	0.00	0.00	0.00	0.00	0.00
115	**Plant Replacement Reserve**						
	Accumulated Reserves at Start of Year	1,205,526.70	1,205,526.70	1,205,526.70	1,205,526.70	1,205,526.70	2,185,395.64
	Interest transfer to Reserves	4,190.08	8,948.00	8,948.00	26,844.00	26,844.00	61,462.25
	Transfer from Muni	300,244.00	300,244.00	300,244.00	900,737.00	900,737.00	1,115,712.71
	Transfer to Muni	0.00	0.00	0.00	(1,418,950.00)	(1,418,950.00)	(2,157,043.90)
		1,509,960.78	1,514,718.70	1,514,718.70	714,157.70	714,157.70	1,205,526.70
137	**Major Traffic Improvements Reserve**						
	Accumulated Reserves at Start of Year	1,495,577.97	1,495,577.97	1,495,577.97	1,495,577.97	1,495,577.97	432,138.26
	Interest transfer to Reserves	9,852.80	11,100.00	11,100.00	33,300.00	33,300.00	30,752.10
	Transfer from Muni	376,236.00	376,236.00	376,236.00	1,128,705.00	1,128,705.00	1,211,110.00
	Transfer to Muni	0.00	0.00	0.00	(2,400,000.00)	(2,400,000.00)	(178,422.39)
		1,881,666.77	1,882,913.97	1,882,913.97	257,582.97	257,582.97	1,495,577.97
132	**CBD Enhancement Reserve**						
	Accumulated Reserves at Start of Year	171,316.34	171,316.34	171,316.34	171,316.34	171,316.34	122,490.23
	Interest transfer to Reserves	1,671.73	1,272.00	1,272.00	3,816.00	3,816.00	3,706.11
	Transfer from Muni	182,146.00	182,146.00	182,146.00	560,188.00	560,188.00	45,120.00
	Transfer to Muni	0.00	0.00	0.00	(643,000.00)	(643,000.00)	0.00
		355,134.07	354,734.34	354,734.34	92,320.34	92,320.34	171,316.34
127	**New Infrastructure Development Reserve**						
	Accumulated Reserves at Start of Year	1,803,171.42	1,803,171.42	1,803,171.42	1,803,171.42	1,803,171.42	1,834,714.76
	Interest transfer to Reserves	9,637.96	13,380.00	13,380.00	40,140.00	40,140.00	51,101.03
	Transfer from Muni	66,340.60	64,208.00	64,208.00	192,627.00	192,627.00	410,941.00
	Transfer to Muni	0.00	0.00	0.00	(1,259,942.00)	(1,259,942.00)	(493,585.37)
		1,879,149.98	1,880,759.42	1,880,759.42	775,996.42	775,996.42	1,803,171.42
141	**Commonage Precinct Infrastructure Road Reserve**						
	Accumulated Reserves at Start of Year	231,223.87	231,223.87	231,223.87	231,223.87	231,223.87	225,574.67
	Interest transfer to Reserves	1,379.78	1,716.00	1,716.00	5,148.00	5,148.00	5,649.20
		232,603.65	232,939.87	232,939.87	236,371.87	236,371.87	231,223.87
114	**City Car Parking and Access Reserve**						
	Accumulated Reserves at Start of Year	1,281,336.70	1,281,336.70	1,281,336.70	1,281,336.70	1,281,336.70	875,925.14
	Interest transfer to Reserves	7,799.23	9,508.00	9,508.00	28,524.00	28,524.00	30,250.23
	Transfer from Muni	168,396.00	168,396.00	168,396.00	505,188.00	505,188.00	538,024.00
	Transfer to Muni	0.00	0.00	0.00	(427,549.00)	(427,549.00)	(162,862.67)
		1,457,531.93	1,459,240.70	1,459,240.70	1,387,499.70	1,387,499.70	1,281,336.70

City of Busselton

Reserves Movement Report

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		2019/2020 Actual YTD	2019/2020 Amended Budget YTD	2019/2020 Original Budget YTD	2019/2020 Amended Budget	2019/2020 Original Budget	2018/2019 Actual
		$	$	$	$	$	$
107	**Corporate IT Systems Reserve**						
	Accumulated Reserves at Start of Year	80,398.99	80,398.99	80,398.99	80,398.99	80,398.99	78,625.03
	Interest transfer to Reserves	479.75	596.00	596.00	1,788.00	1,788.00	1,773.96
		80,878.74	80,994.99	80,994.99	82,186.99	82,186.99	80,398.99
133	**Election, Valuation and Corporate Expenses Reserve**						
	Accumulated Reserves at Start of Year	499,905.97	499,905.97	499,905.97	499,905.97	499,905.97	149,557.64
	Interest transfer to Reserves	3,219.52	3,708.00	3,708.00	11,124.00	11,124.00	8,399.33
	Transfer from Muni	50,000.00	50,000.00	50,000.00	150,000.00	150,000.00	350,949.00
	Transfer to Muni	0.00	0.00	0.00	(150,000.00)	(150,000.00)	(9,000.00)
		553,125.49	553,613.97	553,613.97	511,029.97	511,029.97	499,905.97
111	**Legal Expenses Reserve**						
	Accumulated Reserves at Start of Year	577,255.71	577,255.71	577,255.71	577,255.71	577,255.71	557,904.00
	Interest transfer to Reserves	3,247.90	4,284.00	4,284.00	12,852.00	12,852.00	15,035.07
	Transfer from Muni	0.00	0.00	0.00	0.00	0.00	61,364.00
	Transfer to Muni	0.00	0.00	0.00	0.00	0.00	(57,047.36)
		580,503.61	581,539.71	581,539.71	590,107.71	590,107.71	577,255.71
135	**Performing Arts and Convention Centre Reserve**						
	Transfer from Muni	0.00	0.00	0.00	2,705,530.00	2,705,530.00	0.00
		0.00	0.00	0.00	2,705,530.00	2,705,530.00	0.00
202	**Long Service Leave Reserve**						
	Accumulated Reserves at Start of Year	3,096,583.00	3,096,583.00	3,096,583.00	3,096,583.00	3,096,583.00	3,111,698.09
	Interest transfer to Reserves	17,588.93	22,980.00	22,980.00	68,940.00	68,940.00	93,949.05
	Transfer from Muni	83,332.00	83,332.00	83,332.00	250,000.00	250,000.00	384,190.02
	Transfer to Muni	0.00	0.00	0.00	(653,950.00)	(653,950.00)	(493,254.16)
		3,197,503.93	3,202,895.00	3,202,895.00	2,761,573.00	2,761,573.00	3,096,583.00
203	**Professional Development Reserve**						
	Accumulated Reserves at Start of Year	122,771.88	122,771.88	122,771.88	122,771.88	122,771.88	113,024.66
	Interest transfer to Reserves	609.55	912.00	912.00	2,736.00	2,736.00	3,777.31
	Transfer from Muni	23,332.00	23,332.00	23,332.00	70,000.00	70,000.00	70,000.00
	Transfer to Muni	0.00	0.00	0.00	(71,930.00)	(71,930.00)	(64,030.09)
		146,713.43	147,015.88	147,015.88	123,577.88	123,577.88	122,771.88
204	**Sick Pay Incentive Reserve**						
	Accumulated Reserves at Start of Year	150,403.55	150,403.55	150,403.55	150,403.55	150,403.55	175,935.04
	Interest transfer to Reserves	819.88	1,116.00	1,116.00	3,348.00	3,348.00	5,088.12
	Transfer from Muni	5,833.00	5,833.00	5,833.00	70,000.00	70,000.00	0.00
	Transfer to Muni	0.00	0.00	0.00	(71,930.00)	(71,930.00)	(30,619.61)
		157,056.43	157,352.55	157,352.55	151,821.55	151,821.55	150,403.55
124	**Workers Compensation and Extended Sick Leave Coningency Res**						
	Accumulated Reserves at Start of Year	305,100.95	305,100.95	305,100.95	305,100.95	305,100.95	356,227.48
	Interest transfer to Reserves	1,613.70	2,264.00	2,264.00	6,792.00	6,792.00	8,873.47
	Transfer to Muni	0.00	0.00	0.00	(28,460.00)	(28,460.00)	(60,000.00)
		306,714.65	307,364.95	307,364.95	283,432.95	283,432.95	305,100.95

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		2019/2020 Actual YTD	2019/2020 Amended Budget YTD	2019/2020 Original Budget YTD	2019/2020 Amended Budget	2019/2020 Original Budget	2018/2019 Actual
		$	$	$	$	$	$
302	**Community Facilities - City District**						
	Accumulated Reserves at Start of Year	2,552,707.62	2,552,707.62	2,552,707.62	2,552,707.62	2,552,707.62	2,303,095.83
	Interest transfer to Reserves	15,348.57	18,944.00	18,944.00	56,832.00	56,832.00	60,897.30
	Transfer from Muni	35,347.58	109,168.00	109,168.00	361,740.00	361,740.00	306,049.14
	Transfer to Muni	0.00	0.00	0.00	(2,203,795.00)	(2,203,795.00)	(117,334.65)
		2,603,403.77	2,680,819.62	2,680,819.62	767,484.62	767,484.62	2,552,707.62
304	**Community Facilities - Broadwater**						
	Accumulated Reserves at Start of Year	158,523.04	158,523.04	158,523.04	158,523.04	158,523.04	138,048.48
	Interest transfer to Reserves	951.02	1,176.00	1,176.00	3,528.00	3,528.00	3,656.26
	Transfer from Muni	1,053.54	4,168.00	4,168.00	12,500.00	12,500.00	16,818.30
		160,527.60	163,867.04	163,867.04	174,551.04	174,551.04	158,523.04
303	**Community Facilities - Busselton**						
	Accumulated Reserves at Start of Year	44,011.77	44,011.77	44,011.77	44,011.77	44,011.77	34,546.40
	Interest transfer to Reserves	269.74	328.00	328.00	984.00	984.00	971.37
	Transfer from Muni	1,714.25	6,668.00	6,668.00	20,000.00	20,000.00	8,494.00
	Transfer to Muni	0.00	0.00	0.00	(44,000.00)	(44,000.00)	0.00
		45,995.76	51,007.77	51,007.77	20,995.77	20,995.77	44,011.77
305	**Community Facilities - Dunsborough**						
	Accumulated Reserves at Start of Year	188,062.67	188,062.67	188,062.67	188,062.67	188,062.67	166,327.12
	Interest transfer to Reserves	1,183.66	1,396.00	1,396.00	4,188.00	4,188.00	4,549.89
	Transfer from Muni	19,022.60	8,332.00	8,332.00	25,000.00	25,000.00	17,185.66
		208,268.93	197,790.67	197,790.67	217,250.67	217,250.67	188,062.67
311	**Community Facilities - Dunsborough Lakes Estate**						
	Accumulated Reserves at Start of Year	922,772.84	922,772.84	922,772.84	922,772.84	922,772.84	525,105.39
	Interest transfer to Reserves	5,506.43	6,848.00	6,848.00	20,544.00	20,544.00	19,631.45
	Transfer from Muni	0.00	92,664.00	92,664.00	277,990.00	277,990.00	378,036.00
		928,279.27	1,022,284.84	1,022,284.84	1,221,306.84	1,221,306.84	922,772.84
306	**Community Facilities - Geographe**						
	Accumulated Reserves at Start of Year	99,175.93	99,175.93	99,175.93	99,175.93	99,175.93	95,061.38
	Interest transfer to Reserves	595.88	736.00	736.00	2,208.00	2,208.00	2,410.78
	Transfer from Muni	688.03	2,500.00	2,500.00	7,500.00	7,500.00	1,703.77
		100,459.84	102,411.93	102,411.93	108,883.93	108,883.93	99,175.93
310	**Community Facilities - Port Geographe**						
	Accumulated Reserves at Start of Year	343,509.27	343,509.27	343,509.27	343,509.27	343,509.27	335,116.76
	Interest transfer to Reserves	2,049.81	2,548.00	2,548.00	7,644.00	7,644.00	8,392.51
		345,559.08	346,057.27	346,057.27	351,153.27	351,153.27	343,509.27
309	**Community Facilities - Vasse**						
	Accumulated Reserves at Start of Year	615,585.54	615,585.54	615,585.54	615,585.54	615,585.54	589,760.45
	Interest transfer to Reserves	3,673.37	4,568.00	4,568.00	13,704.00	13,704.00	14,848.67
	Transfer from Muni	0.00	0.00	0.00	0.00	0.00	10,976.42
	Transfer to Muni	0.00	0.00	0.00	(450,000.00)	(450,000.00)	0.00
		619,258.91	620,153.54	620,153.54	179,289.54	179,289.54	615,585.54

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		$	$	$	$	$	$
308	**Community Facilities - Airport North**						
	Accumulated Reserves at Start of Year	2,970,179.38	2,970,179.38	2,970,179.38	2,970,179.38	2,970,179.38	2,826,296.71
	Interest transfer to Reserves	17,725.00	22,040.00	22,040.00	66,120.00	66,120.00	71,258.67
	Transfer from Muni	0.00	85,000.00	85,000.00	255,000.00	255,000.00	72,624.00
		2,987,904.38	3,077,219.38	3,077,219.38	3,291,299.38	3,291,299.38	2,970,179.38
130	**Locke Estate Reserve**						
	Accumulated Reserves at Start of Year	1,012.99	1,012.99	1,012.99	1,012.99	1,012.99	0.00
	Interest transfer to Reserves	(125.29)	8.00	8.00	24.00	24.00	1,012.99
	Transfer from Muni	21,332.00	21,332.00	21,332.00	64,000.00	64,000.00	64,000.00
	Transfer to Muni	0.00	0.00	0.00	(64,000.00)	(64,000.00)	(64,000.00)
		22,219.70	22,352.99	22,352.99	1,036.99	1,036.99	1,012.99
122	**Port Geographe Development Reserve**						
	Accumulated Reserves at Start of Year	682,470.41	682,470.41	682,470.41	682,470.41	682,470.41	1,455,440.82
	Interest transfer to Reserves	3,669.92	5,064.00	5,064.00	15,192.00	15,192.00	30,840.83
	Transfer from Muni	17,324.00	17,324.00	17,324.00	51,975.00	51,975.00	50,000.00
	Transfer to Muni	0.00	0.00	0.00	(599,307.00)	(599,307.00)	(853,811.24)
		703,464.33	704,858.41	704,858.41	150,330.41	150,330.41	682,470.41
123	**Port Geographe Waterways Managment Reserve (SAR)**						
	Accumulated Reserves at Start of Year	3,349,716.94	3,349,716.94	3,349,716.94	3,349,716.94	3,349,716.94	3,387,485.07
	Interest transfer to Reserves	19,270.59	24,860.00	24,860.00	74,580.00	74,580.00	87,609.18
	Transfer from Muni	71,648.00	71,648.00	71,648.00	214,942.00	214,942.00	193,747.69
	Transfer to Muni	0.00	0.00	0.00	(346,800.00)	(346,800.00)	(319,125.00)
		3,440,635.53	3,446,224.94	3,446,224.94	3,292,438.94	3,292,438.94	3,349,716.94
126	**Provence Landscape Maintenance Reserve (SAR)**						
	Accumulated Reserves at Start of Year	1,194,759.54	1,194,759.54	1,194,759.54	1,194,759.54	1,194,759.54	1,101,707.78
	Interest transfer to Reserves	7,015.00	8,868.00	8,868.00	26,604.00	26,604.00	30,061.96
	Transfer from Muni	58,788.00	58,788.00	58,788.00	176,363.00	176,363.00	168,461.65
	Transfer to Muni	0.00	0.00	0.00	(203,380.00)	(203,380.00)	(105,471.85)
		1,260,562.54	1,262,415.54	1,262,415.54	1,194,346.54	1,194,346.54	1,194,759.54
128	**Vasse Newtown Landscape Maintenance Reserve (SAR)**						
	Accumulated Reserves at Start of Year	575,151.53	575,151.53	575,151.53	575,151.53	575,151.53	535,722.24
	Interest transfer to Reserves	3,175.53	4,268.00	4,268.00	12,804.00	12,804.00	15,770.06
	Transfer from Muni	60,268.00	60,268.00	60,268.00	180,801.00	180,801.00	172,922.26
	Transfer to Muni	0.00	0.00	0.00	(199,220.00)	(199,220.00)	(149,263.03)
		638,595.06	639,687.53	639,687.53	569,536.53	569,536.53	575,151.53
138	**Commonage Precinct Bushfire Facilities Reserve**						
	Accumulated Reserves at Start of Year	57,260.53	57,260.53	57,260.53	57,260.53	57,260.53	55,861.58
	Interest transfer to Reserves	341.68	424.00	424.00	1,272.00	1,272.00	1,398.95
		57,602.21	57,684.53	57,684.53	58,532.53	58,532.53	57,260.53
139	**Commonage Community Facilities Dunsborough Lakes South Res**						
	Accumulated Reserves at Start of Year	72,622.42	72,622.42	72,622.42	72,622.42	72,622.42	70,848.15
	Interest transfer to Reserves	433.35	540.00	540.00	1,620.00	1,620.00	1,774.27
		73,055.77	73,162.42	73,162.42	74,242.42	74,242.42	72,622.42

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		$	$	$	$	$	$
140	**Commonage Community Facilities South Biddle Precinct Reserve**						
	Accumulated Reserves at Start of Year	886,172.58	886,172.58	886,172.58	886,172.58	886,172.58	1,030,368.46
	Interest transfer to Reserves	4,701.76	6,576.00	6,576.00	19,728.00	19,728.00	25,804.12
	Transfer to Muni	0.00	0.00	0.00	0.00	0.00	(170,000.00)
		890,874.34	892,748.58	892,748.58	905,900.58	905,900.58	886,172.58
321	**Busselton Area Drainage and Waterways Improvement Reserve**						
	Accumulated Reserves at Start of Year	546,471.37	546,471.37	546,471.37	546,471.37	546,471.37	548,820.67
	Interest transfer to Reserves	3,206.44	4,056.00	4,056.00	12,168.00	12,168.00	13,451.35
	Transfer to Muni	0.00	0.00	0.00	(184,399.00)	(184,399.00)	(15,800.65)
		549,677.81	550,527.37	550,527.37	374,240.37	374,240.37	546,471.37
102	**Coastal and Climate Adaptation Reserve**						
	Accumulated Reserves at Start of Year	2,845,578.60	2,845,578.60	2,845,578.60	2,845,578.60	2,845,578.60	2,472,424.34
	Interest transfer to Reserves	17,085.57	21,116.00	21,116.00	63,348.00	63,348.00	69,960.53
	Transfer from Muni	158,016.00	158,016.00	158,016.00	538,044.00	538,044.00	527,732.00
	Transfer to Muni	0.00	0.00	0.00	(1,316,137.00)	(1,259,792.00)	(224,538.27)
		3,020,680.17	3,024,710.60	3,024,710.60	2,130,833.60	2,187,178.60	2,845,578.60
144	**Emergency Disaster Recovery Reserve**						
	Accumulated Reserves at Start of Year	72,781.94	72,781.94	72,781.94	72,781.94	72,781.94	50,000.00
	Interest transfer to Reserves	462.23	540.00	540.00	1,620.00	1,620.00	1,781.54
	Transfer from Muni	6,668.00	6,668.00	6,668.00	20,000.00	20,000.00	21,000.40
		79,912.17	79,989.94	79,989.94	94,401.94	94,401.94	72,781.94
145	**Energy Sustainability Reserve**						
	Accumulated Reserves at Start of Year	181,852.87	181,852.87	181,852.87	181,852.87	181,852.87	100,000.00
	Interest transfer to Reserves	1,146.77	1,348.00	1,348.00	4,044.00	4,044.00	4,474.87
	Transfer from Muni	33,332.00	33,332.00	33,332.00	130,000.00	130,000.00	100,000.00
	Transfer to Muni	0.00	0.00	0.00	(177,378.00)	(177,378.00)	(22,622.00)
		216,331.64	216,532.87	216,532.87	138,518.87	138,518.87	181,852.87
146	**Cemetery Reserve**						
	Accumulated Reserves at Start of Year	157,626.57	157,626.57	157,626.57	157,626.57	157,626.57	100,000.00
	Interest transfer to Reserves	1,038.35	1,168.00	1,168.00	3,504.00	3,504.00	4,098.21
	Transfer from Muni	46,332.00	46,332.00	46,332.00	139,000.00	139,000.00	77,321.95
	Transfer to Muni	0.00	0.00	0.00	(254,000.00)	(254,000.00)	(23,793.59)
		204,996.92	205,126.57	205,126.57	46,130.57	46,130.57	157,626.57
341	**Public Art Reserve**						
	Accumulated Reserves at Start of Year	86,198.07	86,198.07	86,198.07	86,198.07	86,198.07	229,685.21
	Interest transfer to Reserves	(0.11)	640.00	640.00	1,920.00	1,920.00	5,697.86
	Transfer to Muni	0.00	0.00	0.00	(41,060.00)	(41,060.00)	(149,185.00)
		86,197.96	86,838.07	86,838.07	47,058.07	47,058.07	86,198.07
121	**Waste Management Facility and Plant Reserve**						
	Accumulated Reserves at Start of Year	7,867,210.16	7,867,210.16	7,867,210.16	7,867,210.16	7,867,210.16	7,881,068.17
	Interest transfer to Reserves	37,484.64	58,384.00	58,384.00	175,152.00	175,152.00	200,860.10
	Transfer from Muni	350,664.00	350,664.00	350,664.00	1,051,994.00	1,051,994.00	1,312,610.77
	Transfer to Muni	0.00	0.00	0.00	(5,616,140.00)	(5,616,140.00)	(1,527,328.88)
		8,255,358.80	8,276,258.16	8,276,258.16	3,478,216.16	3,478,216.16	7,867,210.16

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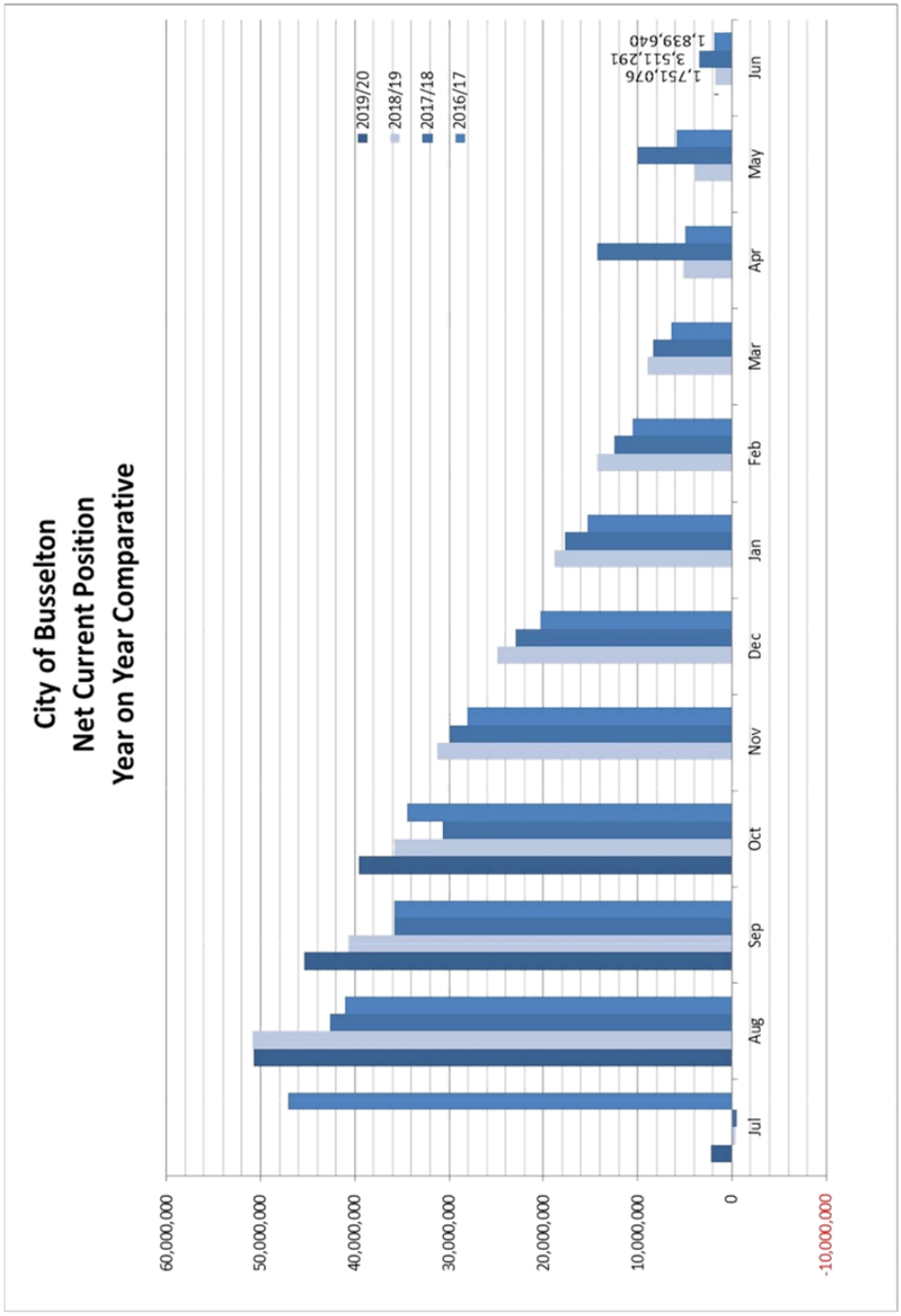
		$	$	$	$	$	$
120	**Strategic Projects Reserve**						
	Accumulated Reserves at Start of Year	257,162.94	257,162.94	257,162.94	257,162.94	257,162.94	226,213.20
	Interest transfer to Reserves	1,569.47	11,064.00	11,064.00	33,192.00	33,192.00	5,949.74
	Transfer from Muni	8,332.00	8,332.00	8,332.00	31,000.00	31,000.00	25,000.00
	Transfer to Muni	0.00	0.00	0.00	(78,925.00)	(78,925.00)	0.00
		267,064.41	276,558.94	276,558.94	242,429.94	242,429.94	257,162.94
129	**Untied Grants Reserve**						
	Accumulated Reserves at Start of Year	1,232,906.00	1,232,906.00	1,232,906.00	1,232,906.00	1,232,906.00	0.00
	Transfer from Muni	0.00	0.00	0.00	0.00	0.00	1,232,906.00
	Transfer to Muni	(1,232,906.00)	(1,232,906.00)	(1,232,906.00)	(1,232,906.00)	(1,232,906.00)	0.00
		0.00	0.00	0.00	0.00	0.00	1,232,906.00
	Total Cash Back Reserves	**59,799,187.55**	**59,717,017.66**	**59,717,017.66**	**42,498,054.66**	**42,611,399.66**	**55,590,217.66**
	Summary Reserves						
	Accumulated Reserves at Start of Year	55,590,217.66	55,590,217.66	55,590,217.66	55,590,217.66	55,590,217.66	47,978,518.20
	Interest transfer to Reserves	318,251.29	412,540.00	412,540.00	1,237,620.00	1,237,620.00	1,413,166.97
	Transfer from Muni	5,123,624.60	5,372,166.00	5,372,166.00	20,640,422.00	20,640,422.00	18,882,926.94
	Transfer to Muni	(1,232,906.00)	(1,657,906.00)	(1,657,906.00)	(34,970,205.00)	(34,856,860.00)	(12,684,394.45)
	Closing Balance	**59,799,187.55**	**59,717,017.66**	**59,717,017.66**	**42,498,054.66**	**42,611,399.66**	**55,590,217.66**


City of Busselton
Net Current Position
Year on Year Comparative
2019/20
2018/19
2017/18
2016/17
1,751,076
3,511,291
1,839,640
60,000,000
50,000,000
40,000,000
30,000,000
20,000,000
10,000,000
0
-10,000,000
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun

12.5 Finance Committee - 21/11/2019 - BUDGET AMENDMENT REQUEST / REVIEW - FLEET CAPITAL ACQUISITIONS

STRATEGIC GOAL	6. LEADERSHIP Visionary, collaborative, accountable
STRATEGIC OBJECTIVE	6.1 Governance systems, process and practices are responsible, ethical and transparent.
SUBJECT INDEX	Budget Planning and Reporting
BUSINESS UNIT	Financial Services
REPORTING OFFICER	Manager Financial Services - Paul Sheridan
AUTHORISING OFFICER	Director Finance and Corporate Services - Tony Nottle
NATURE OF DECISION	Executive: substantial direction setting, including adopting strategies, plans and policies (excluding local planning policies), tenders, setting and amending budgets, funding, donations and sponsorships, reviewing committee recommendations
VOTING REQUIREMENT	Absolute Majority
ATTACHMENTS	Attachment A 2019/20 Fleet Capital Acquisition Budget - Amended

This item was considered by the Finance Committee at its meeting on 21 November 2019, the recommendations from which have been included in this report.

COMMITTEE RECOMMENDATION AND OFFICER RECOMMENDATION

That the Council endorse the requested budget amendment outlined in Table 1 below resulting in a $0 effect on the City's net current position, recognising that the closing balance in three reserves will be net better off by $1,052,500:

Table 1:

Cost Code	Description	Current Amended Budget	Change	Resulting Proposed Amended Budget
Revenue				
528-11403-1770-0000	Profit on Asset Disposal	(3,000)	3,000	0
528-11403-1770-0000	Profit on Asset Disposal	(5,000)	5,000	0
Expenses				
528-11151-3550-0000	Loss on Asset Disposal – Airport Operations	(9,000)	9,000	0
528-11151-3551-0000	Written Down Book Value on Disposal – Airport Operations	10,800	(10,800)	0
528-11404-3550-0000	Loss on Asset Disposal – Plant Purchases	(12,500)	12,500	0
528-11404-3551-0000	Written Down Book Value on Disposal – Plant Purchases	13,900	(13,900)	0
528-11404-3550-0000	Loss on Asset Disposal – Plant Purchases	(12,500)	12,500	0
528-11404-3551-0000	Written Down Book Value on Disposal – Plant Purchases	13,900	(13,900)	0

528-11404-3550-0000	Loss on Asset Disposal – Plant Purchases	(25,500)	25,500	0
528-11404-3551-0000	Written Down Book Value on Disposal – Plant Purchases	34,766	(34,766)	0
Current Assets				
9000-7054	Cash at Bank – Restricted Funds	(21,000)	21,000	0
9000-7054	Cash at Bank – Restricted Funds	(800,000)	800,000	0
9000-7054	Cash at Bank – Restricted Funds	(12,000)	12,000	0
9000-7054	Cash at Bank – Restricted Funds	(12,000)	12,000	0
9000-7054	Cash at Bank – Restricted Funds	0	(28,000)	(28,000)
9000-7054	Cash at Bank – Restricted Funds	(82,500)	82,500	0
9000-7054	Cash at Bank – Restricted Funds	(82,500)	82,500	0
9000-7054	Cash at Bank – Restricted Funds	(59,500)	59,500	0
9000-7054	Cash at Bank – Restricted Funds	(31,000)	31,000	0
9000-7054	Cash at Bank – Restricted Funds	0	(20,000)	(20,000)
Non-Current Assets				
528-11151-7723-0000	Expense Offset Plant & Equipment – Airport Operations	30,000	(30,000)	0
528-11402-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	800,000	(800,000)	0
528-11403-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	15,000	(15,000)	0
528-11403-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	17,000	(17,000)	0
528-11403-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	0	28,000	28,000
528-11404-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	95,000	(95,000)	0
528-11404-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	95,000	(95,000)	0
528-11404-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	85,000	(85,000)	0

528-11401-7723-0000	Expense Offset Plant & Equipment – Transport Workshop	31,000	(31,000)	0
528-11401-7723-0000	Expense Offset Plant & Equipment – Transport Workshop	0	20,000	20,000
Reserves				
100-9103	Transfer From Reserve – Airport Infrastructure Renewal	21,000	(21,000)	0
121-9103	Transfer From Reserve – Waste Management Facilities & Plant	800,000	(800,000)	0
115-9103	Transfer From Reserve – Plant Replacement	12,000	(12,000)	0
115-9103	Transfer From Reserve – Plant Replacement	12,000	(12,000)	0
115-9103	Transfer From Reserve – Plant Replacement	0	28,000	28,000
115-9103	Transfer From Reserve – Plant Replacement	82,500	(82,500)	0
115-9103	Transfer From Reserve – Plant Replacement	82,500	(82,500)	0
115-9103	Transfer From Reserve – Plant Replacement	59,500	(59,500)	0
115-9103	Transfer From Reserve – Plant Replacement	31,000	(31,000)	0
115-9103	Transfer From Reserve – Plant Replacement	0	20,000	20,000
9000-2000	Transfer From Retained Surplus	(21,000)	21,000	0
9000-2000	Transfer From Retained Surplus	(800,000)	800,000	0
9000-2000	Transfer From Retained Surplus	(12,000)	12,000	0
9000-2000	Transfer From Retained Surplus	(12,000)	12,000	0
9000-2000	Transfer From Retained Surplus	0	(28,000)	(28,000)
9000-2000	Transfer From Retained Surplus	(82,500)	82,500	0
9000-2000	Transfer From Retained Surplus	(82,500)	82,500	0
9000-2000	Transfer From Retained Surplus	(59,500)	59,500	0
9000-2000	Transfer From Retained Surplus	(31,000)	31,000	0
9000-2000	Transfer From Retained Surplus	0	(20,000)	(20,000)
	Net Total	**$73,366**	**-$73,366**	**$0**

EXECUTIVE SUMMARY

This report seeks recommendation of the Finance Committee to Council for the approval of budget amendments as detailed in this report. Adoption of the officer recommendation will result in a $0 effect on the City's net current position, recognising that the closing balance in three reserves will be net better off by $1,052,500.

BACKGROUND

Council adopted its 2019/2020 municipal budget on Wednesday 31 July 2019 with a balanced budget position. Since this time, Council has been advised of certain expense changes that have impacted the original budget. The Finance Committee is now being asked to consider recommending to Council a budget amendment for the following item:

- 2019/20 fleet capital acquisitions.

OFFICER COMMENT

The majority of the discrepancies are due to carryover timing issues that were inadvertently included when the budget was uploaded. Explanations for each item numbered above is provided below:

1. Airport Mower - this mower has low hours and will be re-scheduled for changeover at a time to be determined, dependent on requirements for the site given the upgrades to the airport to be undertaken this financial year;

2. Waste Shredder - this was listed as a carryover in the current budget. A reassessment of waste facility requirements has determined that this should be removed from the budget in the short term;

3. Sand Spreader - this unit is in good condition and was to have been removed from the budget prior to approval and upload, however was inadvertently retained;

4. Tandem Trailer for Mini Excavator - this unit can be retained for use with the new mini excavator as the dimensions of the new machine are compatible with the specification of the existing trailer;

5. Parks Outfront Mower - this mower was scheduled for replacement early in the 2020/21 financial year. Replacement of this rough cut mower can be brought forward to the current year and the existing mower provided to the Jarrahwood Community Association for their use in maintaining the public open spaces and reducing the fire risk to the townsite;

6. Tri-axle side tipping trailer - this was mistakenly listed as a carryover in the current budget. Delivery of the new unit and sale of the old unit was finalised in the 2018/19 financial year;

7. Tri-axle side tipping trailer-the purchase and delivery of this trailer was completed in the 2018/19 financial year, the sale of the existing trailer was carried over into the current year due to the timing of the auction;

8. Crew cab light truck - replacement of this light truck has been deferred to the 2020/21 financial year;

9. GPS units for operational fleet - these units were delivered in 2018/19, however the attendant installation cost was carried over into the current financial year. With the changed rule relating to capitalisation of assets with a value of greater than $5,000, this installation cost will be covered within the existing fleet operating budget as it will fall below this threshold;

10. High Band Repeater - the City of Busselton's operational fleet currently use a VHF low band licenced frequency for our City (private) two way radios. Although the frequency is still operational, the manufacturers are no longer making the hardware to suit it. To ensure continuity of communications, we are required to install a replacement repeater to the Dunsborough tower in order to prepare for the phase out of the obsolete equipment. The estimated cost to supply and install this equipment is $20,000. The spreadsheet attached details the current budget and the amendments.

A summarised version of the above suggestions are provided in attachment A.

Planned Budget Amendment Item
Officers propose that the 2019/2020 adopted budget be amended to reflect the following revenue, expense, current and non-current asset, and reserve funding changes, shown in Table 1.

Table 1:

Cost Code	Description	Current Budget	Change	Resulting Proposed Amended Budget
Revenue				
528-11403-1770-0000	Profit on Asset Disposal	(3,000)	3,000	0
528-11403-1770-0000	Profit on Asset Disposal	(5,000)	5,000	0
Expenses				
528-11151-3550-0000	Loss on Asset Disposal – Airport Operations	(9,000)	9,000	0
528-11151-3551-0000	Written Down Book Value on Disposal – Airport Operations	10,800	(10,800)	0
528-11404-3550-0000	Loss on Asset Disposal – Plant Purchases	(12,500)	12,500	0
528-11404-3551-0000	Written Down Book Value on Disposal – Plant Purchases	13,900	(13,900)	0
528-11404-3550-0000	Loss on Asset Disposal – Plant Purchases	(12,500)	12,500	0
528-11404-3551-0000	Written Down Book Value on Disposal – Plant Purchases	13,900	(13,900)	0
528-11404-3550-0000	Loss on Asset Disposal – Plant Purchases	(25,500)	25,500	0
528-11404-3551-0000	Written Down Book Value on Disposal – Plant Purchases	34,766	(34,766)	0

Current Assets				
9000-7054	Cash at Bank – Restricted Funds	(21,000)	21,000	0
9000-7054	Cash at Bank – Restricted Funds	(800,000)	800,000	0
9000-7054	Cash at Bank – Restricted Funds	(12,000)	12,000	0
9000-7054	Cash at Bank – Restricted Funds	(12,000)	12,000	0
9000-7054	Cash at Bank – Restricted Funds	0	(28,000)	(28,000)
9000-7054	Cash at Bank – Restricted Funds	(82,500)	82,500	0
9000-7054	Cash at Bank – Restricted Funds	(82,500)	82,500	0
9000-7054	Cash at Bank – Restricted Funds	(59,500)	59,500	0
9000-7054	Cash at Bank – Restricted Funds	(31,000)	31,000	0
9000-7054	Cash at Bank – Restricted Funds	0	(20,000)	(20,000)
Non-Current Assets				
528-11151-7723-0000	Expense Offset Plant & Equipment – Airport Operations	30,000	(30,000)	0
528-11402-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	800,000	(800,000)	0
528-11403-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	15,000	(15,000)	0
528-11403-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	17,000	(17,000)	0
528-11403-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	0	28,000	28,000
528-11404-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	95,000	(95,000)	0
528-11404-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	95,000	(95,000)	0
528-11404-7723-0000	Expense Offset Plant & Equipment – Plant Purchases	85,000	(85,000)	0
528-11401-7723-0000	Expense Offset Plant & Equipment – Transport Workshop	31,000	(31,000)	0
528-11401-7723-0000	Expense Offset Plant & Equipment – Transport Workshop	0	20,000	20,000

Reserves				
100-9103	Transfer From Reserve – Airport Infrastructure Renewal	21,000	(21,000)	0
121-9103	Transfer From Reserve – Waste Management Facilities & Plant	800,000	(800,000)	0
115-9103	Transfer From Reserve – Plant Replacement	12,000	(12,000)	0
115-9103	Transfer From Reserve – Plant Replacement	12,000	(12,000)	0
115-9103	Transfer From Reserve – Plant Replacement	0	28,000	28,000
115-9103	Transfer From Reserve – Plant Replacement	82,500	(82,500)	0
115-9103	Transfer From Reserve – Plant Replacement	82,500	(82,500)	0
115-9103	Transfer From Reserve – Plant Replacement	59,500	(59,500)	0
115-9103	Transfer From Reserve – Plant Replacement	31,000	(31,000)	0
115-9103	Transfer From Reserve – Plant Replacement	0	20,000	20,000
9000-2000	Transfer From Retained Surplus	(21,000)	21,000	0
9000-2000	Transfer From Retained Surplus	(800,000)	800,000	0
9000-2000	Transfer From Retained Surplus	(12,000)	12,000	0
9000-2000	Transfer From Retained Surplus	(12,000)	12,000	0
9000-2000	Transfer From Retained Surplus	0	(28,000)	(28,000)
9000-2000	Transfer From Retained Surplus	(82,500)	82,500	0
9000-2000	Transfer From Retained Surplus	(82,500)	82,500	0
9000-2000	Transfer From Retained Surplus	(59,500)	59,500	0
9000-2000	Transfer From Retained Surplus	(31,000)	31,000	0
9000-2000	Transfer From Retained Surplus	0	(20,000)	(20,000)
	Net Total	**$73,366**	**-$73,366**	**$0**

Statutory Environment

Section 6.8 of the *Local Government Act 1995* refers to expenditure from the municipal fund that is not included in the annual budget. In the context of this report, where no budget allocation exists, expenditure is not to be incurred until such time as it is authorised in advance, by an absolute majority decision of the Council.

Relevant Plans and Policies

There are multiple plans and policies that support the proposed budget amendments.

Financial Implications

The financial implications of this recommendation are contained within the report.

Stakeholder Consultation

No external stakeholder consultation was required or undertaken in relation to this matter.

Risk Assessment

An assessment of the potential implications of implementing the officer recommendation has been undertaken using the City's risk management framework, with risks assessed taking into account any controls already in place.

City officers have considered the risks associated with the delaying of changeovers and the procurement of new plant items. It is the opinion of the officers that this is a manageable risk.

Options

The Council could decide not to go ahead with the proposed budget amendment request.

CONCLUSION

Council's approval is sought to amend the budget as per the details contained in this report. Upon approval the proposed works will be planned, organised and completed.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

Should the officer recommendation be endorsed, the associated budget amendment will be processed within a month of being approved.

2019/20 FLEET CAPITAL ACQUISITION BUDGET												
					CURRENT			AMENDED				
Item No.			Plant No.	Asset No.	Purchase	Sale	Required from Reserve	Purchase	Sale	Required from Reserve		
	AIRPORT RESERVE											
	Airport Operations : 528.11151.7723.0000 Sch 12											
1	Ride On Mower	Airport Use	P183026	1005918	$30,000.00	$9,000.00	$21,000.00	$0.00	$0.00	$0.00		
				AIRPORT RESERVE TOTAL	$30,000.00	$9,000.00	$21,000.00	$0.00	$0.00	$0.00		
	WASTE RESERVE											
	Community Amenities (Waste Disposal) : 528.11402.7723.0000 Sch 10											
2	Waste Shredder - NEW	CARRYOVER - DWF	N/A	N/A	$800,000.00	$0.00	$800,000.00	$0.00	$0.00	$0.00		
				WASTE RESERVE TOTAL	$800,000.00	$0.00	$800,000.00	$0.00	$0.00	$0.00		
	PLANT RESERVE											
	Parks & Gardens : 528.11403.7723.0000 Sch 11											
3	Sand Spreader	Turf Maintenance	P136034	1000819	$15,000.00	$3,000.00	$12,000.00	$0.00	$0.00	$0.00		
4	Tandem Trailer for Mini Excavator	Irrigation & Cemetery	P173017	1004015	$17,000.00	$5,000.00	$12,000.00	$0.00	$0.00	$0.00		
5	Outfront Mower	Turf Maintenance	P183030	1007713	$0.00	$0.00	$0.00	$28,000.00	$0.00	$28,000.00		
	Construction : 528.11404.7723.0000 Sch 12											
6	Tri-axle Side Tipping Trailer	CARRYOVER from 18/19 Budget	P174300	1002392	$95,000.00	$12,500.00	$82,500.00	$0.00	$0.00	$0.00		
7	Tri-axle Side Tipping Trailer	CARRYOVER from 18/19 Budget	P170100	1002504	$95,000.00	$12,500.00	$82,500.00	$0.00	$12,500.00	$0.00		
8	Crew Cab light truck	Construction	P160010	1005922	$85,000.00	$25,500.00	$59,500.00	$0.00	$0.00	$0.00		
	Transport - Workshop : 528.11401.7723.0000 Sch 14											
9	GPS installation - NEW	CARRYOVER from 18/19 Budget	N/A	N/A	$31,000.00	$0.00	$31,000.00	$0.00	$0.00	$0.00		
10	High Band Repeater - NEW		N/A	N/A	$0.00	$0.00	$0.00	$20,000.00	$0.00	$20,000.00		
				PLANT RESERVE TOTAL	$338,000.00	$58,500.00	$279,500.00	$48,000.00	$12,500.00	$48,000.00		

12.6 Meelup Regional Park Committee - 25/11/2019 - MEELUP REGIONAL PARK MANAGEMENT PLAN

STRATEGIC GOAL	3. ENVIRONMENT Valued, conserved and enjoyed
STRATEGIC OBJECTIVE	3.2 Natural areas and habitats are cared for and enhanced for the enjoyment of current and future generations.
SUBJECT INDEX	Meelup Regional Park MR006
BUSINESS UNIT	Environmental Services
REPORTING OFFICER	Environmental Management Coordinator - Greg Simpson
AUTHORISING OFFICER	Director, Planning and Development Services - Paul Needham
NATURE OF DECISION	Executive: substantial direction setting, including adopting strategies, plans and policies (excluding local planning policies), tenders, setting and amending budgets, funding, donations and sponsorships, reviewing committee recommendations
VOTING REQUIREMENT	Simple Majority
ATTACHMENTS	Attachment A Current Plan Attachment B Draft Plan

This item was considered by the Meelup Regional Park Management Committee at its meeting on 25 November 2019, the recommendations from which have been included in this report.

COMMITTEE RECOMMENDATION AND OFFICER RECOMMENDATION

That the Council adopt the Draft Meelup Regional Park Management Plan at Attachment B for the purposes of community consultation.

EXECUTIVE SUMMARY

This report presents a review of Meelup Regional Park Management Plan and Council is asked to consider and endorse the draft Meelup Regional Park Management Plan 2019, for the purposes of further consultation with the community and key stakeholders, prior to development and consideration of the final document.

BACKGROUND

The Meelup Regional Park ('the Park') Management Plan ('the Plan') was last revised and endorsed (resolution C0901/020) by the Council in 2010, and has provided the strategic framework for management of the Park over the past 9 years. The current Plan is provided as Attachment A ('Current Plan'). A detailed review of the Current Plan has become necessary to ensure the City continues to manage the Park in a manner in line with community expectations.

The review of the Plan has adopted the style of management plans produced by the Department of Biodiversity Conservation and Attractions (DBCA) for conservation-focused reserves elsewhere in Western Australia, and is intended to provide a clear vision for the future management of the Park, for conservation and environmental enhancement and to allow recreation and other uses of the Park to occur, to the extent that they do not impair the conservation values of the Park.

The review process has focused on the key management issues for the Park and outlines 31 management objectives and 112 management actions as a response to these key issues. A revised draft Plan is provided as Attachment B ('Draft Plan').

In order to complete the review of the Plan, it will be necessary to consult with and receive submissions from the community and other key stake holders as may be identified prior to development of the final document, which then requires the consideration and approval of the Minister of Lands.

OFFICER COMMENT

The Draft Plan incorporates the key themes identified in the Current Plan, but in a new format, together with new information relating to the Park.

The Draft Plan also includes numerous minor amendments throughout the document, many of which reflect changes to legislation and management practises since 2010. The main amendments incorporated into the Draft Plan are:

- Section 5 '*Key Values'* includes additional information to describe the Park's key values.

- Section 8 '*Strategic Goals'* has been amended to link the Draft Plan to the City's *Strategic Community Plan 2017,* and to identify the key strategies within the draft MRPMP that contribute towards the achievement of Community Objective 3.2, in the City's *Strategic Community Plan 2017.*

- Section 14 *'Cross Boundary Management'* has been included as a new section in the Draft Plan. There are a number of cross boundary issues that require a proactive response and the development of good neighbour relationships, in order to implement appropriate management responses to issues such as resilience of species and ecosystems, environmental water flows, fire, weed and pest control.

- Section15 '*Compatible Land Management'* is included as a new section in the Draft Plan and considers the potential of remnant bushland reserves located in the vicinity of the Park to contribute towards to the biodiversity in the Park. These reserves are under the care and control of the City and include 3 reserves along Jingarmup Brook within the Eagle Bay townsite, reserve 11316 at the head waters of Jingarmup Brook and reserve 6229 located at the headwaters of Meelup Brook adjacent to Cape Naturaliste Road. The extension of the Draft Plan management responses to these isolated reserves would be for the purpose of implementing a coordinated approach to issues such as resilience of species and ecosystems, environmental water flows, fire, weed and pest control.

- Section 15 '*Compatible Land Management*' also includes a proposed management action relating to an unmade section of road reserve which intersects management units 6 and 7 within the Park. This unmade road reserve has good vegetation cover and is unlikely to be become part of the City's road network. While it is not intended to formally amalgamate the unmade road reserve into the Park (Reserve 21629), a change of use from 'road' to 'conservation and recreation' may be possible, for consistency of vesting purpose across the Park.

- Section 16 *'Ngari Capes Marine Park'* is included as a new section due to the gazettal of the Ngari Marine Park, June 2012. The preparation of the Draft Plan has been cognisant of the management arrangements for the Ngari Capes Marine Park, and the management issues that are likely to require inter-agency liaison and a complementary and consistent management approach such as the onshore location and maintenance of regulatory and interpretive signage.

- Section 19 'Climate' has been expanded to include potential issues that may be attributed to a changing climate, particularly the current trend of reduced rainfall, stream flow and increased average annual temperature. The Draft Plan proposes several management actions including the implementation of adaptive responses, which focus on improving the resilience of species and ecosystems to help reduce vulnerability to climate change.

- Section 20 *'Geology, Rocks, Landforms and Soils'* has been updated to include additional information and detailed mapping of the geology of the Park.

Statutory Environment

The Park is Reserve 21629 and is Crown Land over which the City has a management order. The reserve purpose is 'Conservation and Recreation'. The City has power to lease over the reserve, for a maximum period of 21 years and subject to the approval of the Minister for Lands (or their delegate), provided that any such lease is consistent with the reserve purpose. It is an 'A-Class' reserve, which means that any change to the management order requires Parliamentary consent.

Under the *Land Administration Act* (the LA Act) the Minister for Lands may place by way of a management order the care, control and management of a reserve with a management body. A management order for the purpose of 'conservation and recreation', has been placed with the City.

Under section 49 of the LA Act the City may submit to the Minister for Lands for his or her approval, a plan for the development management and use of the Park for the purpose of the management order.

Relevant Plans and Policies

Preparation of reserve management plans is supported by the City's *Environment Strategy*, under strategic action 1.1 – *'continue to develop and review management plans for natural areas, including the application of fire management'.*

Financial Implications

Financial implications associated with this report relate only to the advertising and consultation on the Draft Plan.

Stakeholder Consultation

A working group comprising members of the Meelup Regional Park Management Committee and City staff have been involved in developing the Draft Plan over the past 2 years. This working group has endeavoured to include within the Draft Plan, the necessary strategic and operational management guidance considered appropriate for the long term management of the Park.

Subject to Council supporting the officer recommendation, it is proposed that consultation occur, including a media release; community information session to be coordinated (and advertised) during the consultation period; and consultation with other key stakeholders as may be identified. The Draft Plan would then need to be re-considered by the Council in light of any submissions received prior to its subsequent determination and forwarding for consideration to the Minister for Lands.

Risk Assessment

No risks of a medium or greater level have been identified.

Options

The Council may resolve not to support the officer recommendations to endorse the draft MRPMP for the purpose of community and stakeholder consultation or may amend draft MRPMP prior to its endorsement for consultation purposes.

CONCLUSION

Undoubtedly one of the most striking characteristics of the Park is its scenic beauty with views of the ocean, the spectacular coastline and natural landscape. These scenic and physical features are central to all other elements that contribute to the character of the Park.

By reviewing the Plan, the City will renew and reinforce its commitment to protecting its natural environment, as an environmentally responsible and progressive organisation and ensure the City continues to manage the Park in a manner in line with community expectations.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

It is envisaged that implementation of the officer recommendation to commence consultation with the community and stakeholders on the draft MRPMP would commence immediately following Council supporting the officer recommendation, with the finalised review of the draft MRPMP to be completed and a further report presented to the Council by the end of the 2019 calendar year.

ATTACHMENT A - MEELUP REGIONAL PARK MANAGEMENT PLAN 2010

Government of **Western Australia**
Department of **Regional Development and Lands**
Lands Division

Your ref: DWS 1545957
Our ref: 01424-1977/07 (Job No 093114)
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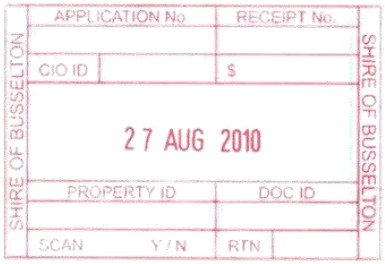

25 August 2010

Chief Executive Officer
Shire of Busselton
Locked Bag 1
BUSSELTON WA 6280

Attention: Ms Jennifer May

Dear Sir/Madam,

RESERVE 21629 (MEELUP REGIONAL PARK) MANAGEMENT PLAN

Thankyou for your letter dated 24 August 2010. Please find fully endorsed management plan enclosed for your retention.

Do not hesitate in contacting me on 9791 0836 if I can be of further assistance.

Yours sincerely

K. Binks

For Manager
State Lands – South West

093114kb03

Level 6, "Bunbury Tower", 61 Victoria Street, Bunbury, Western Australia 6230
Tel: (08) 9791 0836 Fax: (08) 9791 0835
www.rdl.wa.gov.au ABN 28 807 221 246

Meelup Regional Park

Management Plan



Meelup Regional Park Management Committee
July 2010

INVITATION TO COMMENT

The Meelup Regional Park Management Plan has been produced as required by the *Land Administration Act 1997*. Following internal review and approval by the Shire of Busselton Council, the plan will be released for public comment for a period of 4 weeks. Comments received will be incorporated into the Plan and a Final Management Plan will be provided to the Minister for Lands for approval.

Meelup Regional Park Management Committee
PO Box 614
Dunsborough WA 6281

ACKNOWLEDGEMENTS

This Plan has been produced with the assistance of the present Management Committee. The project was managed by Nik Sellheim and Chairman Don McDonald. Other members include Andrew Webb, Margaret Winchcombe, Councillor Don Hanran-Smith, Councillor Wesley Hartley, and Shirley Fisher. Past Committee members have been of great assistance, namely Brian Clay and Ron Glencross. Members of local associations and community representatives who have contributed include Bernie Masters, Margaret Campbell and Jackie Happ.

Guidance has also been received from the Department of Environment and Conservation (DEC), in particular thanks to Rod Quartermain, Paul McLussky, Denham Bennetts, Aminya Ennis, Greg Mair and Neil Taylor. The Shire of Busselton has provided support for the project, in particular Alan Whitfield and Leo Clifford.

Preparation of the Plan was funded partially by a grant provided by the Lotterywest.

DISCLAIMER

The information contained in this report is solely for the use of the Meelup Regional Park Management Committee for the purpose for which it has been prepared. No representation is made or implied as being made for any third party.

49

APPROVED FOR THE PURPOSES OF SECTION 46
OF THE LAND ADMINISTRATION ACT 1997

by Order of the Minister for Lands
This document is still subject to the registration requirements of the Transfer of Land Act 1893.

Matthew Smith
CEO Delegation N° 5.

IAN STUBBS
SHIRE PRESIDENT

SHIRE OF BUSSELTON
VIAS CUPIMUS
COMMON SEAL

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A. INTRODUCTION

1 - Brief Overview

Meelup Regional Park is an A Class Reserve vested in the Shire of Busselton with the gazetted purpose of conservation and recreation. Subject to the *Land Administration Act 1997* and preceding Acts, a Management Plan is required to be in place for the Reserve to the satisfaction of the Minister for Lands.

Meelup covers an area of 572 ha and is located in the south-western corner of Western Australia, approximately 250 km south of Perth within the Shire of Busselton (see Figure 1). The Park extends along the coastline for 11.5 km from Dunsborough to Bunker Bay, on the western side of Geographe Bay, and the eastern side of the Leeuwin-Naturaliste Ridge. It has an undulating surface rising to 100 metres above sea level, with steep seasonal water courses and pockets of varying vegetation types.

The Park is managed by a Shire-appointed Committee: the Meelup Regional Park Management Committee (MRPMC, "The Committee"). This Management Plan has been prepared on instruction of the Committee, and adopts the style of Management Plans produced by the Department of Environment and Conservation (DEC) for Regional Parks elsewhere in the State, whose position in the management structure is illustrated by below.

The Plan will be finalised for presentation to the Busselton Shire Council and upon their direction it will be submitted to the Minister for Lands for approval.



Source: ANZECC 2000.

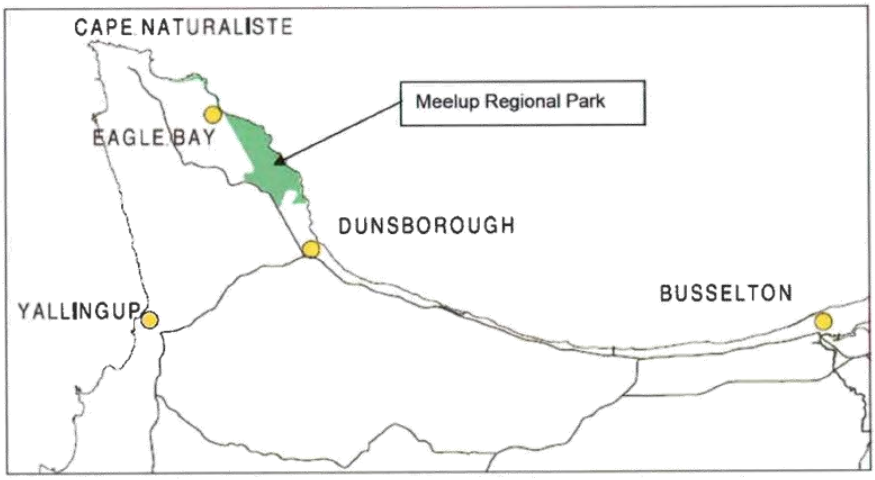


Figure 1 Locality Map

2 - Key Values

Meelup Regional Park is highly valued for its unique natural environment and conservation values, its outstanding landscape, its range of passive and creative recreational opportunities and its educational and research values for present and future generations.

Natural Environment Values

The Park has a unique ecology, including the Meelup Granite threatened ecological community and high biodiversity, with rare and endangered species including some of the oldest plants in the world. For this reason the Park has high conservation significance and is arguably worthy of recognition in this regard on an international level.

The Park has high conservation value for fauna because of the high diversity of species present, the presence of rare and interesting species and the limited number of introduced species. Faunal habitats are well represented, due to the large size and generally good condition of the Park.

Landscape Values

It has high aesthetic appeal, with views out over Geographe bay afforded by the steep topography, rocky outcrops and natural bushlands. The calm waters and outcrops allow safe shore based fishing. Meelup is thought to mean "Place Of The Moon Rising", as it is possible to view of the moon rising over the water.

Recreation Values

Meelup Regional Park is one of the primary coastal recreation areas in the South West. The north and east facing coastline is the central feature of Meelup Regional Park. This sheltered coastline, with trees and vegetation extending down to sandy coves is a popular walking, swimming and fishing area providing both local regional recreation opportunities. Its beaches are sheltered from prevailing winds and rocky outcrops extend into the bay.

Education and Research Values

The unique geography, geology, high biodiversity and presence of rare and endangered plants and animals make Meelup an excellent site for research and a good subject for education. The largely unaltered natural environment provides research and educational opportunities for both current and future generations.

3 - Format of This Document

This document adopts the formats of management plans recently produced by the Department of Environment and Conservation

(DEC) for the Regional and National Parks managed by DEC. The document is divided into the following Sections

- Part A – **Introduction** – in which the key values of the Park and the context of the Plan are presented
- Part B – **Principal Directions and Purpose** – in which the legal, regulatory and planning context is introduced and management framework for the Park is outlined
- Part C – **Managing the Natural Environment** – in which the natural values are presented along with the threats to those values, and strategic and operational management requirements for their protection
- Part D – **Managing our Cultural Heritage** – which examines the cultural and historic values of the Park, and how they can be identified and preserved
- Part E – **Managing Visitor Use** – in which the acceptable recreational uses of the Park are prescribed and strategic and operational management requirements associated with mitigating the impacts of use are outlined
- Part F – **Managing Resource Use** – in which the acceptable extractive uses of the Park are prescribed and processes for the identification and mitigation the potential impacts of proposals are provided.
- Part G – **Involving the Community**– which outlines the mechanisms by which the community is involved in the management of the Park
- Part H – **Scientific and Research Use** – which outlines the scientific significance of the Park and describes the focus of future research priorities.

Each Part of the document outlines the guiding principles used in developing the Management Plan. Topics start with a statement of objective for the section, followed by background information and finally a "management plan" in table format which provides both strategic and operational management guidance. Strategic management provides the overarching approach to be taken while operational management details more specific directives.

The document aims to be mostly generic, and provide the framework for decision making without stipulating specific ideas for developments (for example a new walk trail from 'A' to 'B'). The report is aimed at management of the Park and does not seek to provide creative planning direction.

While Management Plans produced by DEC for other Regional Parks tend to be limited to more of a strategic nature, this plan also incorporates operational management directives. This is in accordance with the brief under which this document was prepared

4 - Public Participation

Public participation is inherent in the management of Meelup which is by community based Committee.

Public consultation has been carried out as part of the preparation of this document, in order to gather information of the key values and issues facing the Park. A list of community representatives contacted is provided in Appendix E.

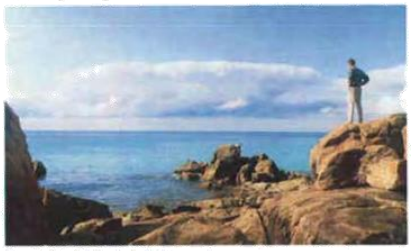
The draft management plan will be advertised and be made available for comment at libraries in Dunsborough and Busselton, as well as at the Shire Offices. A public presentation of the plan will also be held.

B. PRINCIPAL MANAGEMENT DIRECTIONS

5 - Vision

Objective

Provide a clear vision for the future of Meelup Regional Park



VISION STATEMENT

Manage the Park for conservation and environmental enhancement and allow recreation and other uses of the Park to occur to the extent that they do not impair the conservation values of the Park.

International Perspective

The world conservation union IUCN has defined a series of six protected area management categories, based on primary management objectives. Meelup Regional Park most closely equates to CATEGORY II National Park – ie a protected area managed mainly for ecosystem protection and recreation[1]. Such areas are described as natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

Western Australian Perspective

The Western Australian Department of Environment and Conservation (DEC) prepares management plans for regional and national parks and has developed strategic goals for the management of Regional and National Parks. These are consistently presented in current Management Plans [2]:and have been largely adopted for Meelup Regional Park in this Plan.

1993 Meelup Regional Park Management Plan

In 1993 a Management Plan was produced for the Park which was subsequently ministerially endorsed. The 1993 Plan was used in the preparation of this Management Plan, providing general management goals and management objectives.

2002 Draft Management Plan

A draft management plan was developed in 2002 by members of the Management Committee and adopted by the Busselton Shire Council. The spirit of this document and information it contained has been incorporated into this Plan. The document was the culmination of much work and reflected the intimate understanding of Park held by the Committee. It has essentially served as the guiding document for management of the Park since 2002.

STRATEGIC GOALS

The overarching strategic management goals for the Park have been developed from the above sources, and are as follows:

Conservation

Protect rare and endangered species and ecological communities, conserve and enhance the Park's biota and natural

[1] http://www.unep-wcmc.org/protected_areas/categories/eng/ii.pdf

[2] http://www.naturebase.net/content/view/104/801

ecosystems as well as its physical, cultural and landscape resources. Perpetuate, in as natural a state as possible, representative examples of physiographic regions, biotic communities, genetic resources, and species, to provide ecological stability and diversity.

Recreation

Maintain a peaceful and tranquil environment and provide for and manage recreation, tourism and leisure in a manner that minimises conflict between visitors, and is consistent with other management objectives and Park values. Manage visitor use for inspirational, educational, cultural and recreational purposes at a level which will maintain the area in a natural or near natural state

Commercial

Allow for appropriate commercial uses within the Park and manage them in a manner that minimizes impact on other values and contributes to regional Park management costs.

Research and Monitoring

Scientific research is a highly important aspect of the Parks role. The goal is to seek a better understanding of the natural, cultural and social environments, and the impacts of visitor use and Park management.

Community Relations

Promote informed appreciation of the Park's natural environment, cultural values, recreation opportunities, safety issues and facilitate liaison with the community about its management.

Integration of Management

Develop and maintain integrated and coordinated management arrangements between the participating Park managers and government authorities.

6 - Legislative and Planning Framework

Land tenure and classification

Meelup Regional Park was designated an "A" Class Reserve (21629) in early 1993 and vested in the Shire of Busselton. It was formed by amalgamation of six separate Shire Reserves.

Reservation is the setting aside of State land for a specified purpose, generally a public purpose in effect, the dedication of land to that purpose[3]. Meelup Regional Park is reserved for the purposes of conservation and recreation.

Once created, a reserve is usually placed under the care, control and management of a State government department, local government or incorporated community group by way of a Management Order registered. A Management Order under the *Land Administration Act 1997* (LAA) does not convey ownership of the land only as much control as is essential for the land's management. Vesting Orders under the Land Act 1933 automatically became Management Orders under the LAA.

The *Land Administration Act 1997* (LAA) is Western Australia's current legislation dealing with the disposition of State land. The LAA is administered by the Minister for Lands. In the case of Meelup, the Minister for Lands requires the management body to prepare a suitable management plan to the Minister's satisfaction in relation to reserved land. The Management Plan is designed to be a strategic document overarching subsidiary issue or site specific plans, action plans and work programmes.

The Parks and Reserves Act 1895 provides for the appointment of boards of management to control and administer reserves. This very old statute preceded the first Land Act 1898 and represents the States first legislation in relation to reserves management. The Local Government Act 1995 affords local governments powers under the Parks and Reserves Act 1895 in relation to reserves vested under the LAA, but otherwise the Parks and Reserves Act 1895 provisions are now rarely used.

National Parks are reserves vested in the WA Conservation Commission[4] and are managed under the *Conservation and Land Management Act (1984)* ("CALM Act"), and its

3 http://www.dpi.wa.gov.au/crownland/1791.asp

4 http://www.conservation.wa.gov.au/

associated Regulations and Policies. While not directly applicable to the management of reserves vested in Local Authorities, the CALM Act provides guidance on Western Australia's approach to governance of natural areas and management of the often conflicting purposes of conservation and recreation.

A summary of the legislation applicable to this plan is provided in Table 1.

Environmental Protection

The Commonwealth Environmental Protection and Biodiversity Protection Act (1999) *EPBC Act* is applicable to Meelup due to the presence of listed endangered and threatened species, which are considered to be matters of National Environmental Significance (NES). However, Meelup itself is not listed as a protected area[5]

Under the EPBC Act, an action will require approval if the action has, will have, or is likely to have a significant impact on a species listed in any of the following categories[6]:

- extinct in the wild;
- critically endangered;
- endangered; or
- vulnerable.

Thus any action which has the potential to impact on the endangered and threatened species present in the Park is be subject to referral under the EPBC Act. Referrals are generally submitted by proponents, however any member of the public, or groups such as the Management Committee can also submit a referral if there is a perceived potential impact.

At a state level, the *Environmental Protection Act 1971* (WA) is the key legislation for the prevention, control and abatement of pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment. It provides a process for assessment of the environmental impact of development. Actions that have potential impacts are referred to the Environmental Protection Authority for assessment.

In "A" class reserves such as the Park, development is generally not permitted, and any sanctioned activities or development is required to fall within the purpose of 'Conservation and Recreation".

The *Wildlife Conservation Act 1950* (WA) provides for the conservation and protection of wildlife. All native species are protected, and threatened and endangered flora and fauna are specifically listed under the Act, and there is recourse to enforcement if these species are harmed.

The *Agricultural and Related Resources Protection Act 1976* (WA) places an obligation on landowners and managing bodies to act responsibly in relation to weeds and pest species.

Regulations for Daily Operations

The *Local Government Act* and the Shire of Busselton Local Laws (previously called By-laws) provide the applicable regulations for daily operation of the Park. The Shire's Local Law relating to Reserves and Foreshores is provided in Appendix A.

These Local Laws are a collection of documents which are used in the enforcement of issues such as Reserves and Foreshore, parking, signage etc. Local Laws can be updated if required through due process under the *Local Government Act*, in which the Local Law is submitted to the Governor for approval.

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5 http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=flora#FLORA_CRITICALLY%20ENDANGERED

6 http://www.environment.gov.au/epbc/publications/pubs/nes-guidelines.pdf

Table 1 Applicable legislation

Commonwealth	*Environmental Protection and Biodiversity Conservation Act 1999. (EPBC Act)*
State	*Land Administration Act 1997* *Parks and Reserves Act 1895* *Aboriginal Heritage Act (1972-1980)* *Environmental Protection Act 1971* (WA) *Wildlife Conservation Act 1950* (WA) *Agricultural and Related Resources Protection Act 1976* (WA) *Conservation and Land Management Act (1984),* Regulations and Policies *Local Government Act (1960-82)*
Local	*Shire of Busselton Local Laws*

Policing

Actions in the Park which are in conflict with Commonwealth and State laws could be subject to prosecution if legal action is initiated by an individual or organisation.

Since the Park is not vested in the Conservation Commission as National Parks are, the *Conservation and Land Management Act (1984),* and Regulations and Policies is not the key legislation governing the Park. Specific species (declared rare flora) are, however, protected by that Act and the Wildlife Conservation Act 1950 (WA) and prosecution could result from any actions which cause harm to those species.

Shire Local Laws apply to the Park as they do to the rest of the Shire, and actions contravening Local Laws are subject to fines and enforcement measures.

The Management Plan, once ministerial approval has been obtained, may have some legal standing under the *Land Administration Act 1997,* however mechanisms for policing in relation to this are not clear.

It is in the interest of the Park to have legal recourse in relation to ensuring that the requirements of this Management Plan are adhered to. A possible mechanism for that may be to modify council Local Laws to cover compliance with the Ministerially Approved Management Plan. Alternatively – key elements of the plan could be incorporated into the relevant Local Laws for each issue.

Planning Framework

State Planning Policy 6.1 Leeuwin-Naturaliste Ridge[7] is a gazetted planning document which clarifies the priority of conservation in decision making processes. The purpose of the policy is to provide the strategic planning framework for the area for the next 30 years by providing greater vision, guidance and certainty of land use.

Meelup Regional Park is allocated the status of "Conservation Reserve", and as such is subject to Policy LUS 2.5 - Conservation Reserves (Existing and Proposed) which states:

> *"Maintaining or enhancing the conservation and landscape values within existing and proposed Conservation Reserves will be the primary determinant in decision-making on proposals for land use, subdivision or development within these areas."*

7 - Management Framework

Objective

Provide a clear framework for the management and decision making in relation to the Park

Meelup Regional Park Management Committee

Following creation of the Park in 1993, the Busselton Shire Council formed the "Meelup Regional Park Management Committee" (The

7 http://www.wapc.wa.gov.au/Publications/157.aspx

Committee) set up under Section 180 of the Local Government Act. Community members are obtained by advertising in the local press, and such persons are selected on the basis of their qualifications that they provide to the Committee. The Committee currently comprises of 8 community members, and 2 members of the Busselton Shire Council (elected members). A quorum is five members.

The Committee is required to follow protocols and procedures according to the same standing orders under which the Shire Council operate. An information booklet regarding the roles and responsibilities of Committees and appointments of the Shire of Busselton is provided on the Shire's website[8].

The Committee's role according to the Instrument of Appointment and Delegation (see Appendix B) is to:

- To develop a strategic plan for the regional Park that ties into Council's Strategic Plan, to be endorsed by Council, and to annually review the five-year plan of capital and operating expenditure and income, to be endorsed by Council.
- Care for, control and manage all areas of Meelup Regional Park (except any areas specifically excluded by Council).

The 2002 Management Plan further lists the Committee's activities as follows:

- prepare and prioritise plans for Park management
- initiate conservation measures and seek to protect the Park from inappropriate use
- initiate and oversee the implementation of works within the Park
- seek external funding to add to the allocation from the Shire
- manage the budget for the Park
- liaise with government agencies, groups and individuals interested in the Park
- communicate to the wider community on Park issues and activities.

8

http://www.busselton.wa.gov.au/files/Committee%20Information%20Booklet%200807.pdf

The Committee is responsible for the strategic and operational management of the Park. It is also the repository for a large body of knowledge about the Park and instigates research work required to management the Park to preserve the Parks values.

The Committee holds meetings monthly and the minutes from each meeting are published on the Shire website. Decisions made by the Committee other than on matters already delegated to the Committee via the approved Management Plan or other specific decisions of Council generally form the basis of Shire and Council decisions. However, as outlined in the Committee's Instrument of Appointment and Delegation (Appendix B), Committee recommendations are not binding on Council and must be endorsed by Council to take effect. In this way elected Council has final authority in accordance with the *Local Government Act (1960-82)*.

Staffing

The Committee currently employs an administration officer on a part time contract basis. Shire staff currently perform maintenance activities on roads, picnic areas and ablution facilities, including removal of rubbish, and other works requested by the Committee.

A part time environmental consultant has recently been contracted to provide technical and management support to the Committee. The consultant will assist in planning and research and oversee contractors engaged in maintenance and capital works.

Shire of Busselton

Within the Shire of Busselton, the Director of Community Infrastructure currently is responsible for the Park and has designated a liaison officer for the Committee.

Potential Future Change of Management

In January 2007, the CEO of the Shire of Busselton announced the intention to transfer management of the Park to the Department of Environment and Conservation (DEC) in accordance with the Conservation and Land Management Act 1984. This proposal has not yet been presented to the Shire Council. This

has created some uncertainty in terms of the Park's management and needs to be resolved. Further clarification and formalisation of the Committee's role in would be helpful in preventing conflict with the Shire.

Role of the Management Plan

Once the Management Plan has been ministerially endorsed, decisions in relation to the Park are required to be consistent with the Plan.

The Plan is to be used to provide direction, management and regulate activities in the Park. The plan is to guide what activities can and can and cannot occur and to strike a balance between conservation and recreation. Management decisions and / or recommendations by the Committee should be binding if the decision is based on the approved Management Plan.

Management Framework Plan

Issue	Management Strategy	Operational Management
Management of Park	Clarify and confirm role of the Committee and Shire of Busselton in management of the Park As a minimum, ensure that Park management is consistent with Department of Environment and Conservation (DEC) Policies and Practices Council endorsed Management Plan to regulate management and use of the Park	Reallocate some of the operational management activities from the Committee to a part time environmental consultant position. Make decisions and manage the Park in accordance with Ministerially endorsed Management Plan Amend Parks and Reserves Local Laws to ensure that the compliance with Management Plan is enforceable

8 - Management Units and Zones

Objective

Provide for varying management and acceptable uses in different area of the Park

Management Units

Identification of management units is an important part of planning for Parks. The objective is to adopt a management zoning system that protects conservation values, provides for appropriate recreation and other uses, and provides for efficient management of the Park.

The management units have been developed with consideration of

- the conservation significance of different parts of the Park,
- existing roads and access tracks,
- current dieback status and risk of infection,
- existing use and recreation values,
- need for rehabilitation,
- the amount and level of intended management intervention, and
- the level of access and facilities.

Management Zones

Management zones are a framework for protecting the Park by minimising existing and potential conflicts between uses and activities. They provide a broad guide to the uses and management activities which are appropriate in certain Park areas and indicate which management objectives have priority in a given area. A clear zoning scheme also helps to communicate management intentions to the public.

For consistency with other Regional Parks, this Plan adopts the categories used by DEC for Regional Parks, ie :

- Conservation and Protection
- Natural Environment Uses
- Recreation
- Sport and Recreation
- Special Use

Note that this Plan for Meelup Regional Park does not currently allocate any areas for "Sport and Recreation" or "Special Use".

The different zones applied to Meelup are explained below.

Conservation and Protection

Areas zoned Conservation and Protection have particular conservation significance and are to be managed with particular care, with conservation being the top priority at all times. They are priority areas for weed and feral animal control and dieback management. Recreation is to be kept to a minimum and no new tracks are to be made in these areas.

Natural Environment Uses

These areas are also of high conservation significance, and protection of natural values is the highest priority for management, however appropriate nature-based recreational use is encouraged and catered for.

Recreation

Recreation areas are high use areas which experience the highest visitor numbers. At this stage only beach areas are allocated this zoning. Recreation areas have visitor facilities such as toilet facilities and are serviced by the Shire. Although recreation is the main use of these areas, preservation of the natural values of these areas is a high priority and is pivotal to their recreational appeal.

A management unit and zoning map has been produced (Figure 2). The rationale for unit boundaries, conservation value and, management zone allocations are provided in Table 2, along with the recreational values and permitted uses. It is envisaged that the boundaries and zones may change in future management plans as knowledge and understanding of the Park's management develops.

Management Unit and Zoning Plan

Issue	Management Strategy	Operational Management
Management Units and Zones	Allocate acceptable uses, access, and management in accordance with management unit categories adopted from DEC planning documents	Base decisions in relation to conservation, natural environment management, visitor and resource use on the basis of the stipulated units and zones. Educate the public in regard to the zones and acceptable activities in each

Part B – Principal Management Directions

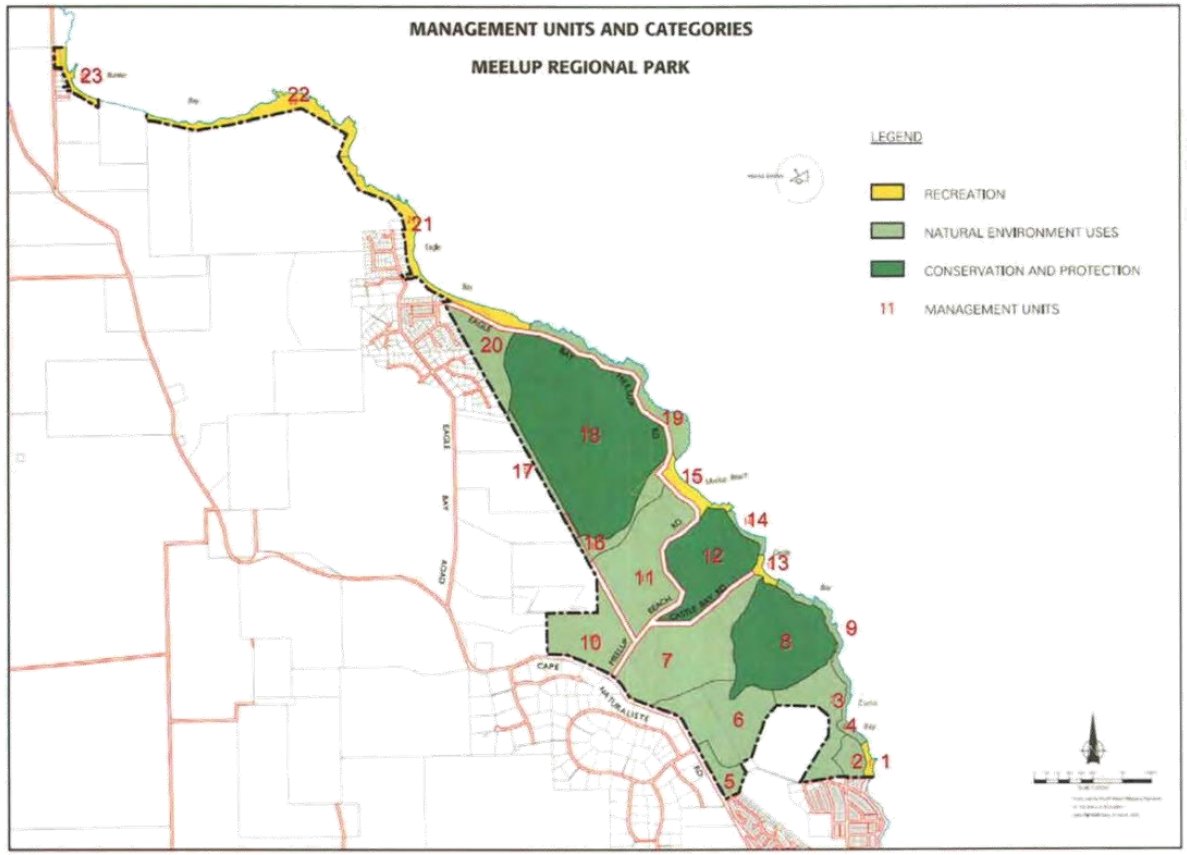

Figure 2 Management Unit Map

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Part B – Principal Management Directions

Table 2 Management Units and Zones

Unit #	Rationale for Boundary	Management Zone	Biological Conservation Value	Recreational values and permitted uses	Comments
1	Curtis Bay Beach adjacent to town.	Recreation	Moderate	Key Recreation Area	Proximity to town means areas experiences frequent use
2	Mapped Previously as vulnerable vegetation. Dieback free. Close to town therefore under pressure	Natural Environment Uses	High	Visual amenity only	Restrict access into area to reduce dieback
3	Old gravel pit / dieback infected	Natural Environment Uses	Moderate	Possible recreation area to be developed subject to priority being given to dieback control	Previously identified as recreation area but risk of dieback spread of concern Rehabilitation priority area.
4	Quenda habitat – peppermint groves.	Natural Environment Uses	High	Restricted access – walk path only	Priorities maintenance of habitat and feral animal control No dogs
5	DRF (orchid) habitat, good condition vegetation close to town so under pressure (bikes), exclude from gravel pit area, although marked as dieback infected may not all be so	Natural Environment Uses	High	Visual amenity only	restrict bike use
6	Old gravel pit / landfill dieback infected.	Natural Environment Uses	Moderate	Possible recreation area to be developed subject to priority being given to dieback control	Rehabilitation priority
7	Mosaic dieback infested drainage lines (Dolugup Brook) and uninfected ridges. Minimal track disturbance. DRF (orchid) near road.	Conservation and Protection	Moderate / High	Possible Future Managed Passive (cycle path?)	Small gravel pit area in need of rehabilitation
8	Large protectable dieback free area including TEC (Meelup granites)	Conservation and Protection	Very High	Restricted access only	Key management priority area. No vehicle access except for fire fighting purposes
9	Castle Bay Coast	Natural Environment Uses	High	Managed Passive Coastal Walk trail Fishing permitted	
10	Area west of Sheen Rd.	Natural	Moderate / High	No use identified	

Part C– Managing the Natural Environment

Unit #	Rationale for Boundary	Management Zone	Biological Conservation Value	Recreational values and permitted uses	Comments
	DRF (Orchids) present	Environment Uses			
11	North of Meelup Road Mosaic dieback infested drainage lines and uninfected ridges.	Natural Environment Uses	Moderate / High	Managed Passive Walk Tracks	Some erosion and old gravel pits
12	Area bounded by Castle Bay and Meelup Roads Contains TEC (Meelup granites) and Meelup Mallee	Conservation and Protection	Very High	Visual amenity only Restricted access	Priority for prevention of dieback
13	Castle Bay Beach	Recreation	Moderate	Managed Passive Coastal Walk trail Fishing permitted	Historical Significance.
14	Meelup – Castle Bay Coast	Natural Environment Uses	Moderate / High	Managed Passive Coastal Walk trail Fishing permitted	Trail well developed
15	Meelup Beach Marine Park Sanctuary Zone	Recreation	High	Key Recreation Area Swimming Picnics Visual Amenity No fishing	Cultural significance
16	Meelup Brook Drainage	Natural Environment Uses	High	Managed Passive Walk Tracks	Dieback and weeds Creek erosion
17	South-western boundary buffer	Natural Environment Uses	Moderate	Restricted access to prevent spread of dieback	Water Corporation Infrastructure
18	North of Meelup Brook Large protectable dieback free area containing the TEC – (Meelup granites)	Conservation and Protection	High	Restricted access – walk path only Visual amenity	Key management priority area. No vehicle access except for fire fighting purposes
19	Pt Piquet Coast (Marine Park: Eagle Bay Special Purpose – shore based activities)	Natural Environment Uses	Moderate / High	Surfing Fishing from shore permitted Walk Track Picnic areas	
20	Dieback infected area adjacent to Eagle Bay Town site south to Meelup Brook	Natural Environment Uses	Moderate	Managed Passive Walk Tracks	

Part C– Managing the Natural Environment

Unit #	Rationale for Boundary	Management Zone	Biological Conservation Value	Recreational values and permitted uses	Comments
21	Eagle Bay Beach	Recreation	Moderate	Key Recreation Area Swimming Picnics Visual Amenity Fishing Permitted	Dog Beach
22	Eagle Bay to Bunker Bay	Natural Environment Uses	Moderate	Managed Passive Walk Tracks	
23	Eagle Bay Beach	Recreation	Moderate	Key Recreation Area Swimming Picnics Visual Amenity Fishing Permitted	Development of new trails in progress

C. MANAGING THE NATURAL ENVIRONMENT

9 - Guiding Principles for Conserving the Natural Environment

The West Australian Department of Environment and Conservation (DEC) prepares management plans for regional and national parks and has developed guiding principles for conserving the natural environment. The following have been adapted for application to Meelup Regional Park:

1. Conservation and protection of the natural environment

Natural processes and biodiversity will be managed to maintain their inherent values. External impacts from human use, the surrounding urban area and management practices will be minimised in order to maintain the biodiversity of natural systems over the long-term.

2. Park management priorities

The Park will be managed with conservation and environmental enhancement as its highest priority in accordance with State Planning Policy 6.1. Recreation and other uses will be allowed to occur to the extent that they do not impair the sustainability of the natural environment.

3. Restoration of the natural environment

Restoration of the natural environment will be undertaken to maintain biodiversity, and protect and enhance natural systems. Areas with high conservation significance will be considered priorities for restoration.

4. Features requiring special protection

Declared Rare Flora, Priority Flora species, Threatened Ecological Communities, Priority Fauna and other Specially Protected Fauna will be given priority for conservation and restoration.

5. Consistency of management policies

The land managers involved in the Park will apply consistent and coordinated management policy.

6. Recognition of cultural and social values

The Park will be managed in a way that delivers community benefits by maintaining cultural traditions and attributes and by providing opportunities for recreation, education and research.

8. Precautionary principle

If there are threats of serious or irreversible environmental damage, the lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

10 - Climate

The meteorological data for the area come from Cape Naturaliste, Busselton Jetty and Jarrahdale. The annual mean monthly temperatures for Cape Naturaliste range from 11.1°C to 16.3°C during winter and 17.2°C to 23.3°C in the summer.

The wind pattern is generally one of a typical sea breeze scenario in summer, and an increase in northerly winds in winter months. Due to its unusual orientation, the Park coastline is sheltered from the strong sea breezes which are experienced onshore in the rest of WA. Higher areas such as the gravel pit would be exposed to the breeze, which may provide relief from summer temperatures.

The mean annual rainfall for Cape Naturaliste is around 829 mm/yr. The annual evaporation rate for the nearest station for which the Bureau of Meteorology has data (Jarrahdale) is 1214mm/year.



11 - Geology, Landform and Soils

Objective

To protect and conserve geological features landforms and soils, and preserve the unique character of the Park's visual landscape



The geology of the Park can be seen as the key to the unique character of the Park's visual landscape and biology.

The Dunsborough fault, at the northern end of Dunsborough township where the Park begins, is the dramatic point of transition between the flat coastal lands of the Perth Basin and the higher lands of the Leeuwin – Naturaliste Ridge. Resulting from these changes in geology and contour, there are equally dramatic changes in direction of coastline, ecology and local climate. These are the key attractions of the Dunsborough area and they are epitomised in Meelup Regional Park.

The Park lies on the eastern side of the Leeuwin – Naturaliste Ridge. The ridge consists of granite (Gneiss) outcrops, which dominate the higher areas. The Park is underlain by banded, granite rocks composed mainly of quartz, feldspar and dark green pyroxene. These rocks can be seen in some of the deeper drainage lines and along the wave-washed coastline. Overlying soils are shallow lateritic soils with mottled clay subsoil in upper areas, and sandy loam topsoil with sections of gravel and clay in the lower slopes.

Contour levels range from 100m to sea level with ridges running perpendicular to Leeuwin - Naturaliste Ridge (Figure 3). The higher ridge areas are interspersed by valleys with varying soil types and vegetation complexes. The valleys have seasonal streams and lead down to the sheltered sandy beach areas.

The soil-Landscape systems of the Park (Tille and Lantzke, 1990) are:

Cowaramup Uplands: Lateritic plateau with sandy gravel, loamy gravel and grey sandy duplex. Jarrah-Marri forest is the principal vegetation on this system.

Kilcarnup Dunes: Coastal Dunes overlying limestone and rocky headlands with Calcareous deep sand, calcareous shallow sand and calcareous stony soil. Coastal scrub is the predominant vegetation on this system.

Wilyabrup Valleys System: Granitic valleys with loamy gravel, sandy gravel and loamy earth. Jarrah-Marri forest predominates on this system. These are shown in Figure 4.

Threats

The main threats to the geology, landforms and soils of the Park are:

- Extraction - The Park is closed to exploration and mining activities under its Class "A" reserve status. Gravel extraction activities in the past have caused degradation
- Erosion - Erosion is the mechanical movement of the land surface by wind, rain, running water resulting in the wearing away of land or soil. Removal of vegetation by clearing, trampling by humans, animals or vehicles can result in erosion of soils. The key to prevention is the retention and rehabilitation of vegetation. This is particularly critical in foredune areas. Where dunes are vegetated defined access paths must be provided. No other developments should occur on foredunes.
- Contamination – soils can become contaminated by fuel and chemical spills, or dumping of waste materials
- Disease – the disease phytophora dieback is soil borne

Part C– Managing the Natural Environment

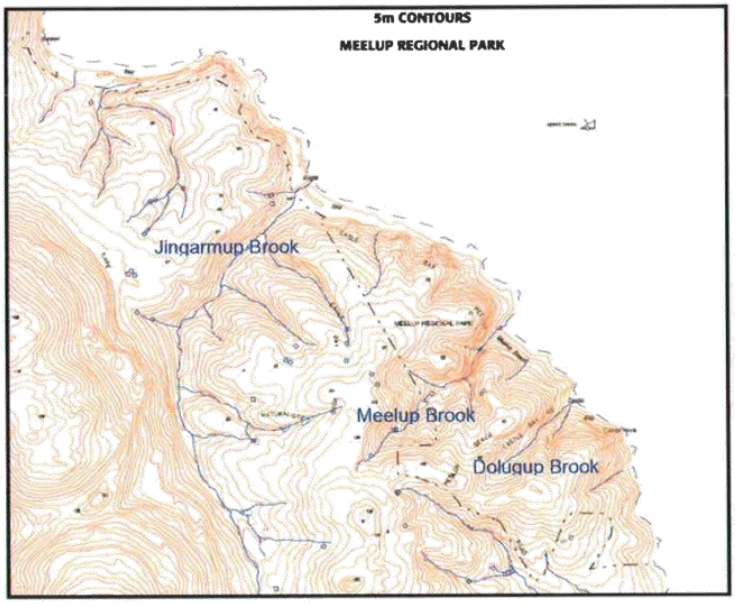


Figure 3 Topography and Surface water courses of Meelup Regional Park

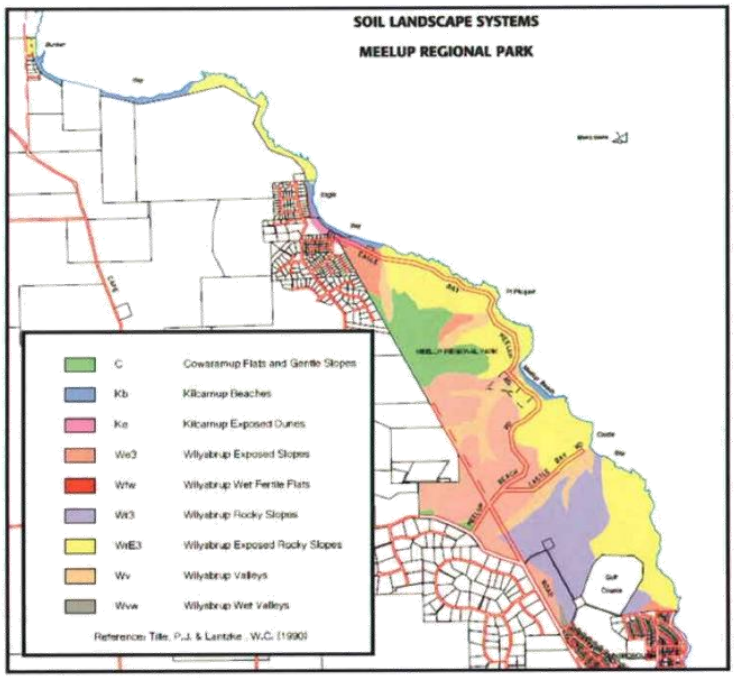


Figure 4 Soil Landscape of Meelup Regional Park

Geology Landform and Soils Management Plan

Issue	Management Strategy	Operational Management
Landform Protection	No extraction permitted Prevent erosion and rehabilitate eroded sites	No extraction of gravel and sand for building purposes Put signage in place if required Retain vegetation by ▪ Restricting access to fragile areas ▪ Limit vehicle use and prohibiting off-road vehicle movements ▪ Restrict sporting activities to designated areas Minimise clearing ▪ Put signage in place if required ▪ Enforce Shire Local Laws and Management Plan Revegetate eroded sites Prevent erosion during site or access development ▪ Assess potential for erosion and plan to manage impacts ▪ No development on foredunes ▪ Provide adequate and effective drainage Disposal areas for runoff should be away from foreshore rocky faces or existing tracks where gullying can occur.
Soil protection	Prevent fuel and chemical spills Prevent illegal dumping Ensure any materials imported are compatible with existing soils Prevent spread of soil born disease	No re-fuelling in Park Provision of appropriate rubbish collection equipment and services at recreation sites Put signage in place if required Use compatible materials in development and maintenance works, e.g. white sand instead of yellow sand Prevent movement of soil across Park

12 - Water Resources

Objective

To protect and conserve existing surface and groundwater resources of the Park.



Surface Water

The Park has three surface streams, Jingarmup Brook at Eagle Bay, and the Meelup and Dolugup Brooks which are all part of the Geographe Bay Catchment (Figure 3). These water resources are small and flow seasonally. Much of the wetland areas in the catchment have been cleared and modified by drainage. Therefore any areas which remain within bushland such as Meelup Regional Park have high conservation value.

The sections of Meelup and Dolugup Brooks within Meelup Regional Park were classified mostly as "pristine" in the 2006 assessment by GeoCatch as part of the River Action Plan for the Cape Naturaliste Streams. Jingarmup

Brook is shown as degraded (Cape to Cape Catchments Group 2006).

Groundwater

The Groundwater is restricted to shallow aquifers because the bedrock (gneiss) is either outcropping or close to the ground surface in most parts of the Park. Springs and seeps are important habitats for rare or restricted species of invertebrate fauna and a water source for larger fauna, such as kangaroos and wallabies.

Infrastructure

Water resources are required to support Park facilities and for fire management, see Sections 38 and 40 in Part F- Managing Resource Use. Careful assessment of the impact of using water resources is required. The use of roof and tank supplies is preferable to using spring or seep-water which maintains the biodiversity of the Park. The water supply pipeline for Bunker Bay provides the drinking water to Meelup Beach and is used for irrigation of the grassed areas. There is no water supply to any other recreation areas of the Park.

Threats

Threats to the water resources of the Park include:

- Upstream water extraction / contamination. Land use and water use up stream has potential impacts on the stream flow and surface water quality in the Park,. For example a large dam constructed in the adjacent winery has limited the water flow in Meelup Brook.
- Visitor access and associated degradation. Water courses are cool and shady places with distinctive vegetation Visitors are attracted to walk along water courses, bringing the threat of damage to vegetation, erosion and spread of dieback and weeds. The foreshore provides important habitat for native animals and wetland vegetation helps to improve water quality.
- Extraction – in the past natural soaks and streams have been used for providing water to nearby residences
- Contamination – In addition to upstream contamination, there is the potential for contamination to occur within the Park
- Infrastructure development – supply of water to the Park has the potential to disturb vegetation and disposal has the potential to alter the local hydrology and impact on water quality.

Water Resources Management Plan

Issue	Management Strategy	Operational Management
Surface water flows	Maintain natural flow rates in surface water courses	Work with GeoCatch to protect catchments outside of Park
Groundwater levels	Maintain natural groundwater levels within the Park	No surface or groundwater extraction for use outside of Park Water used within the Park is only for community use Ensure that proposed developments within the Park have investigated water requirements, source, impacts and alternatives to drawing on Park supplies
Water quality	Ensure that surface and ground water quality is not adversely affected by activities in the Park and in neighbouring lands	Work with GeoCatch to protect catchments Control visitor activities Ensure discharge of wastewater is to deep leach drain away from groundwater discharge areas and streams No re-fuelling in Park Ensure that all contractors working in the Park have fuel and chemical spill response plans and

		equipment
Foreshore condition	Protect and improve foreshore condition	Limit visitor access to designated paths Rehabilitate degraded foreshore areas Control weeds in and adjacent to water courses
Infrastructure development	Use scheme water for Recreational facilities within the Park	Consider supply of water to other key recreation areas

13 - Native Plants and Plant Communities

Objective

To protect and conserve native plants and plant communities with an emphasis on threatened and priority species.

Vegetation



The vegetation of the Park was surveyed in 1986 by Keating and Trudgen. The data from this survey was entered into the Shire GIS database, and was used to create the vegetation map of the Park provided In Appendix C. Some of the species names have been updated since the original work in 1986, and the map has been criticised as being overly detailed, however it is still the best available. A description of each community type is also provided, copied from the original report. The map shows that the Park has a diverse vegetation, with approximately 34 separate types ranging from heath along the coast and on inland flooded gum along creek lines.

A functional map of the principal vegetation communities in the Park according to faunal habitats was produced by Hart, Simpson and Associates in 1997, showing:

- Tree communities - ranging from low open woodland to open forest, the dominants of which mainly comprise one or more of *four species: jarrah (Eucalyptus* marginata), marri (Eucalyptus (or *Corymbia) calophylla*), sheoak (*Allocasuarina fraseriana*) and peppermint (*Agonis flexuosa*).
- Shrublands and heaths dominated by closed scrubs of *Hakea trifurcata*;
- Wetland vegetation which exists along seasonal watercourses and sumps / seeps within the Park

This map provides a simple overview of the visual characteristics of the Park's vegetation and has been reproduced here as Figure 5

Despite there being widespread dieback infection, the vegetation of the Park is generally in excellent to very good condition with much of the area considered to be in pristine condition.

The Threatened Ecological Community (TEC) "Meelup Granites" or "*Calothamnus graniticus* heaths on south west coastal granites" is recorded as occurring in seven locations in the Park, within the heath on granite areas shown in Figure 5. Its current category is "Vulnerable" meaning it is vulnerable to threatening processes and may move into higher threat category.

Flora



The Park contains well in the order of 340 species of vascular plants. The Cape Naturalise Herbarium has provided a list of the species recorded for the Park and this is provided in Appendix C.

A search was undertaken of the Department of Environment and Conservation Threatened (Declared Rare) Flora database, the Western Australian Herbarium Specimen database for priority species opportunistically collected in the area of interest and, the Department's Declared Rare and Priority Flora List (this list is searched using 'place names'. This list which may also be used as a species target list, contains species that are declared rare (Conservation Code R or X for those presumed to be extinct), poorly known (Conservation Codes 1, 2 or 3), or require monitoring (Conservation Code 4). Conditions of supply of the data do not permit publication of specific DRF locations, however it is permitted to show specific locations without identifying species. Locations are therefore shown in Figure 6.

In addition to the Meelup Mallee, which will be discussed below, *Caladenia caesarea* subsp. *Maritima* (Cape Spider Orchid) and *Caladenia viridescens* (Dunsborough Spider Orchid) are both listed as endangered under the EPBC Act. Any developments which have the potential to impact on these species need to be referred and obtain approval from the Commonwealth under the EPBC Act.

Meelup Mallee



One of the DRF found in the Park is the Meelup Mallee. This plant is Classified as Endangered under the EPBC Act

A broadsheet has been distributed regarding this species (Appendix C) and an extract from the text is provided below.

Commonly known as the Meelup mallee, Eucalyptus phylacis is a small mallee or tree to 5 m tall, with distinctive coarse, non-fibrous bark overlaying thick corky bark. Meelup mallee blooms in February and March, when masses of white flowers are produced in the axils of terminal leaves. The species is closely related to Eucalyptus decipiens, but differs in having smaller buds and fruit, broadly conical opercula (the cap on the bud) and in not having emarginate (a small notch at the leaf tip) juvenile leaves.

Meelup mallee was first collected in 1982, and named in 1992. Kings Park and Botanic Garden staff have undertaken research into the genetics of the species. During this research they discovered that the only known population is in fact a single plant (clone) which may be up to 3600 years old. Meelup mallee was ranked as Critically Endangered in 1995 but, through successful recovery actions, has since been re-ranked as Endangered.

A Meelup Mallee Recovery Plan has been produced by DEC and is available on the web (DCLM 2004). This plan states that the distance between the mallee ramets suggests that the plant is very old, possibly more than 6380 years, and as old as 6660 years. This indicates that it is potentially one of the oldest eucalypts on record.

The location of the Meelup Mallee has been intentionally not made public in order to protect the plant, however the success of the recovery plan suggests such secrecy may not be necessary in the future.

Threats

The threats to vegetation and flora of the Park are:

- Unplanned or poorly planned fire;
- weeds;
- feral and nuisance animals
- illegal gathering of souveniring
- diseases such as Phytophthora dieback
- importation of soil into the Park;
- human use and recreational activities
- urban interface issues and uncontrolled access by vehicles and pedestrians.

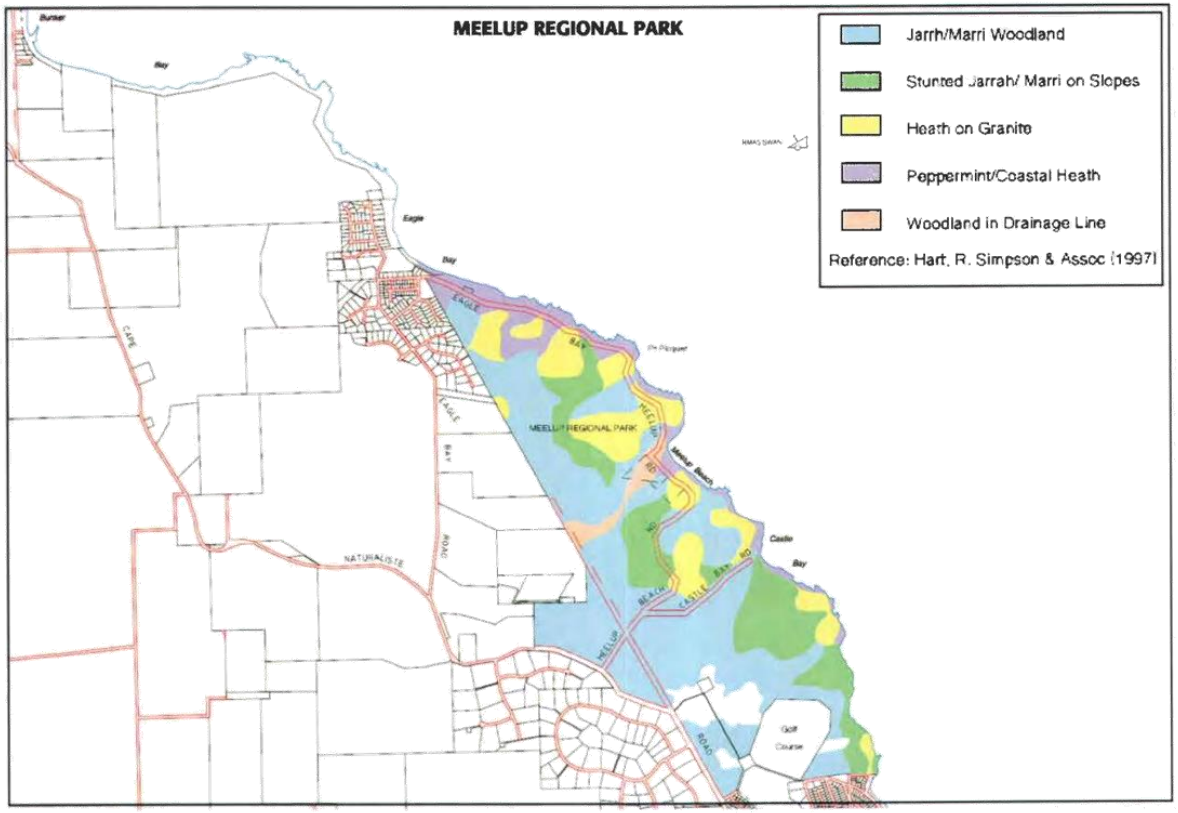


Figure 5 Vegetation communities in Meelup Regional Park

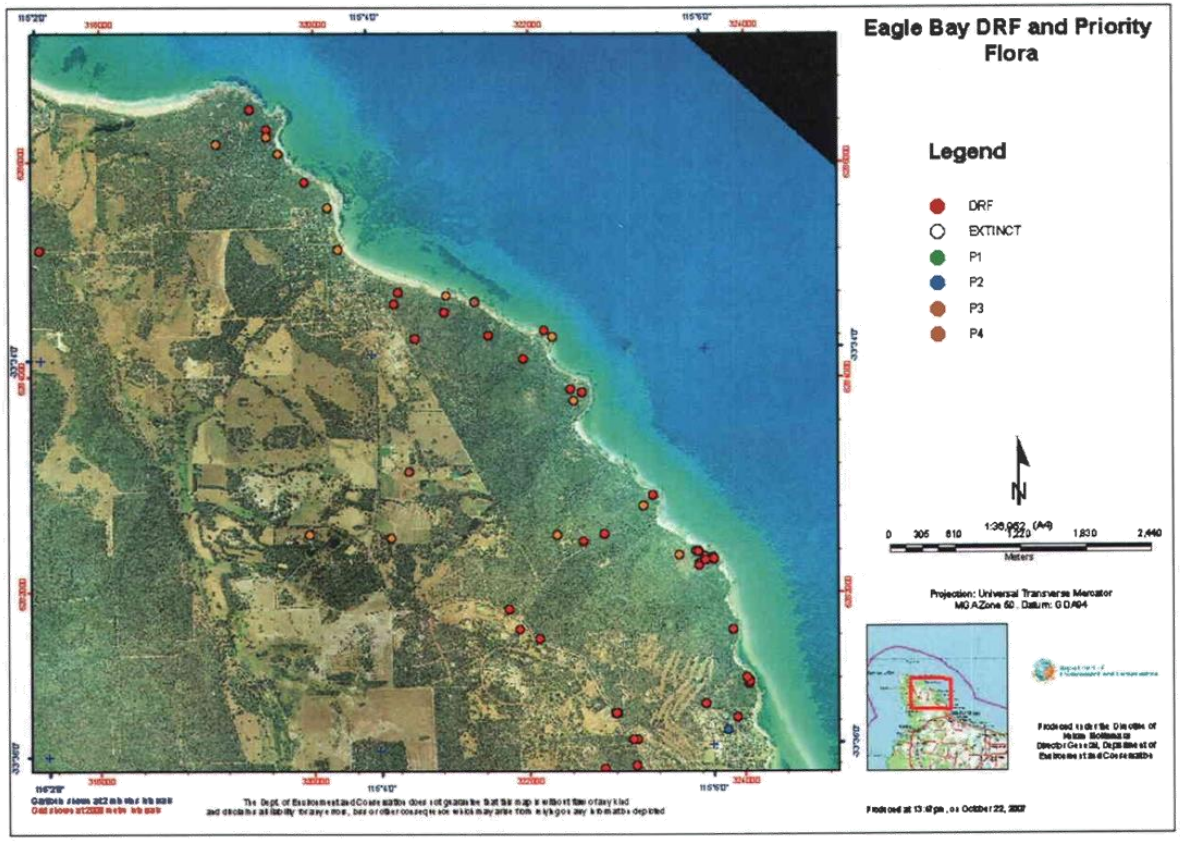


Figure 6 Generalised Location of DRF and Priority Flora in Meelup Regional Park

Native Plants and Plant Community Management Plan

Issue	Management Strategy	Operational Management
Conservation and Protection of Vegetation and TECs	Prioritise protection of *Calothamnus graniticus* heaths Maintain significant areas of all ecosystems that have vegetation in good condition Implement Fire Weed and Dieback Management Plan	No new tracks in *Calothamnus graniticus* heaths Careful planning of any new tracks in Park, particularly in Conservation and Protection Areas Continue feral animal exclusion monitoring research Monitor important vegetation communities Minimise damage to vegetation from constructing and maintaining facilities for visitor use and infrastructure
Protection of Rare, Endangered and Priority Flora	Prioritise protection of DRF and Priority Flora	Continue to locate threatened and priority flora species Develop DRF Develop identification resources for Park Managers
Meelup Mallee	Preserve Eucalyptus Phalacis Raise profile to promote public appreciation	Develop interpretive material Provide signage and control access

14 - Native Animals

Objective:

To protect and conserve naturally-occurring fauna species in the Park, particularly threatened and priority species.



Species present in the Park

The terrestrial fauna of the Park was surveyed during the period 1994 to 1997 (Hart, Simpson and Assoc., 1997). A fauna list for the Park is included in Appendix C. The study concluded that the Park has high conservation value for fauna because of the high diversity of fauna species present, the presence of rare and interesting species, the limited number of introduced species and the large size and generally good condition of the Park.

The total terrestrial fauna reported in the Park is nine frog species, 16 lizards, three snakes and eight native mammals as well as four introduced mammals. A further 11 species of reptiles and 5 species of native mammals have never been recorded but are expected to occur. The large population of Western Grey Kangaroos are the Park's most visible fauna, particularly adjacent to the golf course to which they are attracted by green grass and water sources.

The Park has important fauna habitat values because it is in a region which is seeing increasing urbanisation. Most of the fauna habitats are well represented in the Park and are in good condition except for minor disturbances and extensive dieback which may ultimately remove several important habitat features. Figure shows the major fauna habitats of the Park.

Rare and Endangered Fauna

A search of the Department of Conservation and Environment (DEC) Threatened and Priority Database was carried out. The results are summarised in Table 2 below along with additional conservation status and habitat information from the Naturebase website. As can be seen from the table, the rare and endangered fauna are mostly likely to be found in forests and woodlands and in wetlands and water courses.

Range extensions

In addition to the rare and endangered fauna, two species of reptiles are found in the Park outside of their normal range. These are:

- Southern Delma lizard (*Delma Australis*). - extension of range south by 212 km; and
- Dells ctenotus lizzard - (*Ctenotus delli*) range extension of 110.

Threats

Major threats to the native fauna in the Park are:

- Loss of habitat through clearing or disease (such as dieback)
- Introduced animals, particularly foxes which threaten quenda and possum populations
- Domestic animals which have the potential to disturb native fauna either directly (by chasing or killing animals) or indirectly by disease or scent
- Fire, through direct impact and loss of habitat
- Altered hydrology
- Inappropriate recreation



Table 3 Rare and Endangered Faunal species, Conservation status and Habitats

Species	Conservation Status			Habitat
	WA Wildlife Conservation Act	2000 IUCN Red List	EPBC Act	
Pseudocheirus occidentalis Western Ringtail Possum	Schedule 1 Fauna that is rare or is likely to become extinct	Vulnerable	Threatened (Vulnerable)	Forest and dense woodlands Requires tree hollows and/or dense canopy for refuge and nesting. Preferred diet in coastal areas is peppermint trees.
Isoodon obesulus fusciventer Quenda or Southern Brown Bandicoot	Priority Four: Taxa in need of monitoring	Lower Risk (near threatened)	Not Listed	Dense understorey vegetation, particularly around swamps and along watercourses.
Macropus irma Western Brush Wallaby	Priority Four: Taxa in need of monitoring	Lower Risk (near threatened)	Not Listed	This species occurs in areas of forest and woodland supporting a dense shrub layer.
Ninox connivens connivens Barking Owl (southwest pop)	Priority Two: Taxa with few, poorly known populations on conservation lands	Not Listed	Not Listed	Forest and woodland supporting a dense shrub layer

Native Animals Management Plan

Issue	Management Strategy	Operational Management
Maintenance of Habitats	Protect species as required under EPBC Act and WA Wildlife Conservation Act Prioritise conservation and protection of rare and endangered faunal habitats Implement Feral and problem animal Management Plan Implement Fire Management Plan Implement Weed, Dieback and Visitor Use management Plans	Referral of any developments that threaten possum habitat to Commonwealth as required by the *EPBC Act*. No additional tracks to be developed in Possum and Quenda Habitat Careful planning of any new tracks in Park, particularly in Conservation and Protection Areas Provision of breeding boxes? -Use fire control guidelines outlined in Fire Management Plan; e.g. burn small areas at one time to maintain a mosaic of different ages and vegetation structure.
Prevention of predation	Implement Pest and Problem Animal Management Plan	Continue annual baiting programme for rabbits and foxes and trapping for cats

15 - Environmental Weeds

Objective

To minimise the impact of environmental weeds on the native plant and animal species in the Park

Definitions



Environmental weeds have been defined as plants that establish themselves in natural ecosystems (marine, aquatic and terrestrial) and proceed to modify natural processes, usually adversely; resulting in the decline of the communities they invade.

Weeds may originate from interstate or overseas and may or may not be declared under the Agriculture and Related Resources Protection Act 1976. The declaration imposes an obligation on all land owners to control declared plants on their properties. Guidance on the management of weeds is provided by the Environmental Weed Strategy for Western Australia (Department of Conservation and Land Management 1999), and from the Department of Agriculture and Food website [9]

Some species of introduced plants occur within the Park which are not considered to be weeds. Exotic plants are primarily concentrated along access tracks or in disturbed areas.

Invasion by introduced plants is one of the more serious long-term threats to the integrity of the Park's native vegetation. The Meelup Regional Park was surveyed for weeds in 1998 (Dee, 1998). This report specifies annual and perennial weeds in the Park and locates them by GPS coordinates. Weeds in the occur mainly along creeks, along boundaries with pasture and coastline, and next to other cleared areas including tracks and trails.

Declared weeds

Declared weeds found in the Park include the following plants:

- Cape Tulip (*Homeria flaccida*),
- Arum Lily (*Zantedeschia aethiopica*),
- Apple of Sodom (*Solanum lineanum*),
- Bridal Creeper (*Asparagus asparagoides*),

[9] http://www.agric.wa.gov.au/weeds.htm ,and http://www.weeds.org.au/

- Doublegee (*Emex australis and Emex spinosa*) (annual)
- Nodding Thistle (*Carduus nutans* L*)*

Non Declared Weeds

Non-declared weeds include

- Watsonia (*Watsonia bulbifera*),
- Wavy Gladiolus (*Gladiolus undulata*),
- Castor Oil Plant (*Ricinus communis*),
- Black Flag (*Ferraria crispa*),
- Victorian Ti Tree (*Leptospermum laevigatum*) and
- Freesias (*hybrid Freesia* spp).
- Dolichos Pea (*Dipogon lignosus*)
- Stinkwort (*Dittrichia graveolens*).(Annual)

Weed Management Plan

Issue	Management Strategy	Operational Management
Eradicate or control existing weeds	Manage environmental weeds in accordance with the Agriculture and Related Resources Protection Act 1976, and the Environmental Weed Strategy for Western Australia Prioritise area where weeds may impact on threatened species and communities Maintain significant areas of all ecosystems that have vegetation in good condition	Observe statutory and safety requirements with regard to weed control Prioritise eradication of declared weeds Develop identification resources for Park Managers Maintain liaison with the Agriculture Protection Board, adjacent landholders, local authorities and community regarding weed control Maintain up-to-date weed maps Encourage volunteer groups to conduct voluntary weed control in areas that are isolated and costly for contract works Carry out weed control programme consisting of: ▪ Inspection of known weed locations ▪ Employment of weed contractor each spring and late summer to spray winter and summer weeds respectively ▪ Assessment efficacy of spray programme and impact on native vegetation Ensure that chemicals used are not toxic to fauna likely to be present (eg frog-friendly glycophosphate) Initiate targeted weed control post fire
Prevent new weeds from becoming established in the Park	Early identification and eradication of weeds	Prevent illegal dumping of garden waste, erect signs if necessary Contractors bringing machinery into Park to have a weed management plan in place Ensure that rehabilitation materials are weed free and inspect before use Develop identification resources for Park Managers Limit visitor access to established paths Inspect annually for weeds in vulnerable habitats such as along creek-lines Record new weed outbreaks Physically remove without damage to native Use chemical means if necessary Follow up inspection and treatment if required Initiate targeted weed control post fire

16 - Feral and Problem Animals

Objective

To minimise the impact of feral and problem animals on native plant and animal species in the Park

Feral Animals

The main species of feral animals present in the Park are rabbits and foxes, although cats and rats were also recorded during the 1994-97 survey. As a landowner, the Shire has responsibilities to control feral species. An annual program of baiting has been introduced using 1080 poisoned oats and eggs for rabbits and foxes respectively. Cat traps are regularly placed at locations where cats are sighted in the Park. Captured feral and unregistered cats are destroyed, whilst registered domestic cats are impounded by the Shire Council.

Problem Animals

It is not known what the pre-settlement population of kangaroos is, however census studies by the Toby Inlet Catchment Group (Clay 2007) indicate that the number of animals should be around 0.05 to 0.1 per hectare. Human landuse including clearing of the golf course appears to have contributed to an increase in the population to its current level of around 0.2 animals per ha in the region.

This increased abundance has the potential to adversely affect the biodiversity values of the Park. With an increase in the kangaroo population, vegetation within the reserve is overgrazed, habitat is destroyed, flora values are diminished and naturally occurring rehabilitation and plant succession is inhibited (DEC 2006)

Based on these considerations, a kangaroo management program may need to be implemented. However, more data specific to the Park is needed both on the optimal level and the present level of population. As the culling of kangaroos is a sensitive issue, a careful approach involving other interested parties would be essential.

The Shire has formed a Committee (including members from the Meelup Regional Park Management Committee and DEC) to investigate the need for and potential methods that can be used to control Kangaroo numbers in the region.

Feral and Problem Animal Management Plan

Issue	Management Strategy	Operational Management
Feral Animal Control	Implement a program to monitor feral animal populations with the aim of control" and, where possible, eradication of feral species	Continue annual baiting programme for rabbits and foxes and trapping programme for cats Seek co-operation of local landowners, and give notice of Shire's intentions prior to any feral animal control operations being conducted within the Park Advertise the presence of fox baits to prevent poisoning of domestic pets. Monitor feral animal populations to determine the effectiveness of control programs and their threat to native flora and fauna. Control rabbits to reduce grazing in areas undergoing natural regeneration
Kangaroo Control	Continue ongoing trials to determine the number of kangaroos can support without overgrazing	If Shire formed Committee determines that there is a need to reduce the numbers of kangaroos and avoid excessive grazing, cull animals in conjunction with the Shire, DEC and adjacent landowners.

17 - Disease

Objective

To identify and control the spread of plant diseases and to protect areas currently free of disease.



Phytophthora dieback

The issue of dieback poses a serious threat to the Park is a very high priority for Park management.

Phytophthora dieback, an oomycete or 'water mould', refers to the deadly plant disease caused by the pathogen *Phytophthora cinnamomi* and other related species such as *P. citricola*. Dieback can kill a wide range of plant species and massively reduce conservation values. The disease spreads slowly downhill through the soil, using water as a vector, and can be moved to new sites by transportation of soil.

Distribution of *P. cinnamomi* is widespread in the Park, especially in the area between the Dunsborough townsite and Meelup Beach Road. All creeklines in the Park are infected with *P. cinnamomi*. Figure 7 shows the extent of dieback in the Park in 2004.

The disease is considered to be a significant threat to the Park given the existing upland plant communities in the Park which contain a number of susceptible species, for example jarrah, banksias and grasstrees

Vulnerable plant families are Proteaceae, Myrtaceae, Epacridaceae, Dilleniaceae and Pappillionaceae. The impact of the disease on the significant vegetation communities and flora of the Park is poorly understood.

Detection of the disease is usually based on visual assessment of vegetation condition and presence of symptoms. A higher level of certainty is provided with analysis of soils to detect the pathogen, however sampling can fail to detect the pathogen in clearly infected areas. An area is said to be infected if either symptoms or pathogens are detected.

The Park was surveyed for Dieback in 1994 (Helyar, 1994) which showed that 28% of the Park is infected with *Phytophthora cinnamomi* and another 13% of the Park is at risk of infection by natural spread. Following boundary checks and survey work by DEC this figure has increased to at least 34%.

Some upland areas including the gravel pit are also infected. The presence of the disease is the major constraint governing the land use in these areas. Movement of visitors and especially vehicles from these areas to uninfected areas should ideally not be permitted, or at a minimum carefully managed and policed to prevent the carrying of infected soils from one location to the other.

A number of the management units are dieback free and prevention of infection of these areas is a very high priority. Access to these areas needs to be restricted and strict hygiene measures implemented. This is particularly important for Units 8 and 18, where fire breaks have been cleared along a ridge into dieback free bushland. Access track into these areas should have gates and signs at the transition between dieback infected and dieback free. The signs should provide information on the hygiene measures required.

It is important to note that despite a large proportion of the Park is classified being infected, these areas still have significant natural environment values which need to be preserved. Mapping tends to be conservative, and pockets of land within larger areas classified as infected remain free of symptoms hand have vegetation in good condition.

The danger exists that areas classified as infected are perceived as not being worthy of protection, and biological and aesthetic values are compromised as a result.

Armillaria luteobubalina



Sixteen percent of the Park is infected with the fungus *Armillaria luteobubalina*. It is a species common to sclerophyll forests and can infect many woody plant species. This fungus becomes a serious killer in disturbed habitats, where it causes root rot; destroying the food and water transport systems of its host, and then living on the dead plant's tissue for many years. The symptoms of the fungus include the death of branches, yellowing of foliage, poor vigour and the darkening and rotting of the larger roots.

In natural ecosystems, because it is an endemic species, *Armillaria* is an integral part of ecosystem functioning and is not detrimental. It is generally only a problem when changes or disturbances occur in that system. In natural (undisturbed or unchanged) ecosystems, attempting to control *Armillaria* by traditional means would create physical disturbance and may in fact make it worse (Richard Robinson, DEC Pers comm..)

Armillaria spreads through root to root contact with infected trees, especially old decayed stumps and roots. To prevent problems associated with this disease, it is important to limit the introduction of the fungus during rehabilitation of disturbed sites. Materials such as mulch used in rehabilitation should be examined for obvious signs of the fungus.

Aerial Cankers

Aerial cankers also pose a risk to vegetation in the Park. It has been identified as a major threat to the *Eucalyptus phylacis* (Meelup Mallee) population in which stem death is evident. Aerial cankers and other disease could be introduced into the Park via infected brush material or seedlings for revegetation

Disease Management Plan

Issue	Management Strategy	Operational Management
Phytophora Dieback	Make dieback management a top priority for Park management Manage Phytophora dieback in accordance with Dieback Working Group Guidelines and Best practice guidelines for the management of Phytophthora cinnamomi (CALM 2004) Prevent spread of dieback into uninfected areas Prioritise protection of threatened and priority species and TECs Protect susceptible vegetation Educate Park users	No new tracks from infected to uninfected areas Protect significant uninfected areas, particularly Units 8,12 and 18 by preventing all recreational and any other unauthorised access. Restrict vehicle movement in Park: ▪ No vehicle movement off designated tracks ▪ Avoid puddles forming in tracks and vehicle movement through puddles ▪ Prevent or minimise vehicle movement on tracks moving from infected to uninfected areas, install gates where possible ▪ Minimise vehicle movement on tracks that are not hard and well drained ▪ Install signage at key transition locations (into units 8 and 18) Minimise movement of soils ▪ Schedule and earth moving activities for dry soil conditions, ▪ Minimise soil movement during fire break maintenance ▪ Exercise strict hygiene protocols in regard to vehicles, tools, equipment and footwear ▪ Use limestone to form walk trails

		▪ Introduce dieback control measures on walking trails, e.g. foot cleaning stations. ▪ Provide boardwalks over dieback infected wet areas on walk trails, and limestone surfaces which are inhospitable to *Phytophthora cinnamoni*. Minimise waterborne transmission ▪ Do not alter natural drainage patterns ▪ Ensure vehicle tracks are well drained ▪ Avoid walking in Park when soils are wet and muddy ▪ Rehabilitate gravel pits to prevent erosion Only use materials in rehabilitation that are certified free of *Phytophthora cinnamomi*. Development in areas containing dieback need to assess the risk of dieback spread and adopt appropriate procedures such as access by sealed roads only Consider use of phosphite for protection of vulnerable species Carryout full dieback surveys every 10 years and border checks every 2 years
Armillaria luteobubalina and aerial cankers	Prevent spread of *Armillaria* and aerial cankers into uninfected areas Protection of susceptible vegetation	No transport of organic material such as mulch into uninfected areas

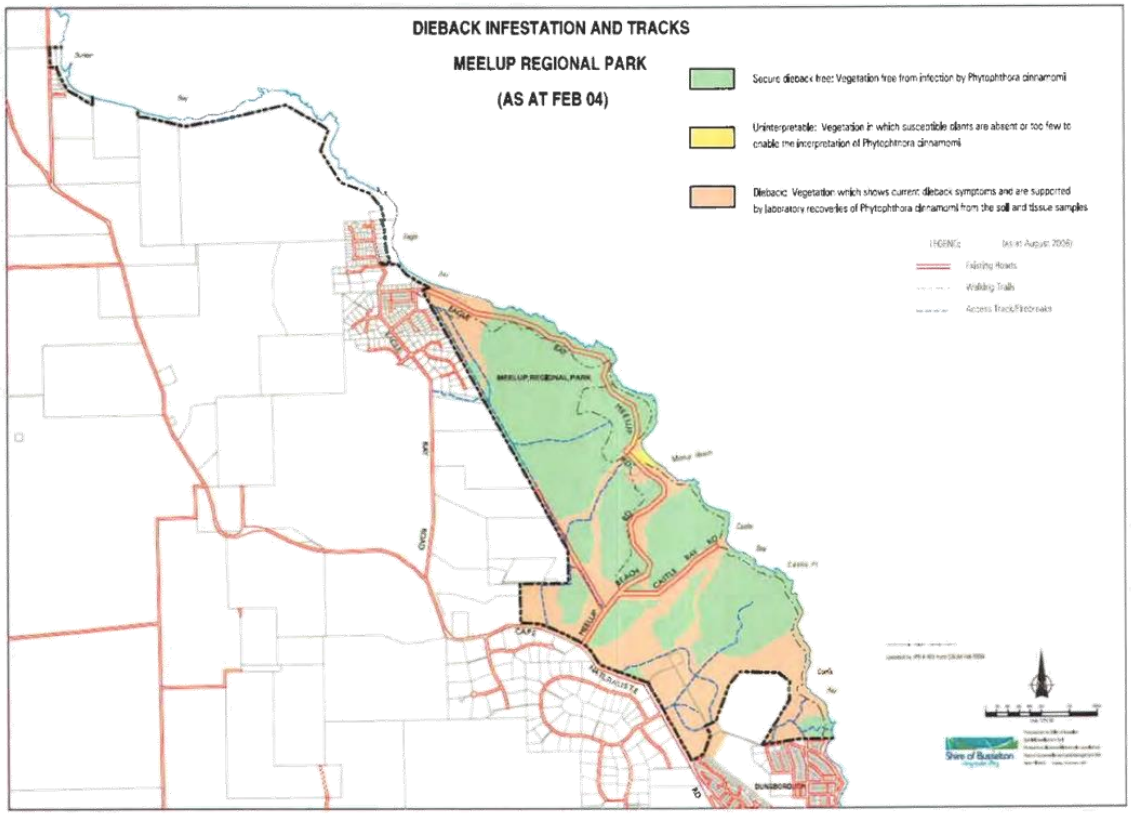


Figure 7 Phytophora dieback and access routes into and within Meelup Regional Park

18 - Fire

Objective

To manage fire to protect and promote the conservation of biodiversity and natural values whilst also providing for the protection of human life and community assets

Australian wildlife has adapted to the natural occurrence of fire, and some species even require it for reproduction, however fires which are either too hot or too frequent may have severe adverse impacts on the flora and fauna of the Park.

Wildfire in and around the Park also poses a risk to visitors, townsites, rural properties and recreation facilities. Peak use of the Park coincides with the summer high-risk period. The coastal towns of Dunsborough and Eagle Bay are located adjacent to the Park whilst semi-rural subdivisions occur at Meelup Hill and to the west at Eagle Bay and Bunker Bay.

Controlled burns have been carried out in sections of the Park adjacent to townsites. These buffer areas are burnt on a five year rotation. Wildfires have occurred, with the most significant being an escaped prescribed burn in 2005 which burnt out 230 ha of the southern portion of the Park.

A revised Fire Management Plan was completed in 2007, and should be referred to for details. The plan seeks to determine the appropriate size and timing of prescribed burns in order to protect the ecosystems of the Park. At present, responsibility for fire management in the Park rests with the Park's management Committee, the Shire of Busselton, local volunteer bushfire brigades in Dunsborough and Eagle Bay, FESA and DEC.

The management Committee has requested that the Shire Fire Officer take over responsibility for the specific timing and management of prescribed burns consistent with the overall programme and principles established by the fire management plan.

A map of the fire management units in Figure 8 and infrastructure is provided in Figure 9.

Access

Access for the purposes of maintenance of firebreaks and fire fighting needs to be controlled, in order to reduce the potential for spread of *Phytophora* dieback and weeds. Access to conservation and protection areas in particular needs to be minimised and managed.

Issue	Management Strategy	Operational Management
Conservation of biodiversity and natural values	Implement Fire Management Plan (Separate Document) Prescribed burning at intervals developed in consultation with DEC Prevention of Wildfire	Implement Fire Management Plan Internal low fuel buffers to protect high risk sites All areas except buffers burnt on a long rotation Maintain fire breaks in accordance with the dieback management plan Slash vegetation in preference to earthmoving in the maintenance of firebreaks Annual Inspection by Shire of Busselton accompanied by Committee representative Maintain fire suppression infrastructure No creation of new fire breaks without Committee endorsement New fire breaks to be created with minimal disturbance of soils and should follow the guidelines:

Part C– Managing the Natural Environment

		▪ Cutting and clearing of vegetation for track maintenance or widening should be completed prior to machine operations. ▪ Vegetation to be removed rather than pushed into adjoining areas. ▪ Where possible firebreak definition should commence about 10 metres from the intersection of public use tracks, and the intersection designed to minimise visual impact. ▪ Machinery use in dry conditions only ▪ Adherence to dieback hygiene protocols Plan to implement intensive weed control post-burning
Protect Human Life and Property	Work with local volunteer fire fighting brigades Hazard reduction burns adjacent to residential areas Prevention of Wildfire	Implement Fire Management Plan Low fuel buffers on Park boundaries, especially adjacent to built-up areas Annual Inspection by Shire of Busselton accompanied by Committee representative Maintain fire suppression infrastructure

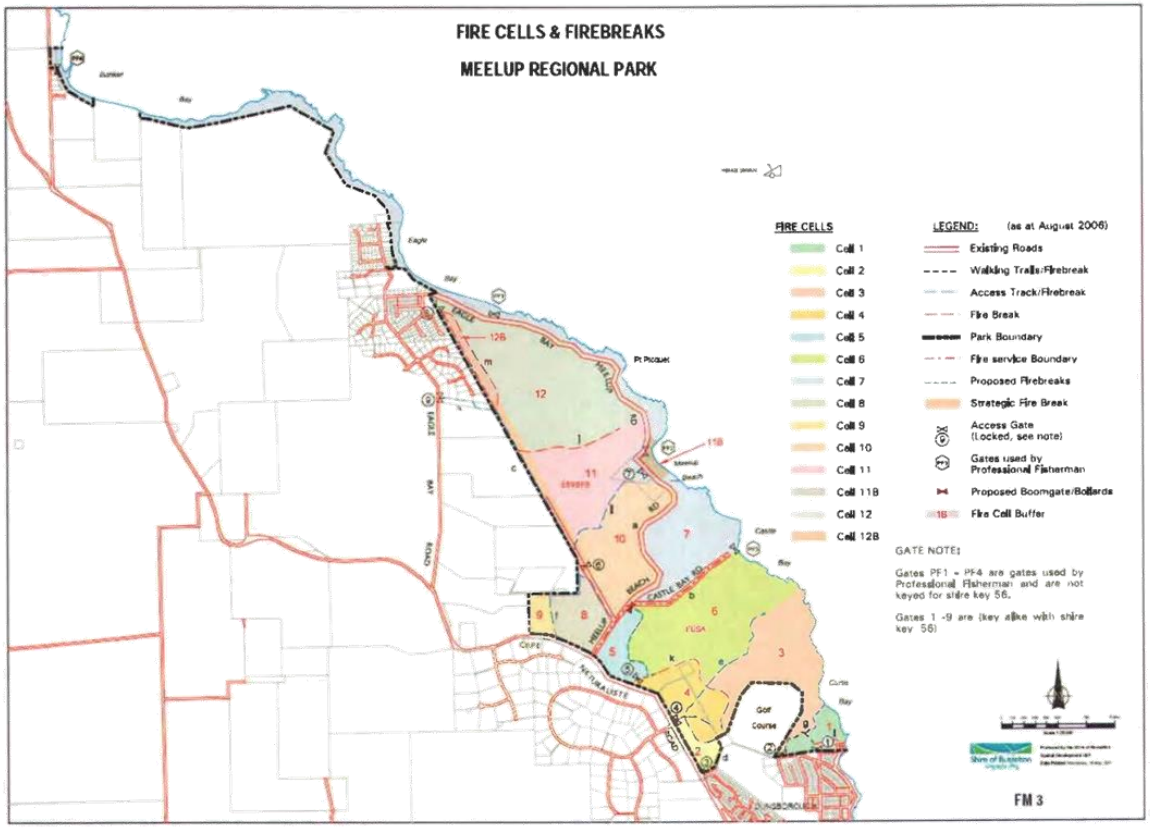


Figure 8 Fire Management Map

19 - Rehabilitation

Objective

The objective is to restore degraded areas of the Park to a condition resembling the natural environment.



Areas in need of rehabilitation in the Park consist of disused gravel (borrow) pits, old fishing vehicle tracks and unplanned walk tracks.

Large disused gravel pits are situated in the southern end of the Park above Curtis Bay. These areas have been the focus of re-contouring and revegetation efforts to combat erosion and altered hydrological conditions. Some of the earlier rehabilitation works included exotic and eastern states species.

The old gravel pit areas have had top soils removed and rehabilitation requires build-up of suitable soils as well as re-planting with local species. The area is infected with dieback and rehabilitation is a priority to prevent watershed off the site and associated erosion and spread of infected soils.

Rehabilitation Management Plan

Issue	Management Strategy	Operational Management
Rehabilitate gravel pits	Restore natural structure, composition and density of native vegetation	Prepare a detailed program of rehabilitation works to be carried out as part of the annual maintenance program. Actively involve community and other groups in rehabilitation programs. Ensure only local varieties of plants that occur in the Park are used in rehabilitation for brushing, planting and seeding Dieback resistant species need to be used in infected areas Ensure that any mulch and soils used are dieback and Armillaria free Consider removing exotic species and Eastern States species previously planted in the Park. Order stock from approved nurseries well in advance of requirement (6 – 12 months) Plan planting for mid to late winter Ensure that seed collection from the Park is authorised by the Committee and DEC. Provide protection from grazing following planting Plan to monitor and weed after planting
Rehabilitate vehicle and walking tracks	Prevent access and restore vegetation	Identify areas in need of rehabilitation Block access and provide signage if necessary Plan and execute planting as described above

D. MANAGING OUR CULTURAL HERITAGE

20 - Guiding Principles for Managing Cultural Heritage

The following guiding principles were sourced from approved Regional Park Management Plans from the DEC website, and have been adapted for Meelup Regional Park.

1. Conservation and protection of cultural heritage

The Park will be managed in a way that delivers community benefits by maintaining cultural traditions and attributes. Heritage sites are to be preserved and maintained for their inherent cultural and social values. Impacts from human use and management practices will be minimised in order to maintain heritage values.

2. Consistency of management policies

The managing agencies involved in the Park are to apply management actions that are consistent with appropriate legislation as well as State, national and international heritage conventions.

3. Community involvement

The community is to be involved in managing sites of heritage value. Aboriginal people are especially encouraged to be involved and should be provided alternative consultation opportunities in the management of the Park.

4. Research and Interpretation

Where appropriate, interpretive information is to be provided to enhance the community's understanding of, and appreciation for, heritage sites. The managing agencies should provide opportunities for, and support, further research into the Park's cultural heritage value.

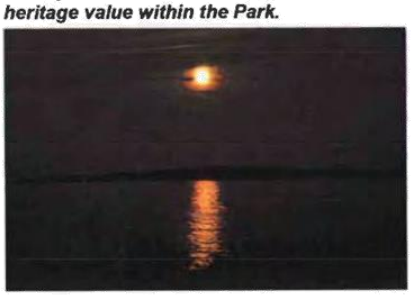
5. Restoration of cultural heritage

Where possible, heritage sites are to be restored to protect and maintain their value. Sites with high heritage significance will be considered priorities.

21 - Indigenous Cultural Heritage

Objective

To identify, protect and appropriately manage sites with Aboriginal cultural heritage value within the Park.



At the time of European settlement inhabitants of the area were Wardandi of the Noongar people. The Wardandi People are the traditional custodians of the land bounded by Capel to the Northeast, Augusta in the South and including the regions now known as Busselton, Yallingup and Margaret River[10].

Meelup is an aboriginal word meaning place of the moon rising (Ecoscape 2005). It is known that aboriginal people camped above Meelup Beach, but otherwise little is known about the pre-european use of the area.

The Aboriginal Heritage Act (1972-1980) protects all Aboriginal sites and objects. The W.A. Museum must be informed if any Aboriginal site or object is located. There may be registered Aboriginal sites, within the Park. These could be artefact scatters, or similar. Because of the size of the Park and the denseness of vegetation no systematic survey has been undertaken. It is assumed there maybe sites yet undiscovered.

[10] http://www.wardan.com.au/pages/people.html

Indigenous cultural Heritage Management Plan

Issue	Management Strategy	Operational Management
Identify Aboriginal Cultural Values and Sites in the Park	Increase understanding of traditional use of Meelup	Consult with anthropologists and the local Wardandi community on Aboriginal history in the Park Incorporate, in consultation with the Aboriginal community, information on Aboriginal history into visitor interpretation facilities.
Protect and Manage Values and Sites	Respect for traditional values Comply with Aboriginal Heritage Act (1972-1980)	Incorporate requirements of the Act before planning and development works are carried out Report Aboriginal artefacts or other relevant findings to the Department of Aboriginal Sites, Western Australian Museum.

22 - Non-Indigenous Cultural Heritage

Objective

To identify, protect and appropriately manage sites with European cultural heritage value within the Park.

The Dutch in 1622 named the southern corner of the continent "Leeuwin's Land" after their ship. In 1801 a French expedition under the command of Captain Nicholas Baudin visited Geographe Bay in the corvettes, Geographe and Naturaliste. The establishment of the Swan River Colony in 1829 eventually led to settlers moving to the Geographe Bay area.



The landing of Captain Nicholas Baudin at Eagle Bay in 1801 has been commemorated by the construction of a lookout in the form of a ship's bow overlooking the landing site of the Baudin Scientific Expedition.

Castle Bay was a favourite anchorage for whalers. Between 1845 and 1849 harpooned whales were brought ashore, cut up on the beach and the blubber boiled down for oil. A small fish processing factory operated in Eagle Bay during the 1950's. The "whale lookout" shown on the trails map (Appendix D) has historical significance in this context, and quandong trees were seeded there at that time. The 2005 Ecoscape report refers to whalebone paving and whale rock and quandong trees. Otherwise, as the Western Australian Heritage Council advises "Nothing obvious remains from the historic use of the place for whaling activities"[11].

For the past 150 years Meelup Beach and nearby embayments have been popular picnic and day-trip destinations for both local and regional residents. Camping at Meelup Beach was permitted until the 1970's. Historical themes listed in the Heritage Council of WA database include forestry, fishing and other maritime uses, sport, recreation and entertainment. Meelup is not listed on the National Heritage database[12].

Although not in the Park, the wreck of the HMAS Swan is located offshore. It was a River Class Frigate Destroyer that was decommissioned in 1996 and given to the WA State Government.

Originally built in 1967, the Swan was most expensive warship ever to be built in Australia.

[11] http://register.heritage.wa.gov.au/index.html

[12] http://www.environment.gov.au/heritage/national/

After serving for 26 years and being decommissioned, the WA government decided to make her into a dive wreck and artificial reef.

Non-Indigenous Cultural Heritage Management Plan

Issue	Management Strategy	Operational Management
Identify European Historical Values and Sites in the Park	Increase understanding of historical use of Meelup	Consult with historical records and historians to develop and collate existing information on historic sites located in the Park.
Protect and Manage Values and Sites	Preserve historical values and sites of the Park	Incorporate, in consultation with historians, information on European history into visitor interpretation facilities; e.g. historical trails. Develop plans for the historical whaling site at Castle Bay and the nearby Whale Lookout. Develop displays and interpretative signs at historical sites

E. MANAGING VISITOR USE

23 - Guiding Principles for Managing Visitor Use

The following guiding principles were sourced from approved Regional Park Management Plans from the DEC website [13], and have been adapted for application to Meelup Regional Park.

1. Preservation of the values of the land itself

Natural systems should be able to sustain the recreation that is occurring or proposed. The intensity and distribution of recreational activities may need to be controlled to maintain the amenity of the Park and the enjoyment of visitors. Recreation planning will seek to foster appreciation of the Park's natural value.

2. Consistency of recreation with reserve purpose

Recreational activities must be compatible with the assigned purpose of reserve under the Land Administration Act 1997.

3. Equity

A range of activities consistent with a reserve's purpose should be allowed in the Park. However, uses that impair other forms of acceptable use or jeopardise the safety of other visitors should be specifically managed, directed to more appropriate places or not permitted. Priority will be given to low impact activities and those that promote recreation or increase awareness, appreciation and understanding of the natural environment.

4. Management

Activities and facilities must comply with the managing agencies' requirements. If effective management of recreational activities or facilities cannot be provided they should be restricted, relocated or removed from the Park.

5. Recreation opportunities

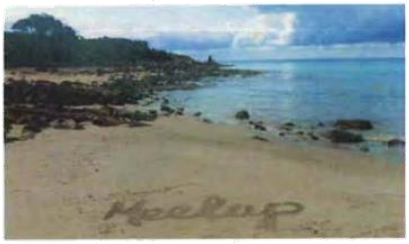
A range of recreation opportunities should be provided for in a local and regional context thereby providing Park visitors with a choice of recreation activities and experiences. Facilities within the Park should compliment, rather than compete with, those available outside the Park.

As discussed in Section 6, the overarching planning document for the area, the State Planning Policy 6.1 Leeuwin-Naturaliste Ridge[14] defines Meelup Regional Park as a "Conservation Reserve", and states that maintaining or enhancing the conservation and landscape values will be the primary determinant in decision-making on proposals for land use, subdivision or development within these areas.

24 - Visitor Activities and Use

Objective

To encourage visitor use whilst ensuring that the level and type of visitor use is sustainable and minimises conflict with other Park visitors and values.



Tourism in the Shires of Busselton and Augusta-Margaret River has grown rapidly in recent years. It is not known exactly how many people visit the Park each year, but Tourism WA estimate that over 2 million people visited the south-west in 2007[15].

Meelup Park is regarded-as one of the-prime tourist assets in the region. It is valued for its scenery and safe sheltered beaches. It is a

[13] http://www.naturebase.net/content/view/2283/1128/

[14] http://www.wapc.wa.gov.au/Publications/157.aspx

[15] http://www.tourism.wa.gov.au/Research_and_Statistics/Regional_Research_And_Statistics/Pages/Regional_Research_And_Statistics.aspx

popular destination for shore-based marine activities.

Not all recreational activities have to be accommodated within the Park. Key recreational activities currently occurring in the Park include:

- Sightseeing
- Walking
- Swimming
- Snorkelling
- Surfing
- Fishing
- Canoes and boat use
- Picnics

Good bathing conditions and fishing tend to be of an ephemeral nature. Crowds tend to be transient creating short peaks within the overall visitor pattern. Facilities have not been designed to fully cater for peak use.

A range of sites are provided in the Park from those with minimal facilities which simply guide visitors to avoid adverse impacts on the surrounding environment, to developed sites with facilities such as walk trails and barbecue areas. The Park is mainly used in day light hours, however it is also used in the evenings, particularly when the full moon is rising. Overnight camping is not permitted.

A number of recreational activities are mutually exclusive and have the potential to cause conflict with other users or the natural environment values of the Park. Examples include motor boat use close to shore in swimming areas, bike use on walk trails and unplanned tracks through bushland. Another example is the annual vintage hill climb car race during which time public roads in the Park are closed for the day.

A list of potential recreational activities is presented in Table 3. The table provides guidance on what opportunities exist and which activities are allowed and where based on the management category allocated. The terms used are as follows:

- **Encouraged:** positively enabled with provision of facilities and interpretive material
- **Permitted:** allowed for in management but not actively encouraged
- **Discouraged:** permitted but undesirable, with disincentives (such as the lack of provision of facilities) and signage requesting activities are not carried out if necessary
- **Not permitted**: Not allowed in terms of this management plan, local Local Laws or overarching legislation.



Walk Trails

A trails strategy has been developed and a number of walk trails have been completed and maintained within the Park as shown in Figure 3. Some are intended as short walks, with an accent on interpretation, and some are loops which may take several hours to complete. The strategy is included as Appendix D.

The strategy provides trails for different levels of ability, in accordance with Australian Standards. The tracks and trails consist of walking trails, plus service vehicle tracks and fire breaks. The Coastal Walkway provides a connection to the National Park at Cape Naturaliste and the Cape to Cape long distance Track.

Fishing

Fishing is a favourite activity in Meelup Regional Park due to the sheltered waters and easy access from rocky outcrops. In acknowledgement of this social value a special purpose (shore-based activities) zone was provided for within the Eagle Bay Sanctuary Zone in the Proposed Geographe Bay / Leeuwin-Naturaliste/ Hardy Inlet Indicative Management Plan (DEC 2006). The special purpose Zone does not extend to encompass Meelup Beach which is within the sanctuary zone and therefore fishing is not permitted in this area.

Picnics and Barbeques

Meelup Beach is a favourite picnic spot and gas barbeque facilities are provided. Picnic tables are also provided at Castle Bay and on the coast at locations along Eagle Bay Meelup Road. An additional picnic area was planned as part of the 2002 Master Plan for the Curtis bay gravel pit area.

Provision of bins is required in areas with formalised picnic and barbeque facilities. At other locations picnics are allowed but no bins are provided therefore encouraging the removal of rubbish by visitors themselves.

Bikes

At present there is no allowance for bike use in the Park except for on the public roads. Trail motor bikes are unlikely to ever be permitted.

Dual –use paths are unlikely to be developed because of the requirement to comply with Australian Standards. Paths would require re-contouring of the land to achieve the required grades and lines of sight stipulated by the standards. This would have negative environmental and aesthetic impacts. In addition to the extensive clearing required, the paths would also create an additional faunal barrier in the Park and cause fragmentation of habitats.

Due to the grade requirements, paths would need to be located inland from the coast, and It is therefore unlikely that this would be as appealing to walkers as existing trails along the coast and in rocky, hilly areas.

There are no mountain bike trails at the present time, though these may be considered in the future. Management guidelines in relation to this issue are provided in the Visitor Access sections.

Visitor Management Plan

Issue	Management Strategy	Operational Management
Provision of recreation opportunities	Allocate areas for low level nature-based recreation.	Anticipate intensive peak-period recreational use at Meelup Beach recreation area Provide for activities in management zones in accordance with Table 1 Provide facilities within management zones in accordance with Table 1 Provide interpretation to enhance visitor experience
Prevention of negative impacts on Park Values	Define acceptable uses by management categories and units	Strictly control visitor access into Conservation and Protection Areas. Prevent access into Management Area 9 (Meelup Mallee Management Area) Monitor all recreation sites for negative impacts, such as soil erosion and vegetation destruction. Immediate measures should be taken to mitigate degradation

Part D – Managing Visitor Use

Table 4 Recreational Use Management Table

	Management Zones			
Uses	**Roads**	**Recreation (Meelup Beach)**	**Natural Environment Uses**	**Conservation and Protection**
Sightseeing	Provide and maintain view points	Encouraged Moonrise over the water	Encouraged	Permitted
Camping	Not Permitted	Not Permitted	Not Permitted	Not Permitted
Four Wheel and Off-road Driving	Not Permitted	Not Permitted	Not Permitted	Not Permitted
Competitive sports	Permitted	Discouraged	Not Permitted	Not Permitted
Walking	Permitted	Encouraged	Encouraged	Permitted except in Unit 9 (Meelup Mallee area)
Swimming	N/A	Encouraged	Encouraged	N/A
Snorkelling	N/A	Encouraged	Encouraged	N/A
Fishing	N/A	Not Permitted south of Gannett Rock (Eagle Bay Marine Park Sanctuary Zone)	Permitted (Including Eagle Bay Special Purpose Zone)	N/A
Spear fishing	N/A	Not Permitted	Discouraged	N/A
Surfing	N/A	Discouraged	Permitted Encouraged at Pt Picquet and Rocky Point	N/A
Paddle craft	N/A	Encouraged	Encouraged	N/A
Wind / kite surfing	N/A	Discouraged	Not Permitted	N/A
Water Skiing	N/A	Not Permitted	Not Permitted	N/A
Sailing	N/A	Permitted offshore	Permitted offshore	N/A
Motor Boats	N/A	Permitted offshore	Permitted offshore	N/A
Whale watching	N/A	Encouraged	Encouraged	Permitted
Bird watching	N/A	Encouraged	Encouraged	Encouraged
Picnics	N/A	Encouraged	Permitted	Discouraged
Trail Bikes	Not Permitted	Not Permitted	Not Permitted	Not Permitted
Road Bikes	Encouraged	Not Permitted except in car Park	Not Permitted	Not Permitted
Mountain Bikes	Encouraged	Not Permitted except in car Park	Not Permitted except on tracks designated for that purpose	Not Permitted
Horse Riding	Roads not suitable	Not Permitted	Not Permitted	Not Permitted
Car Racing	Permitted with licence	Not Permitted	N/A	Not Permitted
Rock climbing	Not Permitted	Not Permitted	Not Permitted	Not Permitted
Hangliding	Not Permitted	Not Permitted	Not Permitted	Not Permitted
Collecting natural products	Not Permitted	Not Permitted	Not Permitted	Not Permitted
Orienteering	N/A	Not Permitted	Not Permitted	Not Permitted
Nature Study	N/A	Encouraged	Encouraged	Encouraged

25 - Visitor Access

Objective

To provide opportunities for appreciation of the Park while at the same time preventing adverse impacts from uncontrolled access

There are three main types of access roads and tracks within the Park:

- Sealed roads enabling public access by vehicles (maintained by the Shire).
- Trails of varying levels for pedestrian access, including disabled
- Tracks for management access; e.g. for fire control.

The roads and walk tracks are designed to maximise visitor enjoyment of the Park without detrimental effects on the Park environment, The trails strategy was discussed in the previous section and is provided in Appendix D. An alternative trail masterplan was produced by Ecoscape (2005). This Management Plan does not seek to present any specific development plan for access, but provides a framework for decision making in relation to this issue.

Existing walk paths into conservation and protection areas provide the opportunity to experience a feeling of "remoteness" within the Park. Trails within Natural Environment Use areas also provide for enjoyment of the natural values of the Park, but cater for a higher number of visitors and cater for a wider range of capabilities.

Figure 9 shows all the current recreational visitor and service access routes within the Park. The majority of walking in the Park is on the designated walking trails, however, firebreaks and access tracks are also used to some extent, especially by neighbourhood residents.

Visitor access to the management tracks should not be encouraged, but it is not feasible to prohibit bushwalkers from using the tracks. Any potential issues, such as the spread of dieback, resulting from pedestrian access needs to be assessed and managed. Any other old tracks that may be visible in aerial photography that are not required for service access are to be blocked off and rehabilitated.

Defined car parks and other facilities have been constructed at the terminus of access roads. It is eventually planned to create an Interpretative Centre located adjacent to a major access road or at a key recreation node to provide information about the Park for visitors.

Road reserves bisect part of the Park and there are also a number of easements in the Park associated with water and power infrastructure. The road reserves are the responsibility of the Shire and access for the service providers is required but these areas need to be managed as an integral part of the Park, in cooperation with the Park Management Committee. Existing undeveloped road reserves need to be incorporated into the Park. The Ecoscape (2005) Interpretation plan makes the recommendation that the Meelup Beach - Eagle Bay road be closed at some point north of Meelup Beach to prevent the road being used as a thoroughfare by locals.

The use of bikes has been a controversial issue in the Park. There are no authorised bike tracks or dual use tracks in the Park at present. However, authorised bike tracks have been made in some areas, and cyclists are using the coastal walk trail, causing a hazard to walkers and damage to the trail.

In order to decide whether to allow some bike usage in the Park, and how to manage bike usage, the Committee and Shire need to consider:

- Protection of the Park's conservation values and, in particular, threatened species and communities.
- Managing erosion and the spread of dieback and other pathogens.
- Which user groups are to be accommodated? The preferences of mountain bike riders and general recreational or "tourist" riders and walkers (in the case of dual use tracks) are quite different in terms of the type of track and environmental impact.

As outlined in Section 6, Council Local Laws apply in the Park. The Local Law relating to Reserves and Foreshores (See Appendix A) stipulates that vehicles are not permitted except on roadways, driveways or parking areas. There has been some confusion, however because bikes are not listed specifically. However the Local Law states the "vehicle" has the same meaning as is given to that word in the Road Traffic Act as amended from time to time, and this is.

(a) every conveyance, not being a train, vessel or aircraft, and every object capable of being propelled or drawn, on wheels or tracks, by any means; and

(b) where the context permits, an animal being driven or ridden;

And as such bikes are clearly considered to be vehicles.

At present there are no bicycle or dual use paths in the Park, as discussed in Section 24. Unauthorised mountain bike paths have been created in the southern end of the Park. These need to either be formalised through careful planning or removed. The unlawful use of bikes in these areas contravenes council Local Laws (see Appendix A) and should be enforced. Prosecution could also result if any damage is done to DRF protected under the Wildlife Conservation Act.



Formalisation of mountain bike paths would need to be undertaken with due consideration of the requirements of this management plan. If the paths are to be used for commercial purposes (see Section 27) then proponents need to follow due process.

Vehicle access on to beaches within the Park is prohibited. The exception is access by licensed professional fishermen during the salmon season (late summer and autumn) to Castle Bay, Meelup Beach and Bunker Bay. This is determined on a case by case basis which recognises the limited time that professional fishermen require access. Contribution to maintenance of these access points may be sought from the fishermen.

Access Management Plan

Issue	Management Strategy	Operational Management
Visitor access to provide recreation opportunities	Maintain existing vehicle access and parking facilities as per existing arrangements Any new access routes to be developed in accordance with natural environment management requirements Implement Trails Strategy	Shire to maintain roads and carparks Park Management Committee to maintain and upgrade walk tracks Install signage to direct vehicles and pedestrian if required in keeping with the interpretation plan for the Park. Provide raised timber viewing platforms at key vantage points Provide access opportunities for wheelchairs at some locations Consider development of mountain bike tracks and dual use paths in natural environmental use areas only. Bike tracks to be carefully planned to minimise: ▪ risk of erosion, ▪ spread of dieback, ▪ impact on rare and endangered flora, fauna and ecological communities; ▪ conflict with other users, and

		▪ aesthetic impacts See Appendix D for details on planned walk trail works
Control of visitor access to prevent negative impacts on conservation values	Prevent unauthorised vehicle entry on management tracks Discourage access to core sensitive areas Educate regarding risks	Use gates to prevent vehicle access to fire breaks and management tracks. Allow professional fishing access and obtain a contribution towards the establishment and maintenance costs of tracks Block entry points and rehabilitate all disused vehicle and pedestrian tracks Provide clearly designated sealed and drained walk paths in natural environment use areas. Consider use of inhospitable plants to keep pedestrians on paths in high use areas. Prevent bicycle use on walk paths. No new tracks in Conservation and Protection areas or dune environments. New roads into dieback areas need to be sealed and access to surrounding bush strictly controlled. Road drainage to be retained on site. New roads and tracks should not diminish the visual landscape of the Park. Encourage walkers to stick to the path and adhere to minimal impact principles in conservation and protection areas. Provide signage at transition points for walk tracks passing from infected into dieback free areas. Consider cleaning station to prevent transfer of soils Use of tracks prone to pooling of water should be discouraged during wet conditions to prevent erosion and risk of spread of dieback Raised walkways should be installed over all waterways and wetland areas to prevent damage and prevent the spread of dieback Monitor for negative impacts: erosion, weeds, damage to vegetation, dieback

Part D – Managing Visitor Use

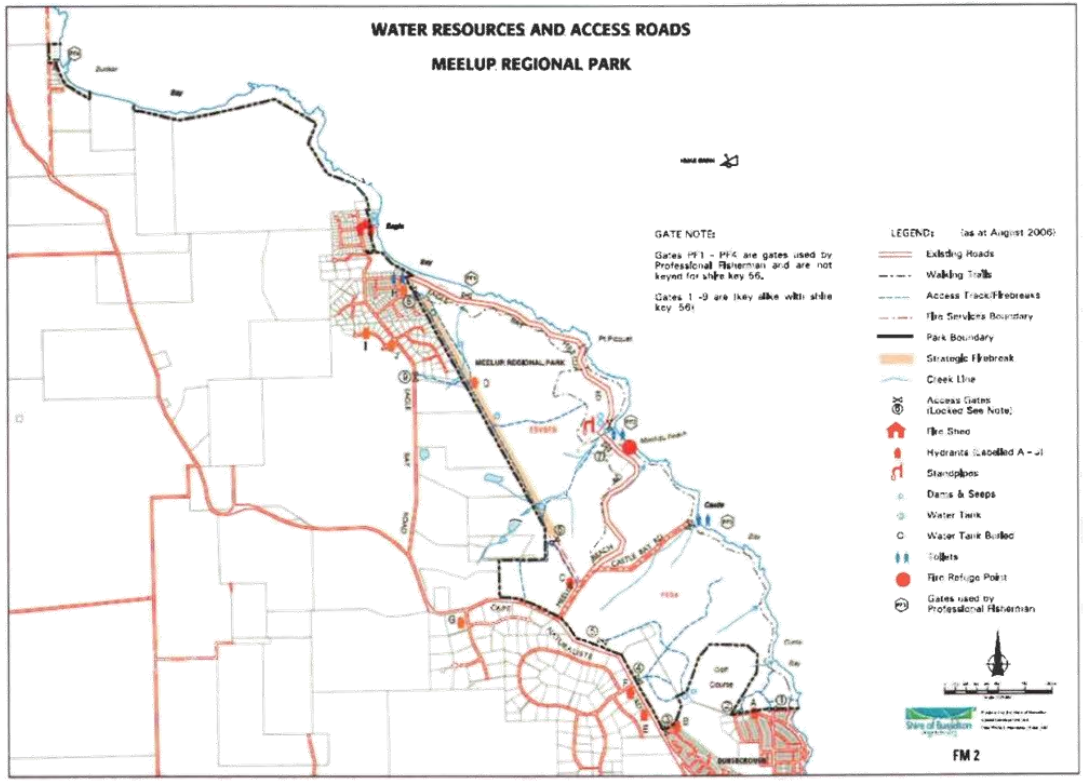


Figure 9 Public and Service Access to and within Meelup Regional Park. Note that Fire Service tracks are limited to for this purpose (and occasional other service vehicles) only

26 - Visual Landscape

Objective

To maintain and enhance the natural and cultural visual landscape qualities of the Park.



As outlined previously, an interpretation plan was produced for the Park following community consultation (Ecoscape 2005). The planning process highlighted that the unique natural character of the Park as the most valuable aspect of the Park to preserve.

Natural landscape is a pivotal value of the Park. Sense of place is dependent on maintaining a feeling of remoteness and undeveloped landscape. Vegetation is a key element in the natural landscape, in particular presence of trees close to the coast which is an unusual feature on the West Coast.

In terms of exposure to numbers of visitors, Meelup Beach and its surroundings provide the most common visual landscape experience.

The main broader look-out point is on Meelup Beach Road where a carpark has been constructed to allow visitors to stop and appreciate the view over the Park and Geograph Bay. Other view points are the whale lookout, sections of the walk track above Eagle Bay / Meelup Beach road, and in the gravel pit areas above Curtis Bay.

In addition to the Ecoscape Plan, creative interpretive ideas were recently developed by University of Western Australia Architecture students. Implementation of some of the these ideas would undoubtedly add to the visual amenity of the Park

Signs, monuments and erected structures need to take the potential for impact on the visual landscape into consideration. Proposals for memorials, statues and other such structures need to be assessed under the development Proposal Management Plan (Section 37).

Visual Landscape Management Plan

Issue	Management Strategy	Operational Management
Retain natural landscape	Ensure any development in Park does not alter the natural landscape Maintain the natural ecology of the Park	Implement Development Proposal Management Plan Implement Fire, Dieback and Weed Management Plans
Provide opportunities for visitor appreciation of natural landscape	Maintain existing viewing locations Identify additional locations Enhance visitor experience of visual landscape	Shire to maintain roads and carparks Park Management Committee to develop plans for additional viewing locations, viewing infrastructure such as platforms and interpretive aids. Implement Information, Interpretation and Education Management Plan

27 - Commercial Operations

Objective

To ensure that commercial concessions are consistent with this Plan, enhance visitor satisfaction and help offset Park management costs.

Under section 18 of the Land Administration Act (1997) the approval of the Minister for Lands is required for the Shire of Busselton to grant leases and licenses for commercial operations in the Park after consultation with the Management Committee.

Department of Regional Development and Lands, Lands Division (RDL) input should be sought for commercial usage and development of the reserve to ensure that such proposals are consistent with the reserve purpose and to identify any proposals that may require alternative tenure.

The general "power to lease" clause is in the vesting order, with income from such leases to be dedicated to Park operations and maintenance, via a Trust Fund. At the present there are no leases in the Park. The Shire and the Management Committee are regularly approached with proposals for recreation – based commercial operations in the Park, e.g. walking tours, canoe hire.

Permits are sometimes provided for events by the Shire after consultation with the Management Committee (see following sections).

The use of leases and licences in the Park provide a mechanism to bring private capital and management expertise into visitor services in natural areas and may lead to the development of facilities which probably would not have been developed otherwise. Appropriate concessions can generate income to help offset park management costs and can significantly enhance public access and enjoyment of the Park.

Concessions need to be carefully designed and managed, or they may detract from the conservation and landscape values of the Park. In DEC managed lands strict regulations and policies govern the allocation of leases and licences, involving advertisement of the opportunity, a competitive tendering process and approval from a number of state government departments is required.

Commercial Operations Management Plan

Issue	Management Strategy	Operational Management
Provide for commercial operations in the Park	RDL input be sought for commercial usage and development of the reserve to ensure that such proposals are consistent with the reserve purpose and to identify any proposals that may require alternative tenure.	On receival, promptly initiate assessment of proposals submitted and inform proponent of likely timelines. Provide the proponent with any relevant master and management plans and advise of assessment criteria. Conduct a competitive process for commercial operations initiated by the Committee or Shire Seek comment from other agencies if it is possible that the proposed operations may impact on things under their management (ie DEC with regard to DRF and TECs). Assess proposals according to criteria developed in a transparent manner. Leases to be issued in accordance with Shire of Busselton requirements. Lease and licence conditions need to reflect the requirements of this management plan and the proponents commitments. Develop a mechanism for lease and license fees to be made available for Park management.

Ensure operations do not conflict with Park Values	Assess proposals in relation to consistency with this Management Plan Ensure proposals meet environmental social and economic assessment criteria. Ensure proponents are understand the conservation priorities of the Park and are ethical operators. Granting of Leases and Licences subject to binding performance based conditions	Minimise commercial activity within coastal environments No commercial operations, clearing of vegetation or other negative impacts on conservation and protection areas. Minimal clearing of vegetation or other negative impacts in Natural Environment Uses Areas following approval from the Park Management Committee and the Shire of Busselton and DEC when in the vicinity of threatened flora or TECs. Assess proposals on the basis of the following criteria ▪ environmental, social and economic sustainability ▪ compatibility with existing users, and management objectives ▪ net increase in visitor satisfaction ▪ impact on visitor numbers ▪ plans for prevention and mitigation of potential impacts, including generation of rubbish and potential for littering ▪ educational / interpretive services included ▪ business and environmental ethics of proposal ▪ investigations of alternatives ▪ track record of proponent ▪ potential for economic benefit to Park Proponent to prepare an environmental management plan (including any environmental surveys as may be required) to the satisfaction of the Park Management Committee and the Shire of Busselton. The EMP and supporting investigation reports are to be made available to the general public Lease and licence conditions need to reflect the requirements of this management plan and the proponents commitments Annual auditing of compliance with conditions Proponent to provide a bond to cover closure and rehabilitation works

28 - Events

Objective

To ensure that events taking place in the Park are consistent with this Plan, enhance visitor satisfaction and help offset Park management costs.

Events differ from commercial operations in that they are of short duration and are often not for profit. Profit-making events need to address the requirements of Section 27.

There is demand for use of areas of the Park for community and special events. The appropriateness of community or special

events within the Park is assessed and permission is either granted or denied.

As outlined in Section 7, assessments in relation to the management of the Park are made in the first instance by the Park Management Committee. Decisions made by the Committee generally form the basis of Council decisions, but where there is disagreement, the elected Council has final authority in accordance with the *Local Government Act (1960-82)*. However, in the case where decisions are based specific requirements of this Management Plan, then the decision is binding under the *Land Administration Act 1997* via Ministerial endorsement of the Plan. Events should also comply with local Local Laws, in particular the Parks and Reserves Local Law (Appendix A).

In the case of other regional parks, DEC advise that management agencies should use the guiding principles established for managing sustainable resource use (Section 33) as a means of determining the appropriateness of proposed activities.

Gatherings requiring sole use of a site are generally not permitted, but if allowed then they require a booking. A concession arrangement may be required between the event organiser and the managing agency for the right to use a site and to cover the operational and administrative costs incurred by the managing agency.

Many of the events which take place in the Park are in Shire-managed areas such as the grassed picnic areas. The vintage car race, the "Meelup hillclimb" takes place on the roads and parking areas. The Shire has an application process for providing approval for events. Weddings and other social gatherings are often held at Meelup Beach and these are permitted subject to conditions including non-exclusive use of the site.

Recently approval has been given by the Shire to hold a competitive event "the Anaconda" race in the Park in 2007. This was approved by Council overriding the Management Committee's recommendations. Since the event is essentially a commercial operation, in the future proponents need to comply with Management Plan requirements in this regard, and specific Council approval is required in accordance with Section 4 of the Local Law relating to Reserves and Foreshore (see Appendix A).

Event Management Plan

Issue	Management Strategy	Operational Management
Provide for events to he held in the Park	Grant permission for not-for-profit events which meet planning and assessment guidelines and are in keeping with the approved Management Plan Events held which generate profit (either directly or through indirect means such as commercial benefit throught publicity or advertising) are to comply with Commercial Operations Management Plan requirements	On receival, promptly initiate assessment of proposals by both Shire and Committee and inform proponent of likely timelines Provide the proponent with any relevant master and management plans and advise of assessment criteria Seek comment from other agencies if it is possible that the proposed operations may impact on things under their management (ie DEC with regard to DRF and TECs). Assess proposals according to criteria developed in a transparent manner Permission to be issued in accordance with Shire of Busselton requirements Permit conditions need to reflect the requirements of this management plan and the proponents commitments

Conflict of Events with Park Values	Disallow proposals which are inconsistent with this Management Plan Ensure proposals meet environmental and social and assessment criteria. Ensure proponents are understand the conservation priorities of the Park and are ethical operators. Granting of Leases and Licences subject to binding performance based conditions	No events to be held in conservation and protection areas. Minimisation of negative impacts in Natural Environment Uses Areas following approval from the Park Management Committee and the Shire of Busselton. Assess significant proposals on the basis of the following criteria ▪ potential environmental and social impacts ▪ compatibility with existing users, and management objectives ▪ net increase in visitor satisfaction ▪ impact on visitor numbers ▪ ability of organisers to control crowds ▪ plans for prevention and mitigation of potential impacts ▪ educational / interpretive services included ▪ environmental ethics of proposal ▪ investigations of alternatives ▪ track record of proponent Proponents of major events to prepare an environmental management plan (including dieback management) to the satisfaction of the Park Management Committee, the Shire of Busselton and DEC when in the vicinity of threatened flora or TECs. Proponent to provide a bond to cover closure and rehabilitation works if necessary

29 - Visitor Safety Management Plan

Objective

To take all reasonable and practicable steps to ensure the safety of visitors in the Park.

There is always an element of risk in outdoor recreation activities. It is the Park Management Committee and the Shire's responsibility to ensure that all reasonable and practical efforts will be taken to minimise the potential for injuries and misadventure to visitors. The Shire is ultimately legally responsible for ensuring visitor safety.

It is also important, however, that management of visitor risk is carried out in a manner that does not render the environment sterile or unnecessarily diminish visitor use and enjoyment in the process.

Visitor safety can be promoted through control of visitor information and education about potential problems and risks. Visitor safety will also be an integral component in undertaking works program and capital developments within the Park. Recreation facilities and amenities for visitors will be developed and maintained to a standard compliant with relevant Australian Standards.

When managing risk, DEC is guided by Policy Statement No.53 - Visitor Risk Management (CALM, 1996). Relevant sections of this policy have been adopted here.

Visitor Safety Management Plan

Issue	Management Strategy	Operational Management
Visitor Safety	Manage hazards to minimise the potential for injuries and misadventure to visitors Minimise risks to visitors through education Mitigate consequences of incidents	Ensure visitor facilities do not pose a risk to visitor safety Ensure built facilities meet relevant Design Standards and are maintained to a safe standard Ensure that trails and tracks do not expose visitors unduly to tripping, falling and drowning hazards Minimise the likelihood of conflict of activities causing accident or injury (eg prevent bike riders using walk trails). Provide visitor safety information on at least the following: ▪ Risk of falling and drowning in rocky coastal areas, particularly when swell is high ▪ Risk of falling in steep rocky areas Advise that visitors should remain on tracks and exercise caution in rocky and steep areas. Promote visitor compliance with codes of safe conduct for activities such as diving, snorkelling, canoeing, surfing Establish effective links with local Police, State Emergency Services and other relevant bodies in case of any incidents Provide emergency contact numbers at key visitor locations

30 - Signage

Objective

To provide signs to protect, control and educate visitors in a manner consistent with Park character

Signs are a key way of controlling visitor impacts, maintaining Park values, minimising risks to visitor safety and increasing enjoyment of the Park through education and interpretation. Consistency of design can provide a coherent Park identity.

Signs need to be designed and located to provide messages in a consistent way and without compromising the quality of the area in which they are sited.



Signage Management Plan

Issue	Management Strategy	Operational Management
Signage	Use signage to enhance Park identity Employ control and educate	Include the Meelup Regional Park Logo on all signs Use signs to provide

	visitors in the Park	▪ directional and orientation information, ▪ management information (eg removal of litter, keep to the tracks, do not pick wildflowers etc) ▪ visitor risk warning and emergency information ▪ and interpretive signs. Employ signs at the transition of infected to dieback free areas Adopt a standard design for signs and interpretive facilities throughout the Park.

31 - Domestic Animals

Objective

To minimise the environmental and social impacts of pets animals in the Park.

Domestic pets are generally not permitted in national or regional parks. This is to protect native fauna and the rights of other Park users. Pets can disturb wildlife and Park visitors and introduce disease. The smell of domestic pets can impede the activity of native fauna.

Other than guide dogs for the blind, or tracker dogs for search and rescue, pets will be excluded from the Park with the exception of dogs at Eagle Bay (as currently permitted).

Due to the Park's proximity to Dunsborough, some of the local population currently use the Park to exercise their dogs and would like to see an additional area designated for this purpose. Any decision in regard to this matter needs careful consideration.

Annual fox baiting is carried out as described in Section 16. It is required by Law to warn pet owners of potential poisoning risk.

Domestic Animal Management Plan

Issue	Management Strategy	Operational Management
Domestic Animals	Provide for dog exercise in designated areas	Permit dogs at existing dog beach (Eagle Bay) Shire to provide bins and bags for collection and disposal of excrement Consider provision of additional designated area for dog exercise, based on: ▪ Potential impact on native fauna ▪ Current levels of visitor pressure ▪ Conflict with other Park users The presence of designated dog areas is not to impede the current feral animal control program

32 - Rubbish

Rubbish in the Park is an ongoing concern. The main focus of rubbish management is educating the public of its negative impacts on conservation and aesthetic values; and encouraging Park visitors to take their rubbish home with them.

The Management Committee is assisted by its volunteer group in its regular efforts to remove rubbish from the Park. Rubbish in the Park is more significant following periods of peak use, i.e. public holidays, and in popular fishing locations.

Part D – Managing Visitor Use

Rubbish Management Plan

Issue	Management Strategy	Operational Management
Prevention of littering	Encourage visitors to remove own rubbish from Park	No bins provided except in designated picnic areas Educate fishing community about the need to remove their rubbish from the Park. Use of signage if necessary Implement commercial operations management plan to reduce potential for on-site rubbish generation and littering Use event bonds to carry out clean-ups if necessary
Rubbish removal	Continue existing arrangements	Shire to empty existing bins Shire to maintain bins and upgrade as required Committee to encourage regular volunteer "clean-up" events

F. MANAGING RESOURCE USE

33 - Guiding Principles for Managing Resource Use

Guiding principles for managing sustainable resource use have been sourced from approved Regional Park Management Plans from the DEC website [16], particularly that for Beeliar Regional Park (DEC 2006).

1. Preservation of the values of the land itself

Land use should not compromise the natural and cultural values of the Park. Future developments should be of a character and arrangement that do not detract from the natural settings and landscape amenity. Through tendering and development assessment processes, proponents of significant developments within the Park will be required to assess the environmental impacts of the proposed commercial use.

2. Consistency of land use with reserve purpose

Activities should be compatible with the assigned purpose of reserves within the Park and should be of service to Park visitors. Reserves within the Park will be afforded an appropriate purpose for the protection and enhancement of Park values under the *Land Administration Act 1997* (Table 1, page 11).

3. Equity

Land use within the Park should be of a nature that promotes multiple use by Park visitors. Uses that impair other forms of acceptable use or jeopardise safety of other visitors should be specifically managed, directed to more appropriate places or not permitted.

4. Open and competitive assignment process

State Supply Commission guidelines will be followed to ensure that opportunities for commercial concessions in the Park are assigned based on an open and competitive process.

5. Leased or owned by the managing agencies

Commercial use of areas within the Park should be through either a lease or licence arrangement. Alternatively, the managing agencies may own and operate the facility or development.

6. Financial viability

Through the tendering process proponents of significant developments within the Park will be required to document the financial viability of the proposed commercial use. Any revenue generated by commercial concessions on land in the Park will be used to help meet the overall cost of managing the Park.

7. Management compliance

Activities and facilities must comply with the requirements of the Committee and the Shire. If effective management of commercial facilities or activities cannot be provided they should be restricted to appropriate levels, relocated or removed from the Park.



[16] http://www.naturebase.net/content/view/2283/1128/

34 - Traditional Hunting and Gathering

Objective

To ensure that traditional hunting and gathering activities that occur in the Park are sustainable and do not conflict with other Park values

Recreational fishing is the most significant traditional hunting and gathering activity in the Park. As discussed in Section 26, the social importance of this activity has been recently recognised by the formulation a special purpose (shore-based activities) zone provided for within the Eagle Bay Sanctuary Zone in the Proposed Geographe Bay / Leeuwin-Narturaliste/ Hardy Inlet Indicative Management Plan (DEC 2006). The special purpose Zone does not extend to encompass Meelup Beach which is within the sanctuary zone and therefore fishing is not permitted in this area.

No other hunting or gathering use of the Park has been identified. It is possible that wildflower picking, firewood collection or timber harvesting occurs in the Park.

The collection of seed for rehabilitation works requires the permission of the Management Committee, the Shire of Busselton and in some cases the DEC.

Traditional Hunting and Gathering Management Plan

Issue	Management Strategy	Operational Management
Recreational Fishing	Comply with Proposed Geographe Bay / Leeuwin-Narturaliste/ Hardy Inlet Indicative Management Plan (DEC 2006).	Fishing permitted in all areas except on Meelup beach between Gannet and Sail Rocks.
Other hunting and gathering	No other hunting and gathering permitted	No wildflower picking, firewood collection or timber harvesting Monitor for signs of such occurring Install signage if necessary No collection of seeds or cuttings without the written permission of the Management Committee and the Shire of Busselton Collection of seeds from threatened or priority flora requires approval from DEC. No removal of stones, pebbles, sand or earth

35 - Commercial Fishing

Objective

To ensure that professional fishing that occurs in the Park is sustainable and does not conflict with other Park values



The Park is used by shore-based professional fishermen for coastal access. The main target species are salmon and Roe's abalone. Salmon fishing occurs on the Parks beaches, but will not be permitted at Meelup once the Proposed Geographe Bay / Leeuwin-Narturaliste/ Hardy Inlet Indicative Management Plan (DEC 2006) is adopted. Abalone are taken from a number of areas.

Professional fishing for the western species of Australian salmon (*Arripis truttaceus*) is carried out in the Park as part of the South West Coast Salmon Managed Fishery Fishers target schools of migrating salmon as they move

west along the southern coastline of WA during the late summer and autumn. Fishing operations are conducted by teams of fishers setting beach seine nets using either rowboats or small jet-powered boats.

Professional fishermen currently use sheltered bays such as at Bunker, Castle, & Eagle Bay to anchor their boats.

There are a number of short access tracks that are maintained to allow fishers access to the beach. These are marked on Figure 9. Fishers pay contributions to establishment and maintenance of access tracks.

Commercial Fishing Management Plan

Issue	Management Strategy	Operational Management
Professional Fishing	Retain existing arrangements	Allow professional fishing access and obtain a contribution towards the establishment and maintenance costs of tracks Keep gates locked at all times and ensure that use is only by permitted professional fishers in approved areas Monitor impacts and advise both fishers and the WA Fisheries Department in writing if unacceptable impacts occur

36 - Mineral and Petroleum Exploration and Production

Objective

The objective is to protect the Park's values from exploration, mining and the extraction of basic raw materials.

Significant deposits of industrial minerals including limestone; sand, marl and gravel occur within the Park. Park has submarginal deposits of heavy mineral sands and other minerals which are not economic at present. No petroleum exploration is reported for the Park.

Materials from the Park have in the past been used for road maintenance and construction purposes by the Shire, for work within and adjacent to the Park only. In the past quarrying was seen as a necessary part of managing the reserves, as frequently there were no other convenient sources of these materials. The scars from these activities are still apparent and rehabilitation has not succeeded in fully restoring the original ecology or natural values of the areas.

The Draft 2002 management plan states that in accordance with its "A Class Reserve" status and current Government Policy on mining in Parks the Park is closed to exploration and mining activities.

The mining and the extraction of basic raw materials should follow a similar policy to the Beeliar Regional Park Management Plan (DEC 2006) which states:

"Applications for mining within regional parks will be processed under the Mining Act 1978. The State government's environment policy includes a prohibition on mineral and petroleum exploration and mining in national parks and nature reserves."

In processing applications, regional parks are recognised by the Department of Industry and Resources (DOIR) under the "Guidelines for Mineral Exploration and Mining within Conservation Reserves and Other Environmentally Sensitive Lands in Western Australia" (DME, 1998). Applications affecting the Park will also be subject to The Mineral Exploration and Development Memorandum of Understanding (MOU) between the EPA and DOIR (DME, 1995).

The MOU clarifies referral arrangements for mineral exploration and mining proposals to the EPA and CALM where these proposals occur within conservation reserves and other environmentally sensitive lands. Mineral exploration in national parks, 'A' Class nature reserves, and 'A' Class conservation parks (in

the southwest of Western Australia) is subject to the concurrence of the Minister for the Environment and the Minister for State Development. Approval for mining to occur in the Park is subject to EPA assessment. If mining is to occur in 'A' Class nature reserves and 'A' Class conservation parks it would require EPA assessment and Parliamentary consent.

Any proposal for mineral or petroleum exploration or production in Meelup Regional Park would also trigger the requirement for assessment under the Commonwealth EPBC Act (1999) due to the presence of listed endangered and threatened species, which are considered to be matters of National Environmental Significance (NES),

Mineral and Petroleum Exploration and Production Management Plan

Issue	Management Strategy	Operational Management
Mineral and Petroleum Exploration and Production	No exploration or production permitted	No removal of gravel or soils for works outside or within the Park If a proposal is developed for mineral or petroleum exploration or production then a case will need to be developed in opposition including public submissions to West Australian and the Commonwealth environmental authorities Ensure any such proposals are referred to the relevant authorities and gain appropriate approvals Mount a prevention campaign Implement Rehabilitation Management Plan

37 - Development Proposals

Objective

To minimise the impact of developments on the Park.

This section deals with development proposals both with and adjacent the Park. Commercial concessions for visitor services are covered in Section 27.

Increasing development pressure exists on land adjacent to the Park and potentially within the Park. At present, rural uses predominate near the Park, but large areas may be rezoned, under local Town Planning Schemes, for rural smallholdings. Many of these uses have a direct impact on the Park and it is important at the subdivision and development stages, that the Committee has the opportunity to provide input to Shire on these proposals. It may be appropriate to negotiate for tracts of land with high conservation value to be added to the Park.

Developments within the Park include infrastructure and utilities works (Section 38), buildings, visitor amenities such as barbeques and tables, interpretive structures, viewing sites, monuments and memorials. Public roads, toilet facilities and formal carparks are managed by the Shire, while and other developments are managed by the Committee.

Development Proposal Management Plan

Issue	Management Strategy	Operational Management
Development Proposals within Park	Only allow developments which are consistent with Management Plan objectives Allow development only in certain areas within the Park Assess development proposals in relation to stringent sustainability criteria	No development permitted in Conservation and Protection Areas Assess proposals for other areas on the basis of the following criteria ▪ Development to have net positive impact on the spread and management of *Phytophora* dieback and other diseases to the satisfaction of the Committee

Part F – Managing Resource Use

	Minimise impacts of developments on Park values	▪ The likely impact of increased visitor use or unauthorised access to Conservation and Protection Areas must be taken into account ▪ Development should not lead to loss of natural values in natural environment uses areas ▪ Development should not increase risk to threatened, endangered or priority flora, vegetation communities or fauna ▪ Site development should intrude on the landscape as little as possible and materials should complement their surroundings ▪ Proponents to demonstrate past environmental stewardship performance and ethical business track record ▪ Proponents to prepare an Environmental Management Plan (EMP) to the satisfaction of the Park Management Committee, the Shire of Busselton and DEC ▪ The EMP is to include strategies for achieving the objectives of the Park Management Plan, including management of the natural environment, cultural heritage, and visitor use, ▪ Proposals are to address traffic management and parking, ▪ Developments are to incorporate ecotourism and sustainability principles in relation to water use, waste management and power generation ▪ Developments are to obtain ecotourism or environmental accreditation from approved suppliers Implement Commercial Operations Management Plan
Development Proposals adjacent to Park	Engage in approvals process as Stakeholder Assess proposals in the light the objectives of this management plan	Ensure Management Committee is cognisant of any development proposals adjacent to or likely to impact on the Park, including visual impact The Shire is to advise Committee of any proposed developments The Committee is to assess the risk to the Park, recommend to the Shire on the acceptability of proposal Implement mitigation strategies if required including: ▪ Prevention of unauthorised access and development of new tracks ▪ Ensure no drainage into Park

		▪ Prevent introduction of weeds ▪ Prevent impacts from domestic animals ▪ Use of fencing and signage if necessary Assess potential for impact on natural noise and light conditions of the Park If satisfied that impacts are minimal or can be managed, ensure that approval is subject to appropriate conditions If development plans conflict with the values of the Park and do not appear to be manageable, the Committee should prepare submissions to the Shire and / or Council and seek public support to demonstrate opposition to the development proposal. If development plans have the potential to impact on threatened or endangered species protected under either the *EPBC* Act or the *Wildlife Conservation Act*, then a referral needs to be submitted to Commonwealth and / or State Environmental Protection Agencies. If this has not been done appropriately by the proponent, then it should be prepared and submitted by the Committee.

38 - Utilities and Services

Objective

To ensure utilities and services operating in the Park do not conflict with Park Values

Existing Infrastructure

There are a number of easements and utilities present in the Park. At the southern end there is an easement into the Park in which the Water Corporation manages a storage facility for the supply of water to Dunsborough. On the western boundary (Management Unit 17) there is currently a water supply and sewerage system also managed by Water Corporation, however this is not within an easement annexed from the Park. Further development in this area is subject to compliance with the Management Plan for the Park.

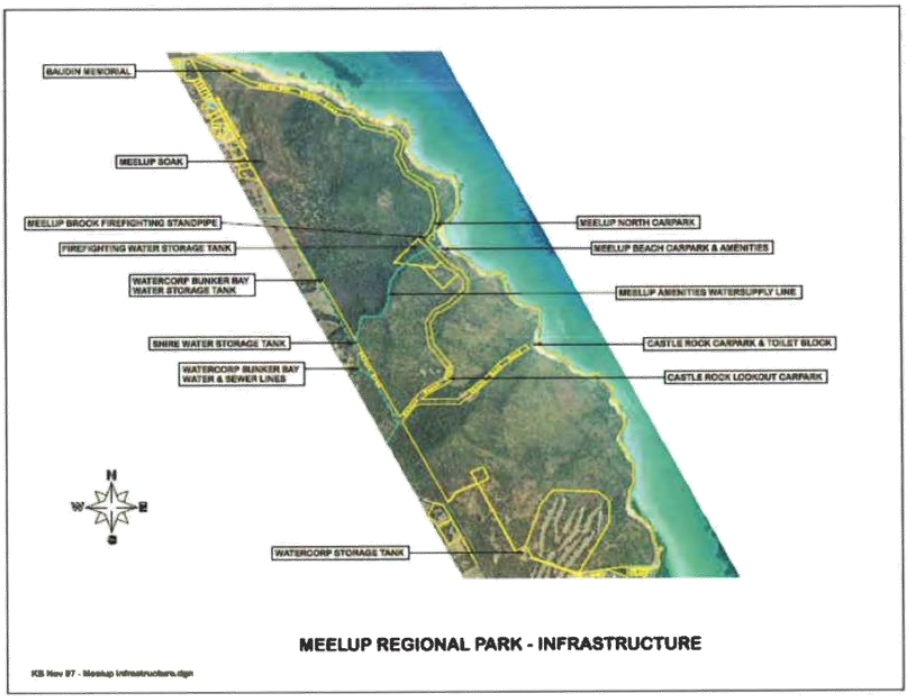


Figure 10 Map of Utilities and Service Infrastructure

Utilities and Services Management Plan

Issue	Management Strategy	Operational Management
Utilities and Services	Ensure utility and service providers aware of and as far as possible abide by Park Management Plan for works within easements in Park New public infrastructure, other than to service the needs of the Park itself not to be permitted	Provide relevant utility and service providers with a copy of the Management Plan Utility and service providers and their contractors must at all times observe the requirements of the Committee and Shire in respect to preventing the spread of dieback and other pathogens. Development proposals by utility and service providers to be assessed according to the criteria presented in the Development Proposal Management Plan

39 - Forest Produce

Objective

The objective is to protect the Park's values from exploitation of forest produce in the Park

Historical themes listed in the Heritage Council of WA database include forestry[17]. At present there are no forest produce industries present in the Park.

Forrest Produce Management Plan

Issue	Management Strategy	Operational Management
Forrest Produce Proposals	No forest produce industries to be permitted in the Park	N/A

40 - Water Extraction

Objective

To protect and conserve existing surface and groundwater resources of the Park.

Water supplies may be required in future to support other Park facilities. These will require careful assessment regarding the source and potential impacts on local hydrology. The use of roof and tank supplies is preferable to using spring or seep-water which maintains the biodiversity of the Park.

Water Extraction Management Plan

Issue	Management Strategy	Operational Management
Water Extraction	Minimise extraction of surface and groundwater	Implement water resources management plan All new developments to be reliant on rainwater or scheme water with off-site disposal

[17] http://www.environment.gov.au/heritage/national/

G. INVOLVING THE COMMUNITY

41 - Guiding Principles for Community Involvement

1. Community participation

The community will be encouraged to have input into the management of the Park. Public participation processes will have a clearly stated purpose and clearly identified scope. Participation is to be based on a shared understanding (with stakeholders) of objectives, responsibilities, behaviour and expected outcomes. The participatory process is to be objective, open, fair and carried out in a responsible and accountable manner. Participation will provide opportunities for input, representation and joint learning from all relevant stakeholders.

2. Information exchange

Information regarding the planning and management of the Park will be exchanged between land managers and the community in an open and transparent manner in accordance with the Shire Council's Instrument of Appointment (under the Local Government Act). Data and information used in the decision making process will be available to stakeholders. Public participation processes will emphasise the sharing of information, joint learning and understanding.

3. Outcomes and decision-making

The outcomes of public participation will form part of the decision-making process. Participants should be informed as to how their involvement affected the Park Management Committee and the Shire's decisions.

4. Management objectives

The community will be encouraged to contribute to nature conservation and land management objectives, including those outlined in this Plan. This will help to build community awareness, understanding and commitment to these objectives.

5. Education and interpretation

Education and interpretation will be aimed at giving visitors a 'take home' message that will create an awareness of issues affecting the Park and positively influence visitor behaviour. It will also provide information on the reasons behind management decisions and will convey the objectives of this Plan. Education and interpretation will encourage community involvement in and ownership of the Park.

42 - Information, Interpretation and Education

Objective

To increase the community's awareness, appreciation and understanding of the Park's values, to gain support for management practices and to involve a wide range of public participation in the implementation of this Plan.

An effective communication programme is essential to achieve the goals and objectives of the management of the Park. It informs the public of attractions, facilities and recreation opportunities available within the Park and provides an avenue to promote an appreciation, and greater understanding and enjoyment of the natural environment. Additionally, it fosters appropriate behaviour so that adverse impacts on the environment are minimised.

Currently, little information is publicly available on the Park and there is no established interpretive site. Some trails are sign posted and display boards showing location of trails are located at Meelup Beach and Forrest Street

In 2005, Ecoscape developed an Interpretation Plan based on a community workshop. It was reported that they received a clear message from the Community that the most highly valued quality of the place was the natural

beauty and the remote character. Ecoscape concluded that any interpretation strategy developed for Meelup Regional should have a very minimal physical and visual impact on the Park.

The interpretation plan developed the theme: "The forces that shape the land shape the environment." The main point of which is that when the Earth's continents were connected into the super-continent, Pangaea, Meelup was attached to Antarctica. It was the forces of the separation and the drifting of the continents that created:

1. The east-facing coastline.
2. The formation of the granite geology.
3. The soil types that determine the vegetation communities.
4. The plant communities that support a high diversity of fauna species.
5. The groundwater that is restricted to shallow aquifers.

An earlier proposal (described as a "Master Plan") was developed by Halpern, Glick, Maunsell (HGM) in 2003 which consisted of an interpretive centre with a botanical theme, and additional recreational facilities. It was to be constructed in the old gravel pit area above Curtis Bay. Development of the proposal also involved considerable community consultation, but reached different conclusions from the Ecoscape study.

This Management Plan does not seek to provide specific direction in relation to interpretive centres or means of communicating information. Rather it provides a framework for ensuring that the information being communicated is appropriate, the community is involved as much as possible and that the interpretation and education process is consistent with Park values.

Information, Interpretation and Education Management Plan

Issue	Management Strategy	Operational Management
Information, interpretation and education content	Park Management Committee and Shire of Busselton to hold up to date and accurate information regarding the Park	Maintain a library and document register to ensure that data is current
Interpretation	Implement Interpretive Plan	Ensure all content is accurate Maximise community involvement in development of interpretive material
Education	Educate the local community and visitors regarding safety and the Park's values	Educational Information to include: ▪ Safety in the Park ▪ Natural Environment features and values ▪ Conservation and Protection Measures ▪ Threats and their management ▪ Responsible behaviour ▪ Recreation opportunities ▪ Restrictions to visitor access and activities ▪ Cultural heritage ▪ Community involvement opportunities Work with community to identify educational opportunities Encourage educational opportunities for local residents and school children Encourage educational institutions and research groups to undertake studies within the Park

43 - Community Involvement and Liaison

Objective

To provide the community and other organisations with the opportunity to be effectively involved in the planning and management of the Park.



Community involvement with Meelup Regional Park is evident on a number of levels:

- The management of Meelup Regional Park by a Shire-appointed, community based Committee provides a concrete opportunity for community involvement in the Park;
- A number of other voluntary activities also take place to assist with the upkeep of the Park, such as pruning, rehabilitation, talks and excursions for school children and rubbish collection carried out by the volunteers supervised by other organisations such as the Busselton Naturalists Club.
- As described in preceding sections various studies have also been carried out which have involved community consultation. As part of the development of this Management Plan, individuals, community groups and government stakeholders have been contacted. A copy of the draft report will be made available and the key issues will be presented in a community presentation. . A list of community groups and individuals consulted as part of the formulation of this management plan is included as Appendix E
- Local primary schools currently participate in activities within the Park, such as tree planting and fauna surveys.

Community and Liaison Management Plan

Issue	Management Strategy	Operational Management
Community Involvement in Park Management	Park planning to Involve Community Liaison Community involvement in land care activities	Significant planning decisions to include community consultation methods such as: ▪ Advertising and feature articles in local papers ▪ Displays at community centres and shopping centres ▪ Distribution of information leaflets ▪ Public meetings ▪ Distribution of documents to key community groups and stakeholders ▪ Display of documents in the public library and Shire offices ▪ Public comment called for and comments incorporated into planning process Continue to carry out voluntary works aimed at community education, rehabilitation and ongoing maintenance such as pruning, trail repair and rubbish removal

H. RESEARCH

44 - Scientific and Research Use

Objective

To foster scientific and research that increases understanding of the Park and the environments whilst ensuring that the research does not conflict with Park Values

The unique natural values of Meelup are of considerable scientific interest. The Park has unique geology, high biodiversity and a number of rare and endangered flora and fauna of intrinsic scientific significance. Of particular interest is the Meelup Mallee. The mallee has been studied by King's Park Botanical Gardens and the tree has been successfully reproduced using tissue culture techniques.

High priority research issues are those with the potential to cause environmental degradation of the Park and loss of conservation values. In particular the threat of Phytophora dieback and other plant pathogens is still poorly understood.

A long running research project has been carried out in the Park to assess the effects of overgrazing by the Western Grey Kangaroo (*Macropus fulignosus*) on plant associations and plant diversity (Clay and Webb 2006). Increased numbers of the kangaroos are associated with current land management practises and the presence of irrigated areas and surface water.



The exclosure experiments (ie areas from which Kangaroos are excluded) showed that overgrazing has a negative impact on native plant diversity and abundance.

A herbarium collection has also been developed by Don Carter and Hazel Cole for the Toby Inlet Catchment Group which

provides an invaluable record of the plant species present in Meelup. Replicate specimens have been sent to the WA Herbarium, but there is a need for a local repository for collection.

There is considerable scope for research into the Park in order to gain a better understanding of the natural and cultural environment and the impacts of management activities and visitor use on conservation values. A number of studies and potential research topics have been identified, including:

- Identification of flow networks of shallow aquifers and their relationship with seeps and springs
- Detailed surveys to record the distribution, abundance and other details of flora and fauna
- Maintain a register of fauna by regular survey and review of fauna numbers
- Continue research into the impact and spread of the Phytophora dieback disease on flora and vegetation associations within the Park, particularly the threatened and priority species and coastal heath community. Further identification of disease indicator species is required.
- Investigate reintroducing threatened species
- Assess the efficiency of specific control programs (e.g. weeds) and any effect these controls have on non-target species.
- A Time of Seeding study of plant species to determine more ecologically valid fire frequencies

- A study of *Xanthorrhoea pressii* (grass trees) to determine fire history
- Research visitor use, including experience and perceptions, and forecast future recreational demands.
- Research and document indigenous and non-indigenous cultural history in the area
- Carry out archaeological survey

Scientific and Research Use Management Plan

Issue	Management Strategy	Operational Management
Increase understanding of Park	Instigate and support research projects in the Park	Identify knowledge gaps and appropriate research bodies. Encourage Universities and other research groups to undertake relevant investigations and monitoring programs within the Park Allow for funding of studies in annual budget. Ensure outcomes of research are finalised, provided to the Committee and the Shire and presented to the community
Minimise negative impacts of research	Research potentially detrimental to Park Values not permitted Ensure that researchers are aware of and abide by Park Management Plan Objectives	Assess proposals in relation to objectives of the management plan, in particular the development proposal criteria Provide a copy of Management Plan to researchers and gain commitment to carry out research according to the requirements of the Plan

I. TERM OF THE PLAN

This plan is to be reviewed in 5 years from the time of finalisation.

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APPENDICES

Appendix A Shire of Busselton Reserves and Foreshores Local Law
Appendix B Instrument of Appointment and Delegation
Appendix C Flora and Fauna supporting data
Appendix D Trails Strategy
Appendix E Community consultation contacts

APPENDIX A

Shire of Busselton Reserves and Foreshores Local Law

LOCAL GOVERNMENT ACT 1960

The Municipality of the Shire of Busselton

BYLAW RELATING TO RESERVES AND FORESHORES

In pursuance of the powers conferred upon it by the abovementioned Act, and of all other powers enabling it, the Council of the abovementioned Municipality hereby records having resolved on 28 August 1985 to make and submit for confirmation by the Governor the following bylaw:

1. In this bylaw unless the context otherwise requires:
"Act" means the Local Government Act 1960 (as amended or re-enacted);
"Authorised Officer" means an Officer of the Council who is authorised by the Council to serve notices under sections 669C and 669D of the Local Government Act 1960 (as amended);
"Council" means the Council of the Municipality of the Shire of Busselton;
"Foreshore" means all the land in the Shire of Busselton which lies between the low water mark and the high water mark of the Indian Ocean;
"Owner" in relation to a vehicle means the person who is the holder of the requisite vehicle licence under the Road Traffic Act 1974 in respect of that vehicle or, if the vehicle is not licensed under the Act, the person who owns the vehicle or is entitled to its possession;
"Professional Fisherman" means a person permitted to take fish from the ocean for sale under the provisions of the Fisheries Act 1905-1975 (as amended);
"Reserve" means parklands, squares, reserve, beaches and other lands included in the Shire of Busselton and set apart for the use and enjoyment of the inhabitants of the Shire and includes parks and other lands acquired for public purposes, and vested in or under the control, or management of the Shire of Busselton;
"Vehicle" has the same meaning as is given to that word in the Road Traffic Act as amended from time to time, but includes trail bikes, beach buggies and other recreational vehicles licensed or unlicensed.

2. On a reserve or foreshore a person shall not:
(a) commit or cause a nuisance;
(b) be in a state of intoxication;
(c) behave in a disorderly manner, create or take part in a disturbance, used foul or indecent language or commit any act of indecency;
(d) undertake any activity deemed illegal by any other statute.

3. On a reserve or a foreshore a person other than a Shire employee executing his/her normal duties, shall not:
(a) throw or discharge any stone, arrow, bullet or other missile;
(b) climb over or upon a fence or gate;
(c) unlock or fasten a gate, unless authorised by the Council to do so;
(d) enter any dressing or training room, or use any locker therein unless authorised by the Council to do so;
(e) destroy, damage, injure or cause harm to any bird or animal;
(f) damage or injure any plant, lawn, flower, shrub or tree;
(g) cut or damage any soil or turf;
(h) climb any tree;
(i) deposit or leave any rubbish, refuse, offal, paper, bottles, broken glass, china or litter of any kind whatsoever except in a receptacle provided for the purpose.

4. Except as provided in Clause 4(A) hereof a person other than an employee of the Council executing his/her normal duties shall not without the consent of the Council:
(a) drive or ride or bring any vehicle onto a reserve or foreshore or permit any person to drive or ride or bring any vehicle onto a reserve or foreshore except on or over such parts of the

reserve or foreshore as are set aside as roads or driveways or vehicle parking areas:

(b) park or stand any vehicle on a reserve except in an area set aside for that purpose.

(c) park or stand a vehicle on a foreshore except in the course of launching or recovering a boat on a boat ramp set aside by the Council for the launching or recovering of boats.

The provisions of Clause 4 shall not apply to a physically impaired person using a wheelchair or motorised wheelchair.

4A(1) Subject to Bylaw 4A(2) and (3) hereof a professional fisherman shall not drive or ride or bring or permit any person to drive or ride or bring any vehicle onto a reserve or foreshore unless:

(i) the professional fisherman is the holder of a permit issued by the Council for the use of the vehicle on a reserve or foreshore;

(ii) the vehicle is being driven by the permit holder or by a person authorised by the permit holder;

(iii) the vehicle has displayed on each side in black lettering, being not less than 100 millimetres high and 25 millimetres wide, on a yellow background, the professional fisherman's licensed fishing boat number;

(iv) the vehicle is being driven at a speed not exceeding 30 kilometres per hour;

(v) the vehicle is driven on or over such parts of the reserve or foreshore set aside as roads or driveways for the use of professional fishermen and the Council may erect a notice to the effect that the roads or driveways are for the use of professional fishermen only.

4A(2) (a) A professional fisherman or a person authorised by clause 4A (1)(ii) shall not drive or ride or bring any vehicle or permit any person to drive or ride or bring any vehicle within five metres of a primary dune on any reserve or foreshore;

(b) a professional fisherman or a person authorised by clause 4A (1)(ii) shall not drive or ride or bring any vehicle or permit any person to drive or ride or bring any vehicle onto any reserve or foreshore between the area east of a line due north of the eastern side of the Newtown Beach Road road reserve and west of a line due north of the western side of the Groyne Road road reserve such north lines to be taken from the termination point of both Newtown Beach Road and Groyne Road nearest to the foreshore.

4A(3) (a) a professional fisherman or a person authorised by clause 4A (1)(ii) shall not drive or park any vehicle on a reserve or foreshore unless such vehicle is used directly in conjunction with the fishing activity being conducted at the time the vehicle is in use and the vehicle is required to be driven used or occupied at that time for that fishing activity;

(b) if any vehicle is not parked pursuant to Bylaw 4A (3)(a) then it must be parked on an area set aside for vehicle parking as designated by the Council.

5. On a foreshore a person shall not:

(a) sell, expose for sale or invite any offer to buy any goods, wares, food, refreshments, fruit or other merchandise or things (whether of the like kind as the foregoing or not) except in an area set apart for the purpose by the Council and then only with the prior consent of the Council;

(b) Hire, expose for hire or invite any offer to take on hire any vehicle, boat or other vessel or thing (whether of the kind as the foregoing or not) except in an area set apart for the purpose by the Council and then only with the prior consent of the Council.

6. On a reserve a person shall not without the consent of the Council:

(a) sell, expose for sale or invite any offer to buy any goods, wares, food, refreshments, fruit or other merchandise or things;

(b) play or practice at golf or strike a golf ball except on an area set aside for the purpose;

(c) take part in a procession or demonstration;

(d) organise, address or participate in a political meeting or rally;

(e) use or install a loud speaker or amplifier;

(f) distribute or exhibit any printed or written pamphlet, hand bill, placard or notice in any manner whatsoever;
(g) stamp, pencil, affix, construct or erect or cause to be stamped, stencilled, affixed, constructed or erected any signboard, hoarding, placard, hand bill, notice, advertisement or document whatsoever;
(h) light a fire other than in a fire place provided for the purpose,
(i) camp, lodge or tarry overnight, or frequent for the purpose of camping, lodging or tarrying overnight;
(j) erect a tent or any other temporary cover for the purpose of entertainment or for the display of any merchandise.

7. On a reserve a person shall not practice or play in or at any game in such a way as to cause inconvenience or annoyance to any other person.

8. (a) In this clause reference to an "animal" does not include a dog;
(b) the Council may set aside a reserve or foreshore or portion of a reserve or foreshore as an area upon which a person may ride or drive an animal or into which a person may bring an animal;
(c) a person shall not ride or drive or bring an animal onto any reserve or foreshore or any part thereof that has not been set aside for that purpose pursuant to subclause (b) of this clause;
(d) A person shall not ride, drive, train or race any animal on any part of a reserve or foreshore set aside under subclause (b) of this clause in a manner so as to create or become a nuisance.

9. (a) The Council may set aside a reserve or portion of a reserve as an area on which persons may fly mechanically operated model aeroplanes and the Council may define or limit the hours and days during which such model aeroplanes may be flown;
(b) a person shall not fly a mechanically operated model aeroplane on a reserve or portion of a reserve that has not been set aside pursuant to subclause (a) of this clause or at a time or one a day defined or limited by the Council under subclause (a) of this clause.

10. (a) The Council may set aside a reserve or portion of a reserve as a children's playground;
(b) The Council may limit the ages of persons who are permitted to use a playground set aside under subclause (a) of this clause and may erect a notice to that effect on the playground;
(c) a person over the age specified in a notice erected on a playground set aside under subclause (a) of this clause, other than a person having the charge of a child or children in that playground, shall not enter or use that playground, or interfere with the use of it by a child or children.

11. A person found in a state of intoxication on a reserve or behaving in a disorderly manner, or creating or taking part in a disturbance, or using foul or indecent language, or committing an act of indecency thereon may be forthwith removed from the reserve by a member of the Police Force.

12. A person found undertaking in any activity deemed illegal by any other statute within a reserve, may be forthwith removed from the reserve by any member of the Police Force.

13. A person who does not do a thing which by or under these bylaws he/she is required or directed to do and a person who does a thing which by or under this bylaw is prohibited from doing, commits an offence.

14. A person who commits an offence against this bylaw is liable on conviction, to a maximum penalty of $500.00 and in the case of the holder of a permit issued under Clause 4A(1) hereof to cancellation of the permit."

15. The modified penalty for an offence against clauses 4(a) or 4(b) or 4(c) or 4(A)(1) or 4(A)(2) or 4(A)(3) of this bylaw if dealt with under section 669D of the act is $80.00.

16. (a) A notice served under subsection (2) of the section 669C of the Act in respect of an offence against this bylaw shall be in or to effect of Form 1 of the schedule of this bylaw;

(b) an infringement notice served under section 669D of the act in respect of an offence against this bylaw shall be in or to the effect of Form 2 of the Schedule of this bylaw;

(c) a notice sent under subsection (5) of section 669D of the Act withdrawing an infringement notice served under that section in respect of an offence against this bylaw shall be in or to the effect of Form 3 of the Schedule of the bylaw.

APPENDIX B

Instrument of Appointment and Delegation

2.2 MEELUP REGIONAL PARK MANAGEMENT COMMITTEE

* Constituted by Council on 12 December, 2007.
* Membership requirements updated by Council on 11 June, 2008.
* Delegation reviewed by Council on 25 June, 2008.

Instrument of Appointment & Delegation

1. Introduction

The Council of the Shire of Busselton (hereinafter called the "Council") hereby establishes a committee under the powers given in Section 5.8, 5.9(2)(c) and 5.17(1)(c) of the Local Government Act 1995, such committee to be known as the Meelup Regional Park Management Committee (hereinafter called the "Committee").

The Council appoints to the Committee those persons whose names appear in section 4.0 below. Membership of the Committee shall, unless otherwise specified, be for a term ceasing on 17 October, 2009, after which time the Council may appoint members for a further term.

The Committee shall act for and on behalf of Council in accordance with provisions of the Local Government Act 1995, local laws and policies of the Shire of Busselton and this Instrument.

2.0 Name

The name of the Committee shall be the Meelup Regional Park Management Committee.

3.0 Objectives

3.1 To develop a strategic plan for the regional park that ties into Council's Strategic Plan, to be endorsed by Council, and to annually review the five-year plan of capital and operating expenditure and income, to be endorsed by Council.

3.2 Care for, control and manage all areas of Meelup Regional Park (except any areas specifically excluded by Council).

4.0 Membership

2 Elected Members shall be appointed to the Committee.

6 Community Members shall be appointed to the Committee.

Deputy Members may be appointed as required.

Other persons (or representatives of organisations) may participate in meetings of the Committee (or any sub committees the Committee may establish) as determined by an ordinary majority of the Committee.

Such persons will not be entitled to vote on any matter brought before the Committee.

Elected Members – Cr Don Hanran-Smith and Cr David Binks.
Community Members – Don McDonald, John Winchcombe, Nik Selheim, Shirley Fisher and Andrew Webb, 1 vacancy.
Deputy Members - John Slee and Jill Moyes.

5.0 Presiding Member

The Committee shall appoint a Presiding Member and Deputy Presiding Member to conduct its business. The Presiding Member shall ensure that minutes of the proceedings are kept and that business is conducted in accordance with the Shire of Busselton Standing Orders Local Law.

6.0 Meetings

The Committee shall meet at least six times annually, and shall report to Council on a bi-monthly basis as a minimum.

6.1 Notice of meetings shall be given to members at least 3 days prior to each meeting.

6.2 If any member is absent from 3 consecutive meetings without leave of the Committee, they shall forfeit their position on such Committee. The Council shall be informed, who will appoint a replacement for the balance of the Committee's term of appointment.

6.3 The Presiding Member shall ensure that detailed minutes of all meetings are kept in accordance with the format identified in the Shire of Busselton Standing Orders local law and shall, not later than 10 days after each meeting, provide Council with a copy of such minutes.

6.4 All members of the Committee shall have one vote. If the vote of the members present is equally divided, the person presiding can cast a second vote.

7.0 Quorum

Quorum for a meeting shall be at least 50% of the number of offices, whether vacant or not. A decision of the Committee does not have effect unless it has been made by a simple majority.

8.0 Delegated Powers

The Meelup Regional Park Management Committee is delegated authority to:

Exercise the powers and discharge the duties of the local government under Section 3.54(1) of the Local Government Act 1995 as they relate specifically to Meelup Regional Park, in accordance with the Shire's Strategic Plan, Park's management plan and Council's budget, with the exceptions that:

a) normal maintenance and servicing (eg. building maintenance and operations, maintenance of grassed areas and surrounds, rubbish removal, etc) of the coastal foreshore recreation areas at the localities of Eagle Bay, Meelup Beach and Castle Rock are to be undertaken by the Shire; and
b) all law enforcement (eg bush fire control, litter control, etc) is to be exercised by the Shire's Ranger and Fire Services.

9.0 Conditions

9.1 The committee is required to submit a draft budget of income and expenditure for the ensuing financial year in April of each year and it shall have due regard to the actual budget adopted by Council.

9.2 All monies received by the committee shall be so received on behalf of Council and shall be managed in accordance with Local Government Accounting Regulations and AAS27.

9.3 All procurements to be made using Council's current purchasing procedures.

10.0 Termination of Committee

Termination of the Committee shall be:

a) In accordance with the Local Government Act 1995; and
b) At the direction of Council, not exceeding 17 October, 2009.

11.0 Amendment to the Instrument of Appointment and Delegation

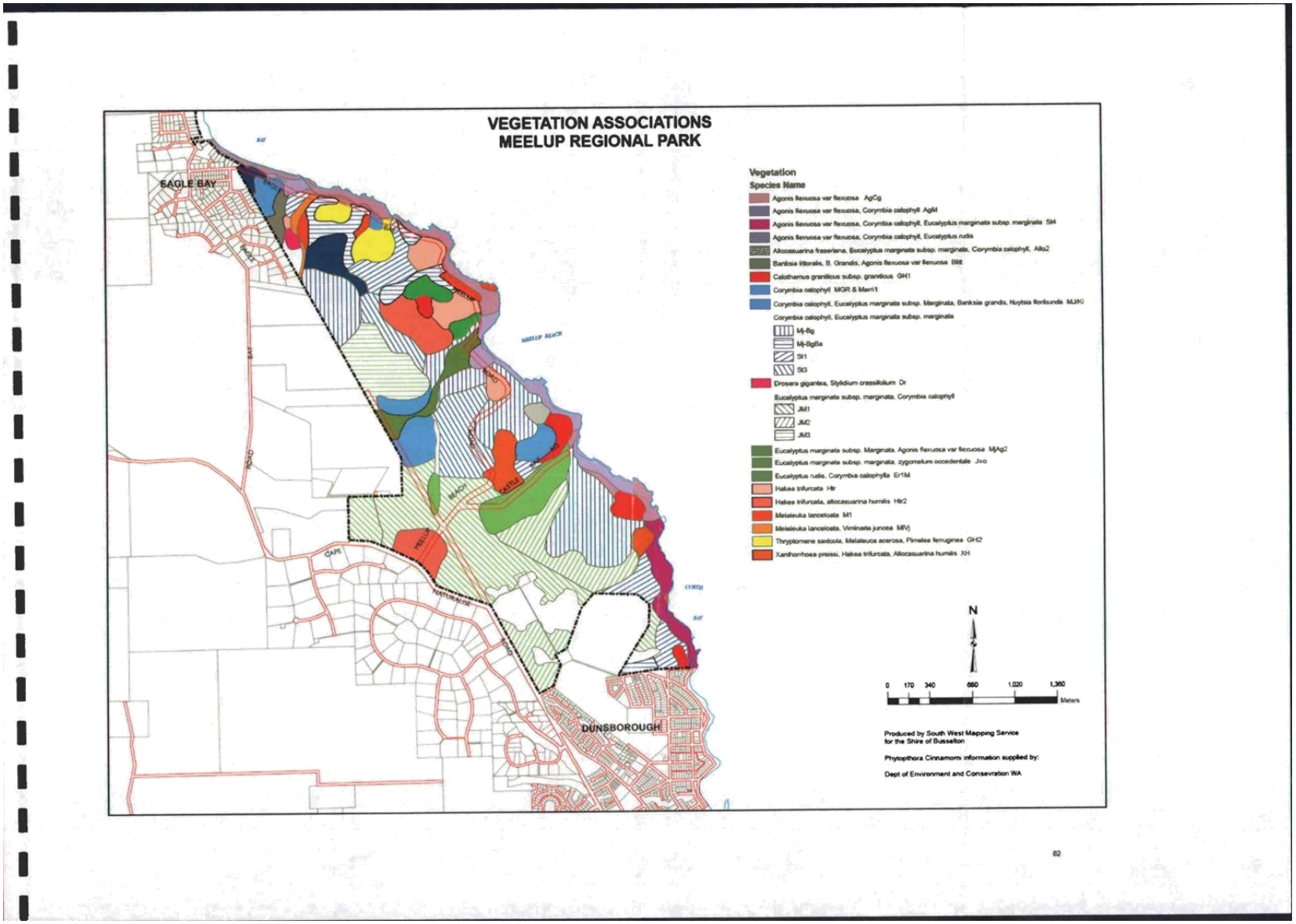
This document may be altered at any time by the Council on the recommendation of the Committee, or after giving 14 days notice to the Committee.

12.0 Committee Recommendations/Decisions

Committee recommendations shall not be binding on Council and must be endorsed by Council to take effect. Decisions made under delegated authority shall not be binding on Council if such decisions are in conflict with the delegated powers.

APPENDIX C

Flora and Fauna supporting data


VEGETATION ASSOCIATIONS
MEELUP REGIONAL PARK
EAGLE BAY
DUNSBOROUGH
Vegetation
Species Name
Agonis flexuosa var flexuosa AgCg
Agonis flexuosa var flexuosa, Corymbia calophyll AgM
Agonis flexuosa var flexuosa, Corymbia calophyll, Eucalyptus marginata subsp. marginata SM
Agonis flexuosa var flexuosa, Corymbia calophyll, Eucalyptus rudis
Allocasuarina fraseriana, Eucalyptus marginata subsp. marginata, Corymbia calophyll, Allo2
Banksia littoralis, B. Grandis, Agonis flexuosa var flexuosa BM
Calothamnus gramticus subsp. gramticus GH1
Corymbia calophyll MGR & Marri1
Corymbia calophyll, Eucalyptus marginata subsp. Marginata, Banksia grandis, Nuytsia floribunda MJHG
Corymbia calophyll, Eucalyptus marginata subsp. marginata
Mj-Bg
Mj-BgBa
St1
St3
Drosera gigantea, Stylidium crassifolium Dr
Eucalyptus marginata subsp. marginata, Corymbia calophyll
JM1
JM2
JM3
Eucalyptus marginata subsp. Marginata, Agonis flexuosa var flexuosa MjAg2
Eucalyptus marginata subsp. marginata, zygomeium occedentale Jxo
Eucalyptus rudis, Corymbia calophylla Er1M
Hakea trifurcata Htr
Hakea trifurcata, allocasuarina humilis Htr2
Melaleuka lanceloata M1
Melaleuka lanceloata, Viminaria juncea MVj
Thryptomene saxicola, Melaleuca acerosa, Pimelea ferruginea GH2
Xanthorrhoea preissi, Hakea trifurcata, Allocasuarina humilis XH
N
0 170 340 680 1,020 1,360
Meters
Produced by South West Mapping Service
for the Shire of Busselton
Phytopthora Cinnamomi information supplied by:
Dept of Environment and Consevration WA
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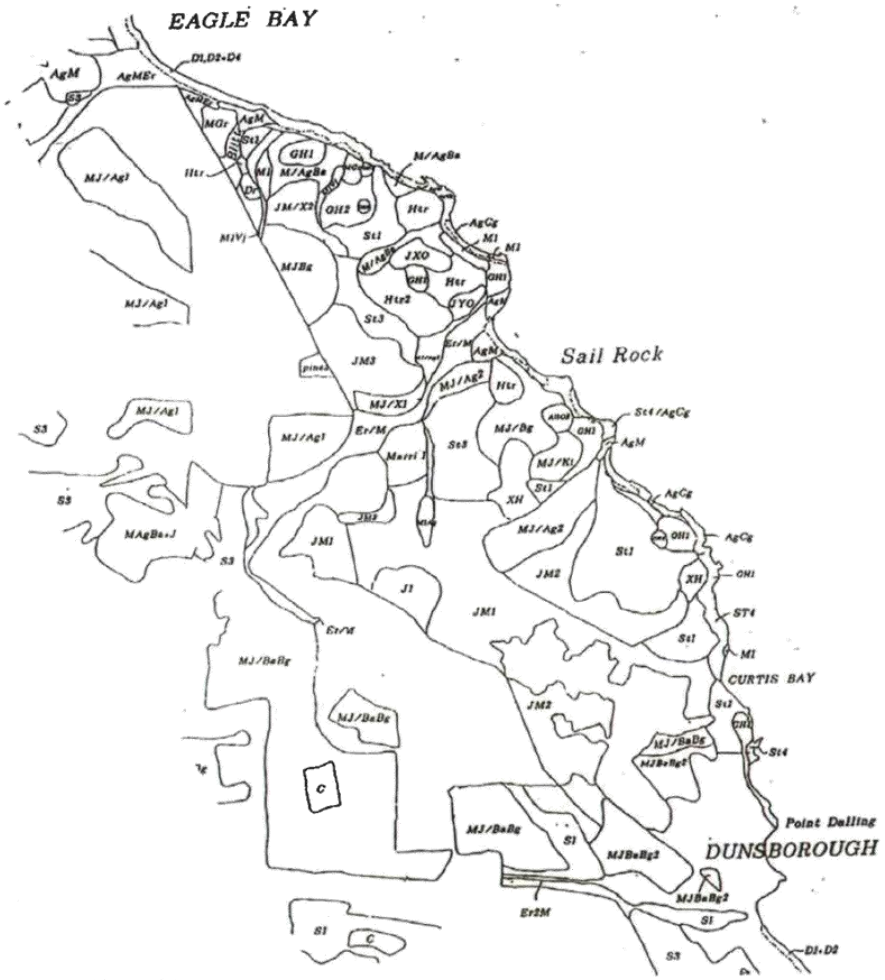
APPENDIX 4



EXTRACT FROM :
" A FLORA AND FAUNA STUDY OF THE COASTAL STRIP FROM FORREST BEACH - CAPE NATURALISTE - WOODLANDS "
FOR THE DEPT. OF CONSERVATION AND ENVIRONMENT BY C. KEATING & M. TRUDGEN
1986

Vegetation Communities of the Meelup Regional Park.

Community mapping and descriptions extracted from the 1986 report "A Flora and Vegetation Survey of the Coastal Strip from Forrest Beach-Cape Naturaliste-Woodlands" by Colma Keating and Malcolm Trudgen.

M1 – *Melaleuca lanceolata* low closed forest to closed forest.

This vegetation unit occurs near the beach often with outcropping limestone, the Melaleuca varies in height from 2 to 15m reflecting the effects of soil depth and wind pruning. The understory has shrubs of *Tetragonia amplexicoma, Rhagodia baccata, Leucopogon propinquus, Suaeda australis* and occassionally *Pittosporum phylliraeoides var. phylliraeoides.*

GH1 – *Calothamnus graniticus ssp. graniticus* open to closed heath.

This vegetation type occurs on granulite outcrops in close proximity to the coast, the dominant species *Calothamnus graniticus* varies in height from approximately 1.2-2m tall and is often wind-pruned. Other prominent species include *Dodonaea ceratocarpa, Spyridium globulosum, Hakea trifurcata, Viminaria juncea, Acacia pullchella, Melaleuca acerosa* and *Xanthorrhoea preissii.*

AgCg – *Agonis flexuosa, Calothamnus graniticus ssp. graniticus* closed scrub.

This vegetation type occurs in near-coastal situations on granulite overlain by creamy-brown to mid-brown sandy soils. The dominant species range in height from 1.5-2.5m with other prominent shrubs including *Hakea trifurcata, Dodonaea ceratocarpa, Macrozamia reidlei* and *Xanthorrhoea preissii.*

St4 – *Agonis flexuosa, Corymbia calophylla, Eucalyptus marginata* low woodland.

This vegetation type occurs on lower slopes (just above the beach) on pale brown to dark brown sandy soils with granulite pebbles and boulders, the height of the dominant species range from 1.8-3m. Prominent understory species are *Xanthorrhoea preissii, Macrozamia reidlei, Calothamnus sanguines, Daviesia divaricata, Melaleuca acerosa, Pimelea ferruginea* and the creepers *Hardenbergia comptoniana* and *Kennidea coccinea.*

AgM – *Agonis flexuosa, Corymbia calophylla* low woodland.

This vegetation unit occurs at the edges of the granulitic coast where the granulite is overlain by creamy-brown coloured sandy soils. These woodlands have a height range of 4-9m with understory shrubs including *Viminaria juncea, Xanthorrhoea preissii, Macrozamia reidlei, Hibbertia cuneiformis, Ollearia axillaris, Spyridium globulosum, Calothamnus graniticus ssp. graniticus, Acacia rostellifera, A.saligna, A.cochlearis* and *Pimelea ferruginea.*

Dr – *Drosera gigantea, Stylidium crassifolium* closed herbland.

This vegetation unit occurs on very gentle slopes with brown sandy soils. The height range of the dominants is 15-30cm and they form a dense herbland with *Patersonia pygmaea, P.umbrosa, P.occidentalis, Levenhookia pusilla, Trymalium ledifolium, Dampiera linearis* and *Desmocladus fasciculata*.

Htr2 – *Hakea trifurcata, Allocasuarina humilis* low closed heath.

This vegetation unit occurs on a hill crest with pale brown sandy soils with scattered lateritic pebbles and exposed granulite. The dominants reach 40-80cm; other dominant species include *Dodonaea ceratocarpa, Melaleuca acerosa, Gastrolobium spinosum, Darwinea citriodora* and *Daviesia divaricata*.

Htr – *Hakea trifurcata* closed scrub.

This vegetation type is found on hilltops and lower slopes with sand over laterite sometimes with with outcropping granulite. Dominant shrub species of the community include *Xanthorrhoea preissii, X.gracilis, Viminaria juncea, Allocasuarina humilis, Hibbertia hypericoides, Melaleuca acerosa, Calothamnus sanguines, Cryptandra arbutiflora, Dryandra lindleyiana, Phyllanthus calycinus, Trymalium ledifolium, Acacia nervosa* and *Acacia pulchella*.

MlVj – *Melaleuca lanceolata, Viminaria juncea* closed scrub.

A strip of this vegetation community is found along the bottom of a small valley, the soils are dark grey sands with some scattered surface granulite rocks. The dominants are 2.5-3.5m tall and other understory species include *Acacia saligna, A.pulchella, Ficinia nodosa, Stylidium crassifolium* and *Patersonia occidentalis*.

St1 – *Corymbia calophylla, Eucalyptus marginata* low woodland.

This vegetation type occurs on areas between granulitic outcrops and lateritic uplands, the soil is dark grey sand with some laterite. There are small outcrops of granulite in the unit. The Jarrah and Marri occur in discrete groups with a height range of 2-4m which are surrounded by a low heath. Common species within the heath can include *Hibbertia hypericoides, H.cunninghamii, Hypocalymma angustifolium, H.robustum, Philotheca spicatum, Xanthorrhoea preissii, Daviesia divaricata, Hakea lissocarpha, H.amplexicaulis, Calothmanus sanguines, Dodonaea ceratocarpa* and *Dryandra lindleyiana.*

St3 – *Corymbia calophylla, Eucalyptus marginata* low woodland.

This vegetation type occurs on gentle slopes with dark brown loamy soil with scattered surface laterite. The Marri, Jarrah has a height range of 5-7m with occassional lower trees of *Persoonia longifolia*. The dense understory has dominant shrubs including *Allocasuarina humilis, Calothamnus sanguines, Melaleuca acerosa, Hibbertia cunninghamii, Hypocalymma angustifolia, Adenanthos meisneri* and *Dryandra lindleyiana.*

MGr – *Corymbia calophylla* woodland.

This vegetation occurs on moderate to gentle slopes with lateritic sandy soils. The Marri (6-8m) grows over a dense tall heath dominated by *Calothamnus graniticus ssp. graniticus, Hakea trifurcata, Dodonaea ceratocarpa* with other shrubs including *Melaleuca acerosa, Acacia saligna, A.cyclops, Macrozamia reidlei, Bossiaea linophylla* and *Darwinia citriodora.*

Mj/Bg – *Corymbia calophylla, Eucalyptus marginata* woodland.

This vegetation occurs on moderate inland slopes with sandy soils. There are two distinct tree strata, the upper with Marri more abundant than Jarrah over *Banksia grandis, B.attenuata* and *Agonis flexuosa*. The understory also has two distinct layers with an upper layer of scattered shrubs of *Jacksonia furcellata, Daviesia divaricata, Macrozamia reidlei* and *Xanthorrhoea preissii* over a dense lower layer dominated by species such as *Stirlingia latifolia, Calothamnus sanguines, Melaleuca acerosa* and *Hibbertia hypericoides.*

Marri1 – *Corymbia calophylla* woodland

This vegetation community occurs on gentle slopes with brown sandy soils with scattered lateritic pebbles and exposed granulite pebbles and boulders.The Marri (10-15m) grows over a dense low heath dominated by *Hakea lissocarpha, H.amplexicaulis, Calothamnus sanguines, Hibbertia hypericoides, Daviesia divaricata, Xanthorrhoea preissii, Macrozamia reidlei, Crytandra arbutiflora* and *Acacia nervosa.*

Jxo – *Eucalyptus marginata, Xylomelum occidentale* low forest.

This vegetation type occurs on a slope about 300m from the beach with deep orange sandy soils. The upper stratum is 8-9m tall and includes the other dominants of *Corymbia calophylla, Banksia grandis, Persoonia longifolia, Nuytsia floribunda* and *Agonis flexuosa*. This is the only vegetation community that *Xylomelum occidentale* was noted to occur as a substantial stand.

Blitt – *Banksia littoralis, B.grandis, Agonis flexuosa* low open forest.

This vegetation occurs upslope from the beach on grey sands near a permanent soak. The height of the forest is 4-7m with occassional trees of *Nuytsia floribunda*. Other species of the community include *Melaleuca lanceolata, Viminaria juncea, Xanthorrhoea preissii, Trymalium ledifolium, Logania vaginalis, Dodonaea ceratocarpa, Acacia pulchella* and *Hibbertia hypericoides.*

JM2 – *Eucalyptus marginata, Corymbia calophylla* forest.

This vegetation occurs on gentle slopes with brown sands with surface laterite pebbles and occassional surface granulite pebbles and boulders. Under the Jarrah, Marri (12-15m) there is a second tree layer of *Banksia grandis* and *Agonis flexuosa* with occassional *Persoonia longifolia* and *Viminaria juncea.* The understory is dominated by *Xanthorrhoea preissii, Calothamnus sanguines, Acacia pulchella, Melaleuca acerosa, Daviesia cordata* and *Hakea lissocarpha.*

JM3 - *Eucalyptus marginata, Corymbia calophylla* open forest.

This vegetation unit occurs on lower gentle slopes with brown loamy soils. The dominants (8-12m) is over an understory of two distinct strata. The upper being scattered *Hakea amplexicaulis, Xanthorrhoea preissii* and *Persoonia longifolia,* over a low dense heath dominated by *Calothamnus sanguines, Hibbertia hypericoides, Xanthorrhoea gracilis, Adenanthos meisneri, Dryandra lindleyiana, Hakea lissocarpha* and *Hypocalymma angustifolia.*

Mj/Ag2 - *Eucalyptus marginata, Corymbia calophylla, Agonis flexuosa* forest.

This vegetation unit occurs on moderate to steep valley slopes with brown sandy soils and some lateritic pebbles and outcropping granulite. The forest layer reaches 12-16m in height and is over an upper understory layer of *Xanthorrhoea preissii, Hakea lissocarpha, Calothamnus sanguines, Macrozamia reidlei* and *Acacia pulchella.* The lower understory layer is dominated by species including *Hibbertia hypericoides, Dryandra lindleyiana, Pimelea rosea, Astroloma drummondii* and *Trymalium ledifolium.*

JM1 - *Eucalyptus marginata* forest.

This vegetation occurs on moderate slopes with dark brown soil and scattered lateritic pebbles. The Jarrah has a height range of 8-14m with very small amounts of Marri. The upper layer of the understory is dominated by *Xanthorrhoea preissii, X.gracilis* and *Hakea amplexicaulis* over a lower layer of *Calothamnus sanguines, Hibbertia hypericoides, H.cunninghamii, Acacia alata* and *Tetratheca hirsuta.*

Allo2 – *Allocasuarina fraseriana, Eucalyptus marginata, Corymbia calophylla, Nuytsia floribunda, Banksia grandis* low closed forest.

This vegetation type has a dense canopy, a very open understory and occurs on exposed moderate upland slopes. The surface soils are dark grey over orange-brown sands. Understory species include *Xanthorrhoea preissii, Calothamnus sanguines, Melaleuca acerosa, Hypocalymma robustum, Philotheca spicatum, Hibbertia hypericoides, H.cunninghamii, Acacia pulchella, Hemigena incana* and *Synaphea petiolaris.*

Mj/BgBa - *Corymbia calophylla, Eucalyptus marginata* open forest.

This unit occurs on upper slopes with grey sandy soils. Marri and Jarrah (10-15m) form the upper tree layer over *Banksia grandis, B.attenuata, B.littoralis* and *Nuytsia floribunda.* The upper shrub layer has scattered *Xanthorrhoea preissii* and *Kingia australis* over a lower layer of *Xanthorrhoea gracilis, Hakea lissocarpha, Acacia nervosa, Hypocalymma angustifolia, Daviesia divaricata, Calothamnus sanguines, Hibbertia hypericoides* and *H.cunninghamii.*

AgMEr – *Agonis flexuosa, Corymbia calophylla, Eucalyptus rudis* closed forest.

This vegetation unit occurs on damp low-lying areas close to the beach with sandy soils and has a height range of 5-9m. The unit has a dense two-layer understory of *Viminaria juncea, Acacia saligna and Acacia pulchella over Xanthorrhoea preissii, Beyeria viscosa, Olearia axillaris* and *Spyridium globulosum.*

JM/Xp2 – *Eucalyptus marginata, Corymbia calophylla* open forest.

This vegetation occurs on low slopes leading into a flow line with brown sandy soils with scattered surface lateritis pebbles. The upper stratum is 14-18m high over a dense shrub layer dominated by *Xanthorrhoea preissii* and *X.gracilis*, other dominant species include *Pimelea angustatum, Hibbertia hypericoides* and *H.cunninghamii.*

GH2 – *Hakea trifurcata, Gastrolobium spinosum* closed heath.

This vegetation type occurs on exposed granulite slopes with brown sandy soils. Other dominant species of the community includes *Dodonaea ceratocarpa, Xanthorrhoea preissii* and *Macrozamia reidlei* with occassional shrubs of *Calothamnus graniticus ssp. graniticus.*

Er1M – *Eucalytpus rudis, Corymbia calophylla* open forest.

This vegetation type occurs in the moist creek valleys. The Flooded Gum and Marri are 12-16m tall over a dense layer of *Agonis flexuosa* (6-8m). Dominant understory species include *Logania vaginalis, Bossiaea linophylla, Acacia alata, A.pulchella, A.divergens, A.nervosa, Trymalium ledifolium, Hibbertia cuneiformis, H.racemosa, Dodonaea ceratocarpa* and *Xanthorrhoea preissii* over dominant sedge species of *Lepidosperma tetraquetrum, Juncus pallidus* and *Lepidosperma gladiatum.*

Nat No	Perth No	Fam No	Species	Location	Flower period
	MEELUP REGIONAL PARK				
	Vascular Plant Species 1996 to 1997. Updated 2006				
	Nomenclature: Cape Naturaliste Regional Herbarium				
	Determinations by Government Herbarium				
		Collation of Data	**by B T Clay**		
		ADIANTACEAE			
153	05578450		Cheilanthes austrotenuifolia	Lat 33 35'.3" S - Long 115 4'.0" E	Sept
155	05578221		Adiantum aethiopicum	Lat 33 34'.3" S - Long 115 5'.0" E	Sept
294B	05601150		Cheilanthes distans	Lat 33 33'.0" S - Long 115 4'.0" E	Oct
198	05598222		Cheilanthes austrotenuifolia	Lat 33 33'.0" S - Long 115 4'.0" E	Aug
294 A	05601142		Cheilanthes sieberi ssp sieberi	Lat 33 33'.0" S - Long 115 4'.0" E	Oct
		AIZOACEAE			
			Carpobrotus virescens		
			Tetragonia implexicoma		
		AMARANTHACEAE			
68	5672465		Ptilotus manglesii		
		ANTHERICACEAE			
401	05607922		Dichopogon capillipes	Lat 33 33'.0" S - Long 115 4'.0" E	Dec
271	05600693	054F	Johnsonia acaulis		
595	06084036	054F	Thysanotus sparteus R.Br.	Lat 33 38'.0" S - Long 115 3'.0" E	
603	06255736	054F	Laxmannia sessiliflora		
394	05888360		Thysanotus arenarius		
201	05598230		Chamaescilla corymbosa var corymbosa	Lat 33 34'.0" S - Long 115 4'.0" E	Aug
		APIACEAE			
413	05578264	281	Pentapeltis peltigera	Lat 33 39'.3" S - Long 115 6'.0" E	
211	05521548	281	Platysace tenuissima	Lat 33 33'.5" S - Long 115 5'.0" E	
282	05600936	281	Trachymene pilosa	Lat 33 38'.0" S - Long 115 5'.0" E	
668	06738559	281	Xanthosia candida		
295	05666198	281	Platysace haplosciadia	Lat 33 34'.3" S - Long 115 5'.0" E	
272	05600715	281	Xanthosia huegelii	Lat 33 33'.0" S - Long 115 4'.0" E	
		ASTERACEAE			
114	05600561	345	Rhodanthe citrina (=waitzia)	Lat 33 37'.0" S - Long 115 7'.0" E	
015	05666171	345	Brachyscome iberidifolia	Lat 33 34'.3" S - Long 115 5'.0" E	
299	05666260	345	Rhodanthe citrina		
615	06385257	345	Siloxerus filifolius		
579	06083811	345	Waitzia acuminata var albicans	Lat 33 33'.0" S - Long 115 4'.0" E	
026	05598427	345	Cotula turbinata *	Lat 33 34'.0" S - Long 115 4'.0" E	Sept
617	06385370	345	Vellereophyton dealbatum		
673	06738591	345	Dittrichia graveolens *	Lat 33 39'.0" S - Long 115 2'.0" E	April
025	06083862	345	Podolepis gracilis		
592	06084001	345	Ozothamnus cordatus	Lat 33 38'.0" S - Long 115 9'.0" E	
405	05607914	345	Trichocline spathulata	Lat 33 33'.0' S - Long 115 4'.0" E 81.0-22	
523	05799236	345	Hypochaeris radicata*	Lat 33 33'.0" S - Long 115 4'.0" E	
028	05521793	345	Lagenophora huegelii	Lat 33 34'.0" S - Long 115 4'.0" E	
630	06385311	345	Quinetia urvillei		

Nat	Perth	Fam	Species	Location	Flower
637	06416772	345	Senecio hispidulus var. hispidulus		
287	05601029	345	Millotia myosotidifolia		
021	05578299	345	Podolepis lessonii	Lat 33 33'.3" S - Long 115 4'.0" E	
027	05578426	345	Olearia ciliata	Lat 33 39'.3" S - Long 115 6'.0" E	
		BORYACEAE			
633	05578655	054L	Borya scirpoidea	Lat 33 33'.3" S - Long 115 4'.0" E	
		BRASSICACEAE			
071	05600707	138	Cakile maritima *	Lat 33 33'.0" S - Long 115 4'.0" E	Oct
		CAESALPINIACEAE			
034	05600499	164	Labichea punctata	82.2-21.9 100m West Meelup Beach	
		CARYOPHYLLACEAE			
686	06611125	113	Petrorhagia dubia		
597	06084060	113	Silene gallica var. gallica	Lat 33 33'.0" S - Long 115 4'.0" E	
		CASUARINIACEA			
593	06084028	70	Allocasuarina fraseriana	Lat 33 38'.0" S - Long 115 3'.0" E	Jan
119	05633109	70	Allocasuarina humilis	Lat 33 33'.0" S - Long 115 4'.0" E	
		CENTROLEPIDACEAE			
472	05702062	40	Centrolepis drummondiana	Lat 33 33'.0" S - Long 115 4'.0" E	Nil
		CHENOPODIACEAE			
		105	Atriplex isatidea	Lat 33 33'.0" S - Long 115 0'.4" E	Jan
138	05668050	105	Rhagodia baccata ssp baccata	R.32015/R.46/R.29842/R.23572	
545	05521726	105	Suaeda australis	Lat 33 37'.5" S - Long 115 7'.0" E	
		COLCHICACEAE			
249	05578515	054J	Burchardia umbellata	Lat 33 34'.0" S - Long 115 4'.0" E	Sept
471	05701767	054J	Wurmbea monantha	Lat 33 33'.0" S - Long 115 4'.0" E	
175	05521572	054J	Burchardia multiflora	Lat 33 34'.0" S - Long 115 4'.0" E	Aug
		CYPERACEAE			
662	06417191	32	Lepidersperma tetraquetrum		
408	05668085	32	Lepidosperma gladiatum	Lat 33 33.0" S - Long 115 4.0" E	Dec
455	05673186	32	Schoenus curvifolius		
442	05620791	32	Lepidosperma squamatum	Lat 33 39'.0" S - Long 115 6'.0" E	May
684	06611257	32	Gahnia trifida	Lat 33 37'.0" S - Long 115 7'.0" E	Oct
		32	Mesomelaena stygia		
		32	Isolepis nodosa		
		DASYPOGONACEAE			
441	05578485	054C	Acanthocarpus preissii	Lat 33 33'.3" S - Long 115 4'.0" E	Sept
550	05888263	054C	Kingia australis		
296	05666201	054C	Dasypogon bromeliifolius	Lat 33 35'.0" S - Long 115 4'.0" E	Oct
701	06829678	054C	Lomandra nigricans		
		DILLENIACEAE			
105	05600863	226	Hibbertia spicata ssp spicata	85.8-19.5/85.7-19.8 MRP	
463	05701791	226	Hibbertia commutata	Lat 33 33'.0" S - Long 115 4'.0" E	
107	05598524	226	Hibbertia cuneiformis		
418	05578507	226	Hibbertia cunninghamii	Lat 33 37'.0" S - Long 115 7'.0" E	
365	05637570	226	Hibbertia rhadinopoda (hairy)	Lat 33 36'.0" S - Long 115 6'.0" E	
104	05598648	226	Hibbertia hypericoides		
225	05598516	226	Hibbertia racemosa	Lat 33 34'.0" S - Long 115 4'.0" E	
		DROSERACEAE			
240A	05578329	143	Drosera macrantha ssp macrantha	Lat 33 33'.0" S - Long 115 4'.0" E	Sept
240B	05578337	143	Drosera menziesii ssp pencillaris	Lat 33 33'.0" S - Long 115 4'.0" E	Sept

Nat	Perth		Fam	Species	Location	Flower
184	05521467		143	Drosera gigantea ssp gigantea	Lat 33 34'.0" S - Long 115 4'.0" E	Aug
478	05702038		143	Drosera stolonifera ssp stolonifera	Lat 33 33'.0" S - Long 115 4'.0" E	Sept
275	05600766		143	Drosera pallida	Lat 33 33'.0" S - Long 115 4'.0" E	Oct
		EPACRIDACEAE				
431	05620813		288	Styphelia tenuiflora	83.9-21.1/83.3-21.2 MRP	
130	05521688		288	Andersonia caerulia	Lat 33 34'.0" S - Long 115 5'.0" E	
431	05620813		288	Styphelia tenuiflora		
432A	05620759		288	Leucopogon oxycedrus "A"		
433B	05620708		288	Leucopogon oxycedrus "B"		
427	05608058		288	Astroloma pallidum	Lat 33 33'.0" S - Long 115 4'.0" E	
269	05600669		288	Leucopogon parviflorus	Lat 33 38'.0" S - Long 115 9'.0" E	
188	05521440		288	Leucopogon capitellatus	Lat 33 33'.5" S - Long 115 4'.0" E	
244	05578418		288	Leucopogon australis var australis	Lat 33 39'.3" S - Long 115 6'.0" E	
190	05521750		288	Lysinema ciliatum	Lat 33 34'.5" S - Long 115 5'.0" E	
111	05608007		288	Leucopogon propinquus	Lat 33 33'.30" S - Lon 115 4'.0" E	
429	05620740		288	Astroloma ciliatum	Lat 33 33.0 - S Long 115 0'.4" E	Ap/May
435	05620848		288	Astroloma drummondi	Lat 33 33'.0" S - Long 115 4'.0" E	
189	05521777		288	Leucopogon tenuis	Lat 33 34'.5" S - Long 115 5'.0" E	
		EUPHORBIACEAE				
226A	05598532		185	Pseudanthus virgatus	Lat 33 34'.0" S - Long 115 4'.0" E	
140	05598656		185	Beyeria viscosa	Lat 33 33'.0" S - Long 115 4'.0" E	
161	05521475		185	Phylanthus calycinus	Lat 33 34'.0" S - Long 115 4'.0" E	July/Sept
		FRANKENIACEAE				
412	05668042		236	Frankenia pauciflora	Lat 33 33'.0" S - Long 115 4'.0" E	Jan
		GENTIANACEAE				
075	05637503		303	Centaurium tenuiflorum *	Lat 33 33'.0" S - Long 115 4'.0" E	Nov
		GERANIACEAE				
479	05702046		167	Erodium botrys*	Lat 33 33'.0" S - Long 115 4'.0" E	Sept
260	05668701		167	Pelargonium capitatum*	Lat 33 33'.3" S - Long 115 4'.0" E	
144	05668174		167	Pelargonium littorale ssp littorale	Lat 33 33'.0" S - Long 115 4'.0" E	
143	05668190		167	Pelargonium capitatum *	Lat 33 33'.0" S - Long 115 4'.0" E	July.Sept
		GOODENIACEAE				
197	05598206		341	Dampiera linearis	Lat 33 35'.0" S - Long 115 4'.0" E	Aug
357	05632951		341	Scaevola calliptera	Lat 33 33'.0" S - Long 115 4'.0" E	
372	05637538		341	Goodenia caerulea	Lat 33 33'.0" S - Long 115 4'.0" E	Nov
392	05607787		341	Goodenia eatoniana	Lat 33 39'.0" S - Long 115 6'.0" E	Dec
289	05601053		341	Scaevola crassifolia	Lat 33 33'.0" S - Long 115 4'.0" E	
160	05632862		341	Scaevola glandulifera	Lat 33 33'.0" S - Long 115 4'.0" E	
320	05666597		341	Velleia trinervis	Lat 33 39'.0" S - Long 115 4'.0" E	
280	05600871		341	Lechenaultia biloba	Lat 33 38'.0" S - Long 115 5'.0" E	
		HAENODORACEAE				
329	05666805		55	Phlebocarya ciliata	Lat 33 39'.3" S - Long 115 6'.0" E	
158	05952468		55	Tribonanthes australis	Lat 33 34'.0" S - Long 115 5'.0" E	
358	05633087		55	Haemodorum discolor	Lat 33 33'.0" S - Long 115 4'.0" E	Nov
388	05607744		55	Anigozanthus flavidus (red)	Lat 33 34'.0" S - Long 115 5'.0" E	
361	05633117		55	Haemodorum simplex	Lat 33 33'.0" S - Long 115 4'.0" E	Nov
212	05521807		55	Anigozanthus manglesii ssp manglesii	Lat 33 34'.0" S - Long 115 4'.0" E	
182	05632927		55	Conostylis aculeata ssp gracilis	Lat 33 36'.0" S - Long 115 6'.0" E	Sept
183	05521483		55	Conostylis setigera ssp setigera	Lat 33 35'.5" S - Long 115 5'.0" E	Sept
		HYPOXIDACEAE				
200	05598249	056A		Hypoxis occidentalis var quadriloba	Lat 33 34'.0" S - Long 115 4'.0" E	

Nat	Perth	Fam		Species	Location	Flower
		IRIDACEAE				
491	05751349		60	Pattersonia pygmea	Lat 33 40'.0" S - Long 115 6'.0" E	
150	05601118		60	Orthrosanthos laxus var laxus	Lat 33 34'.0" S - Long 115 4'.0" E	
149	05521556		60	Patersonia umbrosa var xanthina (yellow)	Lat 33 35'.5" S - Long 115 5'.0" E	
292	05601096		60	Patersonia occidentalis (white)	Lat 33 34'.0" S - Long 115 4'.0" E	
148	05666473		60	Patersonia occidentalis	Lat 33 34'.3" S - Long 115 5'.0" E	
151	05601010		60	Orthrosanthos polystachyus	Lat 33 33'.0" S - Long 115 4'.0" E	
147	05601045		60	Patersonia juncea	Lat 33 36'.0" S - Long 115 6'.0" E	
146	05600960		60	Patersonia babianoides	Lat 33 39'.0" S - Long 115 5'.0" E	
		JUNCACEAE				
526	05799280		52	Juncus kraussii ssp australiensis	Lat 33 33'.0" S - Long 115 4'.0" E	
547	05888271		52	Juncus caespiticius	Lat 33 33'.0" S - Long 115 4'.0" E	
522	05799228		52	Juncus pallidus	Lat 33 33'.0" S - Long 115 4'.0" E	
		LAMIACEAE				
077	05666228		313	Hemigenia podalyrina	Lat 33 35'.3" S - Long 115 5'.0" E	Sept.
076	05748127		313	Hemigenia rigida	Lat 33 35'.0" S - Long 115 5'.0" E	
		LAURACEAE				
132	05668212		131	Cassytha racemosa forma racemosa	Lat 33 35'.0" S - Long 115 5'.0" E	Nov
133	05668204		131	Cassytha racemosa forma pilosa	Lat 33 35'.0" S - Long 115 5'.0" E	Sept
698	06837735		131	Cassytha racemosa	Lat 33 37'.0" S - Long 115 0'.7" E	Feb
		LENTIBULARIACEAE				
199	05598273	323		Utricularia multifida	Lat 33 34'.0" S - Long 115 4'.0" E	
		LOBELIACEAE				
168	05633133		340	Lobelia alata	Lat 33 33'.0" S - Long 115 4'.0" E	
583	06083773		340	Lobelia tenuior		
169	05633214		340	Lobelia gibbosa	Lat 33 40'.0" S - Long 115 6'.0" E	
167	05632919		340	Lobelia rhytidosperma	Lat 33 34'.0" S - Long 115 4'.0" E	
506	05748232		340	Lobelia rhombifolia	Lat 33 35'.3" S - Long 115 6'.0" E	
170	05632757		340	Isotoma hypocrateriformis	Lat 33 33'.0" S - Long 115 4'.0" E	
		LOGANIACEAE				
448	05668158		302	Logania campanulata (no specimen)	Lat 33 40'.0" S - Long 115 6'.0" E	
080	05598672		302	Logania vaginalis	Lat 33 33'.0" S - Long 115 4'.0" E	Sept.-Nov.
079	05598486		302	Logania serpyllifolia ssp angustifolia	Lat 33 34'.0" S - Long 115 4'.0" E	Sept.-Nov
		LORANTHACEAE				
127	05607930	097		Nuytsia floribunda	Lat 33 33'.0" S - Long 115 4'.0" E	
		MENYANTHACEAE				
078	05632900	303A		Villarsia latifolia	Lat 33 34'.0" S - Long 115 4'.0" E	
		MIMOSACEAE				
121	05667941		163	Acacia cyclops	Lat 33 33'.0" S - Long 115 0'.4" E	July-Oct
234	05598699		163	Acacia saligna	Lat 33 34'.0" S - Long 115 5'.0" E	July-Oct
422	05667968		163	Acacia stenoptera	Lat 33 33'.3" S - Long 115 5'.0" E	Jan
218	05598346		163	Acacia rostellifera	Lat 33 34'.0" S - Long 115 5'.0" E	Sept
430	05620732		163	Acacia obovata	Lat 33 40'.0" S - Long 115 6'.0" E	May
664	06417175		163	Acacia stenoptera	Lat 33 39'.0" S Long 115 0'.2" E	Jan
217	05598338		163	Acacia cochlearis	Lat 33 34'.0" S - Long 115 0'.5" E	Oct
215	05598265		163	Acacia littorea	Lat 33 35'.0" S - Long 115 0'.5" E	Sept
193	05521610		163	Acacia lateriticola "glabrous variant"	Lat 33 35'.5" S - Long 115 0'.5" E	Aug
219	05598354		163	Acacia divergens	Lat 33 36'.0" S - Long 115 0'.6" E	Sept
191	05521858		163	Acacia alata var alata	Lat 33 35'.5" S - Long 115 0'.5" E	Aug
452	05673895		163	Acacia pulchella var pulchella	Lat 33 33'.0" S - Long 115 4'.0" E	Aug
192	05521831		163	Acacia nervosa	Lat 33 35'.5" S - Long 115 5'.0" E	Aug
227	05598567		163	Acacia pulchella var glaberrima	Lat 33 33'.0" S - Long 115 4'.0" E	Sept

Nat	Perth	Fam	Species	Location	Flower
		MYOPORACEAE			
082	05632781	326	Myoporum caprarioides	Lat 33 33'.0" S - Long 115 4' 0" E	July -Nov.
		MYRTACEAE			
194	05521866	273	Darwinia vestita	Lat 33 35' 5" S - Long 115 5' 0" E	Aug
531	05799317	273	Baekea camphorosmae	Lat 33 36' 0" S - Long 115 6' 0" E	
404	05607957	273	Calytrix flavescens	Lat 33 35' 0 "S - Long 115 4' 0" E	Dec
159	05637619	273	Melaleuca tricophylla	Lat 33 35' 0" S - Long 115 4' 0" E	
580	06083846	273	Eucalyptus patens	Lat 33 38' 0" S - Long 115 3' 0" E	Dec
398	05607841	273	Kunzea glabrescens	Lat 33 39' 0" S - Long 115 6' 0" E	
091	05632773	273	Melaleuca lateritia	Lat 33 37' 0" S - Long 115 7' 0" E	?
087	05632749	273	Melaleuca systena	Lat 33 35' 0" S - Long 115 5' 0" E	
276	05600782	273	Calothamnus sanguineus	Lat 33 36' 0" S - Long 115 6' 0" E	Oct
092	05598559	273	Melaleuca viminea ssp viminea	Lat 33 34' 0" S - Long 115 4' 0" E	Sept.-
129	05598729	273	Verticordia plumosa var plumosa	Lat 33 33' 0" S - Long 115 4' 0" E	
195	05521394	273	Darwinia citriodora	Lat 33 33' 5" S - Long 115 4' 0" E	Aug
251	05578566	273	Agonis flexuosa var flexuosa	Lat 33 33' 0" S - Long 115 4' 0" E	Sept
321	05666708	273	Taxandria linearifolia	Lat 33 39' 0" S - Long 115 4' 0" E	Oct
210	05521580	273	Calothamnus graniticus subsp. graniticus	Lat 33 35' 0" S - Long 115 6' 0" E	Aug
088A	05578590	273	Melaleuca systena	Lat 33 35' 0" S - Long 115 5' 0" E	
562	05952530	273	Eucalyptus rudis ssp cratyanther	Lat 33 33' 0" S - Long 115 4' 0" E	June
090	05666627	273	Melaleuca thymoides		
314	05666538	273	Eremaea pauciflora var pauciflora	Lat 33 40' 0" S - Long 115 4' 0" E	Oct
421	05667984	273	Corymbia calophylla	Lat 33 33' 0" S - Long 115 4' 0" E	Feb
252	05578582	273	Eucalyptus phylacis (DRF)	Lat 33 33' 0" S - Long 115 5' 0" E	Sept
085	05521408	273	Hypocalymma angustifolium	Lat 33 33' 5" S - Long 115 5' 0" E	Aug-Oct
086	05521564	273	Hypocalymma robustum	Lat 33 34' 0" S - Long 115 4' 0" E	Sept-Oct
527	05799279	273	Melaleuca preissiana	Lat 33 39' 0" S - Long 115 4' 0" E	
089	05578272	273	Melaleuca lanceolata	Lat 33 34' 3" S - Long 115 5' 0" E	
233	05598680	273	Eucalyptus marginata ssp marginata	Lat 33 33' 0" S - Long 115 4' 0" E	Sept
		ONAGRACEAE			
474	05701988	66	Pterostylis recurva	Lat 33 39' 0" S - Long 115 6' 0" E	
483	05702054	66	Lyperanthus serratus	Lat 33 33' 0" S - Long 115 4' 0" E	
577	06083838	66	Thylymitra benthamiana	Lat 33 33' 0" S - Long 115 4' 0" E	
456	05681154	66	Diuris aff amplissima	Lat 33 34' 0" S - Long 115 5' 0" E	Sept
514	05748143	66	Thelymitra crinita	Lat 33 35' 0" S - Long 115 5' 0" E	
468	05681103	66	Caladenia macrostylis	Lat 33 33' 0" S - Long 115 4' 0" E	Sept
466	05681111	66	Caladenia longicauda ssp clivicola (P1)	Lat 33 33' 0" S - Long 115 4' 0" E	Sept
521	05744997	66	Elythranthera emarginata	Lat 33 33' 0" S - Long 115 4' 0" E	Oct
459	05681073	66	Eriochilus dilatus ssp multiflorus	Lat 33 39' 0" S - Long 115 6' 0" E	May
500	05748216	66	Microtis media ssp densiflora	Lat 33 40' 0" S - Long 115 6' 0" E	
454	05673178	66	Pterostylis vittata	Lat 33 39' 0" S - Long 115 6' 0" E	
457	05673232	66	Caladenia flava ssp flava	Lat 33 34' 0" S - Long 115 4' 0" E	Aug
529	05799570	66	Prasophyllum brownii	Lat 33 39' 0" S - Long 115 4' 0" E	
496	05751281	66	Elythranthera brunonis	Lat 33 35' 0" S - Long 115 5' 0" E	Oct
481	05702011	66	Thelymitra antennifera	Lat 33 33' 0" S - Long 115 4' 0" E	
480	05702003	66	Cyanicula gemmata	Lat 33 33' 0" S - Long 115 4' 0" E	Sept
551	06028446	66	Caladenia chapmanii	Lat 33 36' 0" S - Long 115 6' 0" E	Sept
495	05751373	66	Caladenia latifolia	Lat 33 38' 0" S - Long 115 9' 0" E	Oct
502	05748194	66	Diuris longiolia (and 502B)	Lat 33 39' 0" S - Long 115 6' 0" E	Aug
513	05748186	66	Caladenia attigens ssp attigens	Lat 33 35' 0" S - Long 115 4' 0" E	Oct
469	05681081	66	Caladenia longicauda susp.clivicola x gardneri	Lat 33 33' 0" S - Long 115 4' 0" E	Sept
606	06255752	66	Prasophyllum aff. Parvifolium		

Nat	Perth	Fam	Species	Location	Flower
611	06417140	66	Cyanicula sericea	Lat 34 40' 0" S - Long 115 4' 0" E	Sept
473	05741475	66	Caladenia longicauda ssp clivicola x gardneri	Lat 33 33' 0" S - Long 115 4' 0" E	Sept
		OXALIDACEAE			
622	06385214	168	Oxalis purpurea		
		PAPPPILLIONACEAE			
034	05620686	165	Daviesia decurrens	Lat 33 33' 0" S - Long 115 4' 0" E	June
687	05521645	165	Daviesia horrida	Lat 33 33' 5" S - Long 115 4' 0" E	Aug
508	05600847	165	Daviesia cordata	Lat 33 33' 0" S - Long 115 4' 0" E	Oct
177	05633168	165	Viminaria juncea	84.2-21.7/86.4-19.3/84.3-20.6/	Nov-Dec
676	05598702	165	Kennedia coccinea	82.3-22.4/	Sept-Oct
278	05598494	165	Isotropis cuneifolia subsp cunefolia	M7?/	Sept
304	05521653	165	Kennedia prostrata	Lat 33 33' 0" S - Long 115 4' 0" E	July
424	05799333	165	Brachysema praemorsum N59	Lat 33 34' 0" S - Long 115 0' 5" E	Sept
055	05521904	165	Hovea trisperma	81.7-21.7/81.6-22.5/	AugSept
537	05521882	165	Hovea elliptica	83.322.2/81.9-22.2/82.3-23.2/	AugSept
052	05598508	165	Hardenbergia comptoniana	R.36429/29844/26524/23572/31591	July
050	05637546	165	Gompholobium polymorphum (yellow)	Lat 33 39' 0" S - Long 115 6' 0" E	Nov
534	05633206	165	Gompholobium knightianum	Lat 33 35' 0" S - Long 115 5' 0" E	Sept-Nov
048	05666317	165	Sphaerolobium medium	81.4-22.4/82.1-22.1/81.4-22.6/	Oct
046	05637635	165	Chorizema reticulatum P 3	Lat 33 34' 0" S - Long 115 6' 0" E	Sept
042	05578523	165	Eutaxia virgata	Lat 33 37' 0" S - Long 115 7' 0" E	Sept
044	05600839	165	Eutaxia obovata	Lat 33 39' 0" S - Long 115 6' 0" E	Sept
509	05666244	165	Templetonia retusa		
298	05598613	165	Bossiaea eriocarpa	Lat 33 33' 0" S - Long 115 4' 0" E	Sept
524	05620694	165	Hovea chorizemifolia		
051	05598478	165	Chorizema rhombeum	Lat 33 34' 0" S - Long 115 4' 0" E	Sept-Oct
058	05666651	165	Gastrolobium spinosum	Lat 33 35' 0" S - Long 115 6' 0" E	Nov
230	05666503	165	Gompholobium ovatum	Lat 33 39' 0" S - Long 115 6' 0" E	Oct
231	05607868	165	Gompholobium confertum	Lat 33 39' 0" S - Long 115 6' 0" E	Dec
035	056000812	165	Kennedia carinata	Lat 33 33' 0" S - Long 115 4' 0" E	
043	05600820	165	Chorizema diversifolium	Lat 33 33' 0" S - Long 115 4' 0" E	Aug Nov
327	05666694	165	Chorizema aciculare ssp aciculare	Lat 33 33' 0" S - Long 115 4' 0" E	Sept-Oct
399	05600952	165	Bossiaea ornata	Lat 33 34' 0" S - Long 115 0' 5" E	Sept-Oct
470	05666325	165	Gompholobium marginatum	Lat 33 33' 0" S - Long 115 4' 0" E	Oct
036	06738575	165	Daviesia preissii	Lat 33 37' 0" S - Long 115 7' 0" E	April
037	05578647	165	Bossiaea linophylla	Lat 33 34' 0" S - Long 115 0' 5" E	Sept Nov
302	05578248	164	Mirbelia dilitata		
057	05578256	165	Oxylobium lineare	Lat 33 37' 0" S - Long 115 7' 0" E	
229	05637554	165	Gompholobium tomentosum	Lat 33 39' 0" S - Long 115 6' 0" E	Nov
		PHILLYDRACEAE			
305	05666376	50	Philydrella drumondii		
		PHORMIACEAE			
371	05672473	054E	Dianella revoluta	Lat 33 33' 0" S - Long 115 4' 0" E	Nov
351	05632986	054E	Dianella brevicaulis	Lat 33 33' 0" S - Long 115 4' 0" E	Nov
		PITTOSPORACEAE			
627	05668115	152	Billardiera floribunda	Lat 33 33' 0" S - Long 115 0' 4" E	Jan
423	05607906	152	Marianthus tenuis		
498	05633184	152	Sollya heterophylla		
261	05668107	152	Billardiera variifolia	Lat 33 33' 0" S - Long 115 4' 0" E	Dec
116	05701953	152	Pittosporum phylliraeoides		

Nat	Perth	Fam		Species	Location	Flower
		POACEAE				
173	05668026		31	Spinifex hirsutus	R.46/R.23572/R.29842/	
520	05632854		31	Spinifex longifolius		
658	05578639		31	Tetrarrhena laevis		
641	05748151		31	Lagurus ovatus *		
620	06416802		31	Briza maxima *	Lat 33 39' 0" S - Long 115 0' 2" E	Oct
239	06385230		31	Briza minor *	Lat 33 39' 0" S - Long 115 0' 2" E	Oct
646	05578310		31	Themeda triandra (extension of range)		
		POLYGALACEAE				
315	06385362		183	Polygala myrtifolia *		
390	05607817		183	Comesperma calymega	Lat 33 39' .0" S – Long 114 6' .0" E	Dec
014	05666384		183	Comesperma ciliatum	Lat 33 33' .0" S – Long 115 4' 0" E	Oct
315	05666767		183	Comesperma virgatum	Lat 33 39' .0" S – Long 115 6' .0" E	Oct
228	05578612		183	Muehlenbeckia adpressa		
		PRIMULACEAE				
295	06611265		293	Samolus junceus		
283	06083919		293	Anagallis arvensis var.saerulea	Lat 33 33' .0" S – Long 115 4' .0" E	
		PROTEACEAE				
181	05521637		90	Grevillea trifida	Lat 33 34' .0" S – Long 115 5' .0" E	Aug
102	05600529		90	Adenanthos meisneri	Lat 33 36' .0" S - Long 115 6' .0" E	Sept
341	05620821		90	Synaphea gracillima		
675	05888344		90	Banksia grandis	Lat 33 34' .0" S – Long 115 0' .5" E	Aug
446	05600731		90	Dyrandra sessilis var cordata (P 2)	Lat 33 33' .0" S - Long 115 4' .0" E	Sept
103	05701775		90	Petrophile linearis	W Harrison Bay MRP	
241	05888352		90	Banksia attenuata	Lat 33 39' .0" S – Long 115 0' .2" E	May
096	05666392		90	Petrophile linearis		
549	05521491		90	Hakea trifurcata		
567	05673151		90	Dryandra lindleyana var mellicula	Lat 33 33' .0" S – Long 115 4' .0" E	Aug
608	05521416		90	Synaphea gracillima		
306	05607884		90	Persoonia longifolia		
402	05667933		90	Hakea ruscifolia		
451	05578469		90	Hakea prostrata		
097	05521874		90	Hakea lissocarpha	Lat 33 33' .0" S – Long 115 4' .0" E	Aug
393	05521912		90	Stirlingia latifolia		
125	05600774		90	Persoonia longifolia		
180	05521823		90	Grevillea quercifolia	Lat 33 35' .0" S – Long 115 6' .0" E	Sept
100	05598419		90	Hakea amplexicaulis	Lat 33 33' .0" S – Long 115 4' .0" E	Sept
118	05672422		90	Dryandra bipinnatifida ssp bipinnatifida	Lat 33 33' .0" S – Long 115 4' .0" E	Nov
286	05521424		90	Synaphea petiolaris		
		RANUNCULACEAE				
067	05578620		119	Clematis linearifolia	Lat 33 38' .0" S – Long 115 9' .0" E	Sept
515	05598664		119	Clematis pubescens	Lat 33 33' .0" S - Long 115 4' .0" E	Sept
259	05600685		119	Ranunculus colonorum		
		RESTIONACEAE				
450	05673194		39	Desmocladus fasciculatus (f)	Lat 33 33' .0" S – Long 115 4' .0" E	Aug
383	05673208		39	Desmocladus fasciculatus (m)	Lat 33 33' .0" S – Long 115 4' .0" E	Aug
462	05620783		39	Hypolaena exsulca (m)		
330	05701996		39	Desmocladus asper (m)	Lat 33 33' .0" S – Long 115 4' .0" E	Sept
		RHAMNACEAE				
3	05521521		215	Trymalium ledifolium var rosemarinifolium		
005/6	05521432		215	Cryptandra arbutiflora var tubiflora	Lat 33 35' .0" S – Long 115 5' .0" E	Sept
557	05521769		215	Spyridium globulosum		

Nat	Perth		Fam	Species	Location	Flower
		RUBIACEAE				
	84 05578558		331	Opercularia hispidula		
356	05637473		331	Opercularia vaginata		
		RUTACEAE				
	8 05598362		175	Diplolaena dampieri	Lat 33 34'.0" S - Long 115 5'.0" E	Sept
	05666295		175	Boronia tenuis	Lat 33 34'.0" S - Long 115 0'.5" E	Sept
		SANTALACEAE				
	139 5668166		92	Leptomeria cunninghamii		
	228 5598575		92	Leptomeria pauciflora		
	544 5888301		92	Santalum acuminatum		
		SAPINDACEAE				
	124 05667925		207	Dodoneae ceratocarpa (m and f)	Lat 33 33'.0" S - Long 115 4'.0" E	June
		SCROPHULARIACEAE				
	05744946		316	Gratiola pubescens	Lat 33 34'.0" S - Long 115 4'.0" E	Nov
235	06255671		316	Bartsia trixago	Lat 33 33'.0" S - Long 115 0'.4" E	Nov
636	05888336		316	Parentucellia viscosa*		
		SOLANACEAE				
	235 05598710		315	Solanum symonii (fruit confirmed)		
	636 06416764		315	Solanum linnaeanum *		
		STACKHOUSIACEAE				
005/6	05601126		202	Stackhousia monogyna		
	4 05666406		202	Tripterococcus brunonis		
		STERCULLIACEAE				
391	05598621		223	Rulingia cygnorum		
002	05600758		223	Thomasia triphylla		
171	05620678		223	Thomasia foliosa		
406	05578213		223	Thomasia rhynchocarpa		
		STYLIDIACEAE				
643	05632722		343	Stylidium amoenum var amoenum		
083	05799309		343	Stylidium calcaratum	Lot 5 Yall Fields	
	493 05751365		343	Stylidium diversifolium	Miles Lot 50	
	310 05666414		343	Stylidium megacarpum		
307A	05778302		343	Stylidium petiolare		
313	05601134		343	Stylidium affine		
366	05632730		343	Stylidium adnatum		
348	05666252		343	Levenhookia pusilla		
293	06028373		343	Stylidium brunonianum		
569	05578493		343	Stylidium crassifolium		
582	05666740		343	Stylidium schoenoides		
		THYMELAEACEAE				
	66 05578477		263	Pimelea ferruginea		
492	05637511		263	Pimelea hispida		
186	05632714		263	Pimelea imbricata var piligera		
555	05600855		263	Pimelea preissii		
258	05521513		263	Pimelea suaveolens ssp suaveolens		
064	06837786		263	Pimelea angustifolia		
063	05598435		263	Pimelea rosea ssp rosea		
		TREMANDRACEAE				
568	05521505		182	Tetratheca setigera		
		VIOLACEAE				
171	05521459		243	Hybanthus floribundus ssp floribundus		

Nat	Perth	Fam	Species	Location	Flower
		XANTHORRHOEACEAE			
654	No code	054D	Xanthorrhoea preissii		
400	05607876		Xanthorrhoea gracilis		
		ZAMIACEAE			
113	5607892	016A	Macrozamia reidlei		

Meelup Mallee

Endangered Flora of Western Australia

If you think you've seen this plant, please call CALM South West Capes on (08) 9752 1677

Commonly known as the Meelup mallee, *Eucalyptus phylacis* is a small mallee or tree to 5 m tall, with distinctive coarse, non-fibrous bark overlaying thick corky bark.

Meelup mallee blooms in February and March, when masses of white flowers are produced in the axils of terminal leaves.

The species is closely related to *Eucalyptus decipiens*, but differs in having smaller buds and fruit, broadly conical opercula (the cap on the bud) and in not having emarginate (a small notch at the leaf tip) juvenile leaves.

Meelup mallee was first collected in 1982, and named in 1992.

Kings Park and Botanic Garden staff have undertaken research into the genetics of the species. During this research they discovered that the only known population is in fact a single plant (clone) which may be up to 3600 years old.

Meelup mallee was ranked as Critically Endangered in 1995 but, through successful recovery actions, has since been re-ranked as Endangered.

CALM has set up the Central Forest Region Threatened Flora Recovery Team to co-ordinate recovery actions addressing the most threatening processes affecting the species' survival in the wild. (See overleaf.)

Threats include accidental damage through road maintenance, no germination from seed (the species having very poor seed viability), and insect damage.

The species is known from only one roadside population in the Meelup area, and we are eager to know of any others.

If unable to contact the District office on the above number, please phone CALM's Wildlife Branch on (08) 9334 0422.



A close-up of the creamy-white flowers typical of the species. Photo – A. Brown



A fully grown tree. Note the low branching habit. Photo – A. Brown

Recovery of a Species



CALM is committed to ensuring that Critically Endangered taxa do not become extinct in the wild. This is done through the preparation of a Recovery Plan (RP) or Interim Recovery Plan (IRP), which outlines the recovery actions that are required to urgently address those threatening processes most affecting the ongoing survival of threatened taxa in the wild and begin the recovery process.

IRPs are prepared by CALM and implemented by Regional or District Recovery teams consisting of representatives from CALM, Kings Park and Botanic Garden, community groups, private landowners, local Shires and various government organisations.

Méelup Mallee

Essential recovery actions that have been implemented to protect the species include:

Protection from current threats: The erection of signs that mark the site of the population; the treatment and monitoring of insect borers; the development of a fire protection plan; and the regular monitoring of the health of the population.

Protection from future threats: The maintenance of dieback hygiene; ensuring that relevant authorities, land owners and CALM personnel are aware of the species and the need to protect it; and that all are familiar with the threatening processes identified in the Interim Recovery Plan.

Desirable recovery actions, which are being progressively implemented, include:

Enhancing plant numbers by removal of weeds, amelioration of some other limiting factor, or by direct propagation and translocation techniques; the collection of seed; the maintenance of live plants away from the wild (i.e. in botanical gardens); conducting further surveys; and researching the biology and ecology of the Meelup mallee.

IRPs will be deemed a success if essential recovery actions have been implemented, and identified threatening processes have been removed within three years of their approval.



This photo shows the distinctive coarse bark typical of the species. Photo – F. Bunny



Masses of white flowers are produced in February and March. Photo – A. Brown

Department of Conservation and Land Management

Threatened and Priority Fauna Database Page 1 of 1

33.54429 °S 115.04129 °E / 33.5999 °S 115.111 °E Meelup Regional Park

* Date	Certainty	Seen	Location Name	Method
Schedule 1 - Fauna that is rare or is likely to become extinct				
Pseudocheirus occidentalis			**Western Ringtail Possum**	*3 records*
This species occurs in areas of forest and dense woodlands and requires tree hollows and/or dense canopy for refuge and nesting.				
1969	1	2	Crown Reserve	Day sighting
1994	1	1	Meelup Regional Park	Night sighting
2005	1	1	Eagle Bay	Night sighting
Engaewa reducta			**Dunsborough Burrowing Crayfish**	*1 records*
The species belongs to a genus of strong burrowers that spend nearly all their lives underground. They inhabit sandy or loamy soil in heathlands dominated by myrtaceous shrubs. It is currently known in the vicinity of Yelverton south of Dunsborough.				
1960	1	4	Dunsborough	Caught or trapped
Priority Two: Taxa with few, poorly known populations on conservation lands				
Ninox connivens connivens			**Barking Owl (southwest pop)**	*1 records*
This species inhabits forest and woodland and is becoming increasingly rare in the south-west. It preys on invertebrates and small mammals.				
1996	1	1	Dunsborough	Night sighting
Priority Four: Taxa in need of monitoring				
Macropus irma			**Western Brush Wallaby**	*2 records*
This species occurs in areas of forest and woodland supporting a dense shrub layer.				
1969	1	1	Crown Reserve	Night sighting
2005	1	7	Eagle Bay	Night sighting
Priority Five: Taxa in need of monitoring (conservation dependent)				
Isoodon obesulus fusciventer			**Quenda**	*3 records*
This species prefers areas with dense understorey vegetation, particularly around swamps and along watercourses, that provides ample protection from predators.				
1969	1	1	Crown Reserve	Caught or trapped
1994	1	1	Meelup Regional Park	Diggings
2005	1	3	Eagle Bay	Caught or trapped

* Information relating to any records provided for listed species:-
Date: date of recorded observation
Certainty (of correct species identification): 1=Very certain; 2=Moderately certain; and 3=Not sure.
Seen: Number of individuals observed.
Location Name: Name of reserve or nearest locality where observation was made
Method: Method or type of observation

Tuesday, 31 July 2007 Department of Environment and Conservation

TABLE 2. Cumulative list of all specie
Introduced species are identifie

FROGS
Crinia georgiana
Crinia glauerti
Geocrinea leai
Heleioporus eyrei
Heleioporus inornatus
Limnodynastes dorsalis
Pseudophryne guentheri
Metacrinia nichollsi
Litoria adelaidensis

GECKOS
Phyllodactylus marmoratus marmoratus

LEGLESS LIZARDS
Aprasia pulchella
Delma australis

DRAGON LIZARDS
Pogona minor minor

SKINKS
Bassiana trilineata
Cryptoblepharus plagiocephalus
Ctenotus delli
Ctenotus impar
Egernia kingii
Egernia napoleonis
Hemiergis peronii
Lerista distinguenda
Menetia greyii
Morethia lineoocellata
Tiliqua rugosa rugosa

MONITORS
Varanus rosenbergi

SNAKES
Ramphotyphlops australis
Pseudonaja affinis affinis
Suta nigriceps

MAMMALS
Echidna
Common Dunnart
Southern Brown Bandicoot
Western Ringtail Possum
Common Brushtail Possum
Honey Possum
Western Grey Kangaroo
Western Brush Wallaby
* Black Rat
* Rabbit
* Fox
* Feral Cat

APPENDIX D

Trails Strategy

MEELUP REGIONAL PARK
TRAILS MANAGEMENT PLAN

STRATEGY UPDATE, MARCH, 2007

1. INTRODUCTION

The tracks and trails in M.R.P. consist of walking trails, plus service vehicle tracks and fire breaks. The Coastal Walkway provides a connection to the National Park at Cape Naturaliste and the Cape to Cape long distance Track. There is a potential for an eventual connection to a future walking or dual use path to Busselton. There are no allowed bike trails at the present time, though it is possible that these will be provided in the future.
(*see map 10, Existing and Proposed Tracks and Trails),*

2. WALKTRAILS

2.1 Standards.

All walk trails in the Park shall be identified by Australian Standards classification.

2.2. The walk trail system.

M.R.P. walk trails are;

- A Coastal Walkway or trail extending from the southern boundary at Forrest St to Eagle Bay. *Variable, Class 1 to3.*
- An unofficial coastal trail from Eagle Bay to meet the beach at Bunker Bay, some passing through private land, thence via the beach to meet the Leeuwin Naturaliste National Park at Cape Naturaliste. *Class 3 to 5.*
- A circuit trail to a lookout above Pt Picquet, from Meelup Brook to the Coastal Walkway near Gannet Rock *Class 3.*
- A short disability use trail along Meelup Brook from Meelup Beach for 250m. *Class 1.*
- A short disability use trail from Reidle Park at Eagle Bay to the Baudin Memorial. *Class 1.*
- An unofficial, but walkable, trail along Meelup Brook, beyond the disability trail, to the old dam, and thence via the firebreak to Sheens Rd. *Class 3.*
- A short steep trail from Castle Rock to the historic Whale Lookout. *Class 4.*
- A trail from Bird Crescent at the southern boundary, to the Coastal walkway at Curtis bay. *Class 1, 4.*

- A trail from Gifford Road entry on the southern boundary via the edge of the golf course to the Coastal walkway at the northern end of Curtis Bay.
  Class 4.

- An infrequently used trail and track, known as the "car-rally" track. It starts at the bypass road above Meelup Beach, and then via an old road and a rough goat track , connects to the bitumen road at the top of the hill near the junction of Meelup Rd and Castle Rock Rd.
  Variable Class 3 to 5.

These trails are of varying standards, from well made wheelchair accessible, to unmarked, rocky, barely discernible footpads, as at between Rocky Point and Bunker Bay or the beach at Bunker Bay. A program to develop and improve these trails was implemented in 1995. This program has been designed to meet the needs of all on-foot users of Meelup Regional Park for the immediate future.

2.3. Walk trail Users

Walkers generally fall into one of three categories:

- Casual Users: Day visitors to the Park, usually Meelup Beach or Castle Bay, includes families with children and prams, in casual beach footwear, who undertake a short walk as part of the day's activities.

- Recreational Hikers: Purposely visit to walk in the Park, which includes fishermen accessing coastal points. Many walk long sections, or through the Park as part of a longer hike. Better footwear is necessary.

- Local Users: Residents living near the perimeter of the Park who walk sections on a regular basis.

Cyclists: Currently, there are no facilities for cyclists, but cyclists are regularly using, and damaging, the walktrails. A demand does exist to make provision for bikes if a sustainable solution can be found.

2.4. Required standards.

To make provision for all these groups into the future, a range of different classes of trail has been planned, some of which are already in place. To achieve these aims a planned network should be composed of:

- Some high quality trails up to 1.5m or 2m. wide, with a firm surface and easy gradients, some suitable for wheelchairs, with interpretive signage, radiating out a short distance from Meelup Beach and Castle Bay and adjoining townships at either end. The intention is to provide the highest quality trails where the greatest use by casual walkers occurs.

- A coastal trail of varying quality along the whole coastline.

- A network of inter-linking trails offering a variety of experiences and distances, providing access to differing areas and some circuit routes. Some trails will remain wilderness or adventure trails to cater for the more dedicated hikers.

At least one route for cyclists from Dunsborough to Meelup beach (and perhaps beyond) should be considered. It is not safe to allow cyclists to use existing trails and constructed walkways because of potential conflict with walkers. These paths are purposely designed for intimate pedestrian use. Their sight distances and widths are too restricted for dual use and they can include difficult rocky terrain, steps and steep slopes subject to erosion. All trails must be clearly defined and signposted.

2.5 Priorities for development. (Existing tracks and extensions)

a. A trail from Eagle Bay via Rocky Point to Bunker Bay.
A strategy is being developed to overcome problems of the existing trail traversing private property and to relocate the route where necessary. Staged construction of this trail is proposed as funds become available.

b. Bird Crescent to Curtis bay, below the access track from Gifford Road. Up grade where necessary, with steps and relocation of short sections. Pave with limestone or gravel as required.

c. Meelup Brook to Sheen Road firebreak
This trail is used by walkers from the accommodation at Wises Winery and others, to access the beach. Some unofficial signage has been erected by persons unknown. The path passes through a Dieback infected area.
Consider surfacing with limestone or other measure to combat the threatened spread of Dieback to clean areas. Install signage as appropriate.

d. Gifford Road to Curtis Bay North, via the edge of the golf course.
This unimproved track is suffering from erosion, and needs erosion control, particularly where it descends from the golf course and is being damaged by bikes. Upgrade with steps.

e. Car Rally track. Upgrade the unformed track which joins the two sections of old gravel road, and delineate the last section which meets the bitumen opposite Castle Rock Rd.

f. Consider upgrading the disability use pathway up Meelup Brook, as far as platform lookout, with hot mix seal.

This program would consolidate existing trails within the Park.

2.6 Potential new routes

To develop a network of inter linking and circuit walks, several new routes should be examined. Some of these will traverse pristine and uncontaminated bush which merits consideration of the implications.

a. Meelup Brook to Castle Rock Rd /Meelup Road junction. The existing track up Meelup Brook firebreak to the junction with the boundary firebreak at Sheens Rd is in frequent use. From here there are three options to provide return circuit routes:

   - Following the firebreak north-east to Eagle bay will remain a viable route.

- A connection is needed towards the south to connect with the "car-rally track" at the Castle Rock Road junction. This would complete a return circuit to Meelup Beach.

- A trail from the above junction to the coastal track at Castle Bay will provide a choice of alternative return routes to Meelup Beach. This trail could be on either side of the bitumen road and would be quite steep.

  On the upper (Meelup) side is an old road, quite overgrown, but which could provide a fair base for a track. On the lower, creek side, an opportunity exists to build a very attractive path along the creek. This could be an expensive option and would raise questions about introducing walkers to a pristine creek in very good condition, and risking contamination or degradation.

b. Meelup Hills subdivision.
There is evidence of walkers from the subdivision using firebreak tracks and accessing the Whale Lookout and Coastal Track at present. This is a viable route, with access from the rehab area gate as well as Little Big Rock. However, this also raises issues of Dieback control, which must be addressed before advertising and signposting this route.

c. Consideration should be given to allowing a route between the north-west boundary firebreak and the Lookout Circuit trail. A firebreak extends eastwards to within 200 metres of the Lookout. This would allow a circuit return route from Meelup Beach as well as a circuit return route from Eagle bay. However, this would also traverse uncontaminated bush.

2.7 Maintenance

All capital works need maintenance at some time to prevent them degrading to an unacceptable condition.

Walking tracks which are surfaced with naturally occurring materials will erode under the effects of rain, wind gradient, and traffic. The only question is at what rate. Even manufactured hard surfaces do not last for ever though they cost a lot more.

Erosion may be slow, insidious, and sometimes almost unnoticed but can vary hugely under different conditions. To retain the Parks tracks and trails in perpetuity a system of regular inspection and reporting on the condition of all sections of trail needs to be instituted. Recommended action to help sustain these assets needs to be based on observed departures from an adopted standard of surface finish. This standard should form part of the M.R.P. Trails Management plan.

Maintenance, being funded from Council's budgeted funding, should be treated in two ways;

- As minor routine maintenance to cover localised occurrences that crop up anywhere from time to time.

- As specific maintenance to cover systematic degradation of sections of route in accordance with a management plan.

Minor maintenance jobs are dealt with on an as- needs basis from time to time by volunteers, or by Shire workers.

All trails are pruned once a year in the spring, by volunteers and as required at other times.

2.8. Signage

A signage policy is yet to be identified and adopted. It should include guidelines to marking trails, to include destination and distance signage at every terminal and junction, and reassurance markers at intervals on all trails. Interpretive nature signage could be included.

2.9 Guidelines for all trail construction.

A current policy ensures that all walktrails should remain unsealed, but may be surfaced with natural materials. Until such time as the results of a study proves that limestone is not injurious to the bushland, future use of this material should be suspended.

Before commencing any work on walktrails, certain procedures must be undertaken, as follows:

- Establish demand, present and future.
- Establish land ownership.
- Consult Aboriginal Elders re heritage.
- Impact assessment
  - DRF
  - Vegetation.
  - Habitat.
  - Dieback control
  - Landscape values
  - Erosion potential
- Establish design of path.
  Location, width, materials to be used, construction methods.
- Establish rehabilitation plan for disturbed bush and relocated paths.
- Provide Committee with written report on all these issues for approval of project.

All work must be carried out in compliance with the MRP Management plan, and the 7 step Dieback Strategy followed.

To this date, walktrails have been successfully constructed using clay stabilized limestone, which after several years use, has proved to be hard wearing.

Some earlier trails constructed with an experimental use of limestone stabilized with DUSTEX, a lignum sulphanate based additive, have not worn well and the fines on the surface have blown away, leaving a rough track.

3. SERVICE TRACKS AND FIREBREAKS

A number of old 4wd tracks have been utilized throughout the Park and with the addition of several new sections, form a system of firebreaks and service tracks. These compartmentalise bush cells for planned control burns and to allow access to all areas of the Park for firefighting vehicles.

3.1 Service tracks.

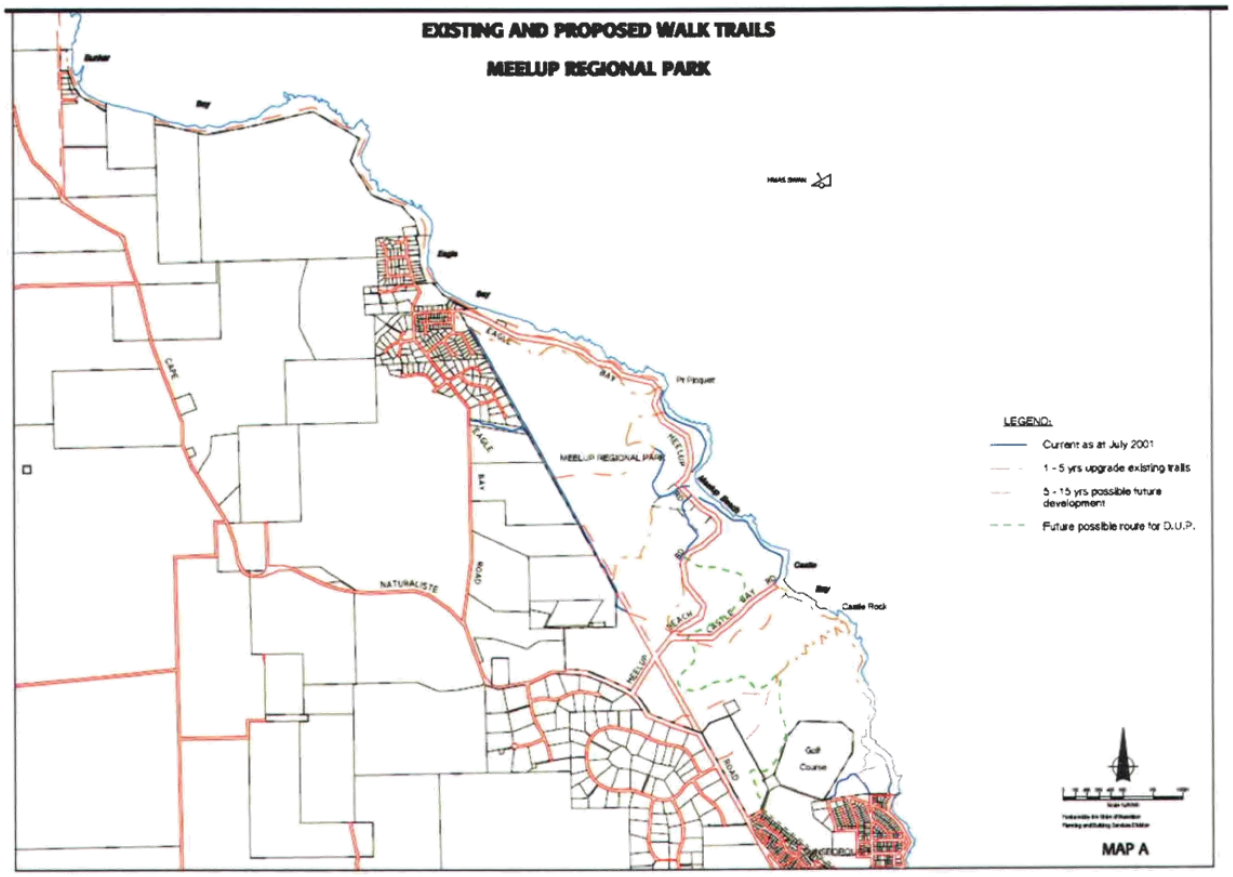
The main service tracks, which are sometimes used as walktrails, are:

- Sheens Rd to Eagle Bay, via the north western boundary.
- The fauna corridor exit to Eagle Bay Rd (not officially part of Park)
- From the north west boundary, along Meelup Brook, to the Meelup Beach bypass road.
- From Cape Naturaliste Rd opposite Endicott Loop to the Whale Lookout.
- From the above track near the main gate entrance to the town water supply tank.
- Gifford Road Carpark to Curtis bay.
- Bird Crescent to the above track.

The condition of these trails is variable and has not been documented here. However, all tracks should be inspected from time to time and pruned where necessary and kept in a trafficable condition for 4wd vehicles.

3.2 Firebreaks.

There are in addition a number of cleared routes suitable for 4wd access used for control burns. These trails have been mapped and documented in the Fire Strategy attached to the M.R.P.Management Plan.


EXISTING AND PROPOSED WALK TRAILS
MEELUP REGIONAL PARK
LEGEND:
Current as at July 2001
1 - 5 yrs upgrade existing trails
5 - 15 yrs possible future development
Future possible route for D.U.P.
MAP A

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APPENDIX E

Community consultation contacts

List of Stakeholders

Organisation / Contact name	Contact details
Meelup Regional Park Management Committee Don McDonald (Chairman) Fiona Anderson (Administrative Assistant) Nik Selheim (EMP Project Manager) Margaret Winchcombe Wes Hartley (Cr Shire of Busselton) Don Hanrahan Smith(Cr Shire of Busselton) John Slee Shirley Fischer Steve Fisher (Shire of Busselton) Rod Griste (ex member)	 MRPMC PO Box 614 Dunsborough WA 6281 Tel 9756 7893 Mobiles: Nik 0412 222 883 Don 0414711815 John 042 139 2995 meelup.committee@westnet.com.au dmcdon@bigpond.net.au
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Department of Environment and Conservation (DEC) Paul McCluskey (Management Planning Unit) Denam Bennets (Planning Officer, Leeuwin-Naturaliste Ridge National Park) Peter Henly – (Planner, Bunbury Regional Office) Aminya Ennis – (Planner, Bunbury Regional Office) Russell Smith, Project Manager, Ringtail Possum Recovery Programme: (08) 9725 4300 or Greg Mair (District Manager – Blackwood) Brad Commons Greg Mair (District Manager – Blackwood) Neil Taylor (DEC–Cape to Cape organiser)	Management Planning Unit Ph: 08) 9334 0598 Fax: 08) 9334 0253 Mobile: 0429 114 313 Email: paul.mccluskey@dec.wa.gov.au Denam.Bennetts@dec.wa.gov.au Regional Office 35-39 McCombe Road Bunbury, WA 6230 (PO Box 261, Bunbury, WA 6231) Tel: +61-8-9726 4111 Fax: +61-8-9726 4100 aminya.ennis@dec.wa.gov.au russells@dec.wa.gov.au Manjimup Office (Blackwood District) 52 Bath Street Manjimup, WA 6258 Tel: +61-8-9771 1878 Fax: +61-8-9771 8108 Geographe Capes District Office 72 Duchess St Busselton PO Box 269 Busselton, WA 6280 Tel: +61-8-9781 0188 Fax: +61-8-9754 4335 www.geocatch.asn.au

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Dunsborough / Yallingup Chamber of Commerce **Margaret Campbell (President)** **John McCallum (Vice President)** **David Binks (Executive member)** **Busselton Chamber of Commerce** **Peter Gordon (President)**	PO Box 146 Western Australia Australia 6281 http://www.dycci.org.au/index.php?option=com_peoplebook&Itemid=28 John (08) 9755 3131 PO Box 611 Busselton WA 6280 0418 935546
Dunsborough & Districts Progress Assoc Inc. **Ron Glencross** **Jackie Happ** **Rance Driscoll**	PO Box 63 Dunsborough WA 6281 Address: (Hall) Cnr Gifford & Gibney Street DUNSBOROUGH 6281 Contact: Ron Glencross Phone: 97553718 Fax: 97553718 Rance: 0417 934 219

Dunsborough Library Busselton Library	975 3966 Naturaliste Community Centre, Dunsborough Lakes Drive Dunsborough Phone: (08) 9756 7111 Fax: (08) 9752 4958 Email: dunslib@busselton.wa.gov.au Stanley Street, Busselton. Phone: (08) 9754 1588 Fax: (08) 9752 4958 Email: library@busselton.wa.gov.au
State Emergency Service Toni Fringe	PO Box 1386 Busselton WA 6280 9752 2598
Local businesses Southwest Cycles	 7-9 Bussell Hwy, West Busselton, WA 6280 - (08) 9752 3892

Other Community Groups	
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Rotary Club of Busselton (Inc) Bernie Masters -	PO Box 314 Busselton WA 6280 Bernie: 9727 2474, 0407 385 071 bmasters@iinet.net
Dunsborough Coast & Land Care (Inc) - (D-CALC Inc) Ron Glencross	PO Box 154 Dunsborough WA 6281 Ron: 9755 3718 Busselton Dunsborough Environment Centre, Prince St Busselton 6280 email gcm@netserv.net.au
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Busselton Peace & Environment Group,	PO Box 291 Busselton 6280
FAWNA Inc,	PO Box 551 Busselton 6280
Dunsborough Facilities Committee	PO Box 63, Dunsborough WA 6281
Lions Club of Dunsborough (Inc)	PO Box 29, Dunsborough WA 6281
Residents of Eagle Bay Association Mr Lynn Wadley	PO Box 64 Dunsborough WA 6281 Lynn 9756 8270
Geographe Bay Tourism Assoc Busselton	38 Peel Terrace, Busselton WA 6280
Busselton Senior Citizens Walking Group	9752 2232
Geographe Over 50's Cycling Club	P.O. Box 548, Busselton WA 6280
Geographe Leisure Centre	9754 3600
Tourism South West Kerry Clarke	c/- RSM 403 Yelverton North Road Busselton WA 6280 Kerry 9755 7524
Bike Group?	
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Naturaliste Game and Sports Fishing Club Steve Sloan Frank Busby	PO Box 441 Busselton WA 6280 9752 2656
West Australian Recreational Fishing & Aquatic Council Inc (WARFAC) Clem Taylor	18 Spindrift Cove, Quindalup WA 6281 9756 7871

Aboriginal Heritage Wardan Aboriginal Cultural Centre Jim Matten Vilma Webb SWCC Aboriginal NRM Engagement Project Officer Bill Bennell SW Aboriginal Land and Sea Council Jess Clement	PO Box 30 Yallingup WA 6282 9756 6566, 9757 2936 (08) 9756 6566 or email : wardan@westnet.com.aun Kojonup Shire Offices, 93 Albany Highway, Kojonup 9780 6164 btbennell@agric.wa.gov.au

ATTACHMENT B – Draft Meelup Regional Park Management Plan 2019



MEELUP REGIONAL PARK

MANAGEMENT PLAN

2019

DRAFT

City of Busselton
Geographe Bay

MEELUP
Regional Park

ACKNOWLEDGEMENTS

<<Working group acknowledgement to be inserted>>

The traditional owners of the lands that make up Meelup Regional Park, the Wadandi people, maintain a strong connection to their traditional country in the south-west through identity and place, family networks, spiritual practice, resource gathering and natural resource management. A significant number of sites important to Wadandi people are located within the South West capes area, and within Meelup Regional Park.

Within the Park, place names such as Ngari, Wannang, Meeka and Walgermia are of Aboriginal origin and carry meaning and significance. The importance of the cultural heritage values in Meelup Regional Park and the important knowledge that Wadandi people hold is recognised.



Photo 1: Commemorative plaque at Meelup Beach.

LIST OF ABBREVIATIONS

BC Act	*Biodiversity Conservation Act 2016 (WA)*
CALM Act	*Conservation and Land Management Act 1984 (WA)*
The City	City of Busselton
DBCA	Department of Biodiversity, Conservation and Attractions
DFES	Department of Fire and Emergency Services, Western Australia
DoH	Department of Health
DoT	Department of Transport
DPIRD	Department of Primary Industries and Regional Development
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority, Western Australia
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999 (Commonwealth)*
NCMP	Ngari Capes Marine Park
SWALSC	South West Aboriginal Land and Sea Council
WC	Water Corporation

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PART A. INTRODUCTION

1. BRIEF OVERVIEW

Meelup Regional Park (the Park) is located in the south-western corner of Western Australia, approximately 250 kilometres south of Perth within the district of the City of Busselton. The Park is approximately 574 hectares in area and extends along the coastline for about 11.5 kilometres from Dunsborough to Bunker Bay, on the western side of Geographe Bay and adjacent to the northern part of the Ngari Capes Marine Park, and the eastern side of the Leeuwin-Naturaliste Ridge. The Park has an undulating surface rising to 100 metres above sea level, with ephemeral waterways, a diverse flora and mostly pristine vegetation. (Figure 1).

Meelup Regional Park is a Class A reserve vested in the City of Busselton for the purpose of conservation and recreation. The Park is managed by a City appointed Meelup Regional Park Management Committee.

The primary aim of this Management Plan is to ensure that the significant natural values of the Park are protected. Key threats to the Park's flora and fauna include dieback and disease, introduced and problem animals, weeds and fire. The Park is experiencing significant growth in visitation due to population growth in surrounding areas and increasing tourism. The management of threats associated with visitor use and recreation, and the maintenance of the Park's unique visual landscape is a key component of this Plan.

The Park has indigenous and non-indigenous cultural heritage values, with an indigenous Australian heritage place in the Park and other areas recognized for their non-indigenous heritage values, including the whaling station previously located at Castle Bay.

Figure 1: Locality Map



This Management Plan adopts the style of Management Plans produced by the Department of Biodiversity Conservation and Attractions (DBCA) for reserves elsewhere in the State of Western Australia.

This Plan replaces the Meelup Regional Park Management Plan 2010.

2. MANAGEMENT PLAN REVIEW PROCESS

The Management Plan is to be reviewed regularly in consultation with the community. The review process will include extensive consultation with the community and key stakeholders, prior to submission of the Busselton City Council endorsed plan to the Minister for Lands for approval.

3. TERM OF THIS PLAN

The Management Plan will guide management of the Park for a period of five years after which time the Management Plan will be reviewed and amended as required to ensure the information in the Management Plan is current. This Management Plan will remain in force until a new Plan is approved by the Minister for Lands.

4. REGIONAL CONTEXT

The south-west is known for its natural assets including Meelup Regional Park and Leeuwin-Naturaliste National Park, forests and beaches, diversity of nature-based recreational activities, it's agricultural and horticultural assets, and particularly its wineries and splendid coastal vista.

Both Meelup Regional Park and Leeuwin-Naturaliste National Park, serve as important gateways to the Ngari Capes Marine Park. These drawcards coupled with a mild climate attract an estimated 1.55

million visitors each year to the southwest, making it one of the most popular regional tourist destination in the southwest of Western Australia (SWDC 2012).

5. KEY VALUES

Meelup Regional Park key values include:

Natural Environment

- An area that comprises one of 34 biodiversity hotspots in the world, and one of 15 national terrestrial biodiversity hotspots.
- One listed threatened ecological community.
- Declared rare flora species.
- A diverse flora, with 480 native species recorded.
- Interesting and disjunct species that may warrant investigation as separate species.
- Diverse vegetation complexes.
- Well represented fauna habitats.
- A diverse fauna and threatened species.

Cultural

- An Indigenous heritage place, and traditional custodians the Wadandi people and their continuous connection with the area.
- Non-Indigenous cultural heritage and historic sites associated with the French exploration of the south-west coast, the whaling and fishing industry.

Visual Landscape

- An exceptional landscape appeal with stunning beaches, granite headlands, rocky outcrops, natural bushland and views out over Geographe Bay afforded by the steep topography.
- A unique aspect with peaceful bays and coves afforded by its northeast-facing direction sheltered from prevailing south-westerly winds.

Recreation

- A significant recreation destination within the State, and the second most visited destination within the City of Busselton.
- A terrestrial environment that provides opportunities for a wide range of predominantly coastal recreation activities.
- A trail network that provides for both pedestrians and mountain bikes.
- A number of surfing locations and shore-based recreational fishing experiences from sandy beaches and rocky headlands.
- Access to marine-based activities in the adjacent Ngari Capes Marine Park.

Community

- An important area for the local community, contributing to their way of life, sense of identity and enjoyment of the natural environment.
- Opportunities for community involvement in activities and experiences involved with nature conservation and visitor services.
- Opportunities for involvement of the community through the Meelup Regional Park Management Committee and volunteer engagement in management activities within the Park.

Education and Research

- Opportunities for visitors and educators to interpret and acquire knowledge regarding natural and cultural values of the Park.
- Unique and diverse vegetation.
- Geological features that give unique insights into the natural history of the area.
- Research already undertaken and accumulated knowledge of the Park.
- Opportunities for research and monitoring of natural, recreation and cultural values.

6. FORMAT OF THIS DOCUMENT

The document is divided into the following parts:

Part A Introduction, in which the key values of the Park and the context of the Plan are presented.

Part B Management Directions and Purpose, in which the legal, regulatory and planning context is introduced and management framework for the Park is outlined.

Part C Managing the Natural Environment, in which the natural values are presented along with the threats to those values, and management for their protection.

Part D Managing Cultural Heritage, which examines the cultural and historic values of the Park, and how they can be identified and preserved.

Part E Managing Recreation and Visitor Use, in which the acceptable recreational uses of the Park are prescribed and management requirements to mitigate impacts associated with visitor use are outlined.

Part F Managing Resource Use, in which the Parks natural resources are outlined together with management requirements that are compatible with and enhance the Parks key values.

Part G Involving the Community, which outlines the mechanisms by which the community is involved in the management of the Park.

Part H Research, which outlines the scientific significance of the Park and describes the focus of future research priorities.

Parts A to H each include a summary of the guiding principles used to develop this Management Plan. The Plan focuses on the key management issues and outlines a management response to these key issues through the development of management objective(s) and implementation of appropriate management actions and strategies.



Photo 2: Meelup Regional Park - view towards Dunsborough

PART B. MANAGEMENT DIRECTIONS AND PURPOSE

7. VISION

The vision for Meelup Regional Park is:

To manage Meelup Regional Park for conservation and environmental enhancement and allow recreation and other uses of the Park to occur to the extent that they do not impair the conservation values of the Park.

8. STRATEGIC GOALS

The overarching strategic management of Meelup Regional Park links to Key Goal Area 3 – Environment

of the City's Strategic Community Plan 2017 and specifically Community Objective 3.2 as follows:

Natural areas and habitats are cared for and enhanced for the enjoyment of current and future generations.

A summary of the key strategies identified in this Plan, that contribute to the achievement of this community object are:

Conservation

a) Conserve all native plant and animal species and communities, particularly those that are rare and endangered, and the natural processes that sustain them.
b) Conserve the Park's outstanding visual landscape values.
c) Conserve the Indigenous and non-Indigenous history of the Park, including historical and archaeological sites.

Recreation

a) Maintain the Parks natural area amenity and, manage recreation in a manner that minimizes visitor conflict and is consistent with the Park values and management objectives.
b) Manage visitor use for inspirational, educational, cultural and recreational purposes at a level that will maintain the Park as a natural area and in near natural state.

Commercial

a) Allow appropriate commercial uses to occur within the Park that are consistent with the Park values and management objectives.

Research and monitoring

a) Recognise that scientific research is highly important for the management of the Park, to seek a better understanding of the natural, cultural, social management aspects and threats to the Park.

Education

a) Promote community stewardship of the Park through active community engagement, emphasizing the Parks special natural, cultural, visual landscape, recreation, community and education and research values.

Integration of management

a) Develop and maintain integrated and coordinated management arrangements between the City, relevant government agencies and community.

9. INTERNATIONAL PERSPECTIVE

The World Conservation Union (IUCN) has defined a series of six protected area management categories, based on primary management objectives. Meelup Regional Park most closely equates to Category II National Park, a protected area managed mainly for ecosystem protection and recreation.

These protected areas are large natural, or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities. The primary objective is to protect natural biodiversity along with its underlying ecological structure and supporting environmental processes, and to promote education and recreation (Department of Environment n.d.).

10. LEGISLATIVE FRAMEWORK AND POLICY

State legislation

Land Administration Act 1997 (the LA Act)
The LA Act provides for the administration of Crown land. Under the LA Act, the Minister for Lands may place by way of a management order the care, control and management of a reserve with a management body. A management order for the purpose of 'conservation and recreation', has been placed with the City of Busselton.

Under section 49 of the LA Act, the City may submit to the Minister for his or her approval a plan for the development, management and use of Meelup Regional Park for the purpose of the management order.

Local Government Act 1995 (LG Act)
The LG Act enables the City of Busselton to establish the Meelup Regional Park Committee, which operates under the governance arrangements and terms of reference as determined by the City Council.

Conservation and Land Management Act 1984 (CALM)
National Parks are reserves vested in the WA Conservation Commission and are managed under the CALM Act, subsidiary regulations and associated policy. While not directly applicable to the management of reserves vested in local government, the CALM Act provides guidance on Western Australia's approach to governance of natural areas, and management of the often conflicting purposes of conservation and recreation.

Biodiversity Conservation Act 2016 (the BC Act)
The BC Act provides for the protection of biodiversity and biodiversity components including native species, habitats, ecological communities, genes, ecosystems and ecological processes.

Environmental Protection Act 1986 (the EP Act)
The EPA provides for an Environmental Protection Authority for the prevention, control and abatement of pollution and environmental harm for the conservation, preservation, protection, enhancement and management of the environment and for matters incidental to or connected with the foregoing.

Aboriginal Heritage Act 1972 (the AH Act)
The AHA provides for the reporting and protection of Aboriginal heritage sites. There is one recorded heritage site within the Park.

Biosecurity and Agriculture Management Act 2007 (the BAM Act)
The BAM Act amongst other things, prevents new animal and plant pests and diseases from entering Western Australia and manages the impact and spread of those pests already present in the State.

Bush Fires Act 1954 (the BF Act)
The BFA makes provision for diminishing the dangers resulting from bush fires and for the prevention, control and extinguishment of bush fires. This Management Plan is required to ensure adequate fire management is provided in accordance with the BFA.

Commonwealth legislation

Environmental Protection and Biodiversity Conservation Act 1999 (the EPBC Act)

The EPBC Act *is* a Commonwealth Act applicable to Meelup Regional Park due to the presence of listed endangered and threatened species and vegetation community in the Park and, matters of National Environmental Significance (NES) protected under the EPBC Act.

Actions that have, or are likely to have, a significant impact on matters of NES may be referred to the Australian Government Minister for the Environment for assessment and, when appropriate the making of a determination under the EPBC Act.

Local laws

Under the LG Act, the City of Busselton may make Local Laws for the management and regulation of certain activities throughout the City district, the effect of which may apply to activities within the Park.

Policies

Leeuwin-Naturaliste Ridge Statement of Planning Policy (LNRSPP)
The LNRSPP was prepared in 1998, to provide a strategic framework for the Leeuwin Naturaliste Ridge by providing greater vision, guidance and certainty of land use within the Policy area. The LNRSPP recognises the need to protect the unique ecological, social and landscape values and character of the Policy area. The Policy clarifies the priority of conservation in the decision making processes.

Meelup Regional Park is allocated the status of "Conservation Reserve", and as such is subject to Policy LUS 2.5 - Conservation Reserves (Existing and Proposed) which states:

"Maintaining or enhancing the conservation and landscape values within existing and proposed Conservation Reserves will be the primary determinant in decision-making on proposals for land use, subdivision or development within these areas."

Strategic Plans

There are two key City of Busselton planning documents that are relevant for the management of Meelup Regional Park; the City of Busselton Environment Strategy 2016 – 2021 and the Local Environmental Planning Strategy 2011.

The Environment Strategy 2016 – 2021, integrates and aligns with the City's strategies, plans and programmes and identifies with community objectives through transparent, accountable community engagement and reporting processes. The Environment Strategy 2016 – 2021, outlines the City's response to local environmental pressures through the implementation of environmental actions and strategies. The implementation of this Meelup Regional Park Management Plan will help to fulfil the provisions of the Environment Strategy 2016 – 2021.

The Local Environmental Planning Strategy 2011, is part of the city's planning framework and focuses on the key environmental issues relating to development and land use planning. Development proposals for the Park, although rare, do occur, and this document provides guidance to the city on key environmental matters pertaining to land use and development.

11. LAND TENURE AND CLASSIFICATION

Reserve tenure is usually applied to land which because of its intrinsic community value should be preserved and maintained for the benefit of present and future generations. This is primarily because

of its natural resources, its environmental, recreation, historical, social or cultural significance, or because it has special value for present or future generations (DoL 2013).

Meelup Regional Park, is an 'A Class' Reserve 21629, for the purpose of 'Conservation and Recreation', with a formal management plan endorsed by the Busselton City Council and approved by the Minister for Lands pursuant to section 49 of the *Land Administration Act 1997*.

Meelup Regional Park (Reserve 21629), was formed after the amalgamation of six separate reserves in 1993, and currently comprises 16 lots. Reserve 21629 extends from its southernmost point at Dunsborough to Eagle Bay, and from Eagle Bay to its northern most point at Bunker Bay.

12. MANAGEMENT FRAMEWORK

Meelup Regional Park Management Committee

Following creation of the Park in 1993, the Busselton City Council formed a Meelup Regional Park Committee pursuant to sections 5.8 and 5.9(2) (d) of the *Local Government Act 1995*.

The key purpose of the Committee is to:

- Assist the Busselton City Council with the management and promotion of the Park.
- Ensure that the full range of issues relevant to the making of decisions about the management and promotion of the Park are considered, including environmental, amenity, recreational, community, social, economic, and financial considerations.

In accordance with the City's governance arrangements for Meelup Regional Park, the Committee may undertake a wide range of management activities including:

- Providing advice and/or recommendations to the City Council, on the strategic and operational management of the Park.
- Preparing and prioritizing plans and Park maintenance activities
- Coordinating conservation measures and protection of the Park.
- Planning, coordination and management of maintenance in accordance with the City Councils budget allocation for Park management.
- Identifying external funding opportunities to supplement budget.
- Facilitating volunteer contributions to the management and maintenance of the Park.
- Liaising with government agencies, and other stakeholders on matters relating to the management of the Park.
- Educating the wider community on Park issues and management activities.
- Instigating research relevant to Park management.

Resourcing

As part of its annual budget, the City provides funding for Park operations and maintenance, which may be supplemented by grant funding under Commonwealth and State Government grant programs. Community volunteers and the Friends of Meelup Regional Park Incorporated, provide a significant and valuable resource, with community volunteers undertaking a wide range of maintenance projects and activities in the Park.

The City provides technical and administrative management support to the committee and implements management activities including coordination of research, capital works and the ongoing maintenance of the natural environment, public areas and constructed assets including roads and buildings.

Section 12 Management Framework	
Objective 1: To provide a clear framework for Park management and decision making.	
Action No	**Management Action**
1.1	Maintain effective and efficient governance and management arrangements for the administration and implementation of this Plan.
1.2	Maintain direct community involvement in the on-going management of the Park through a City of Busselton appointed Meelup Regional Park Committee.

13. MANAGEMENT UNITS

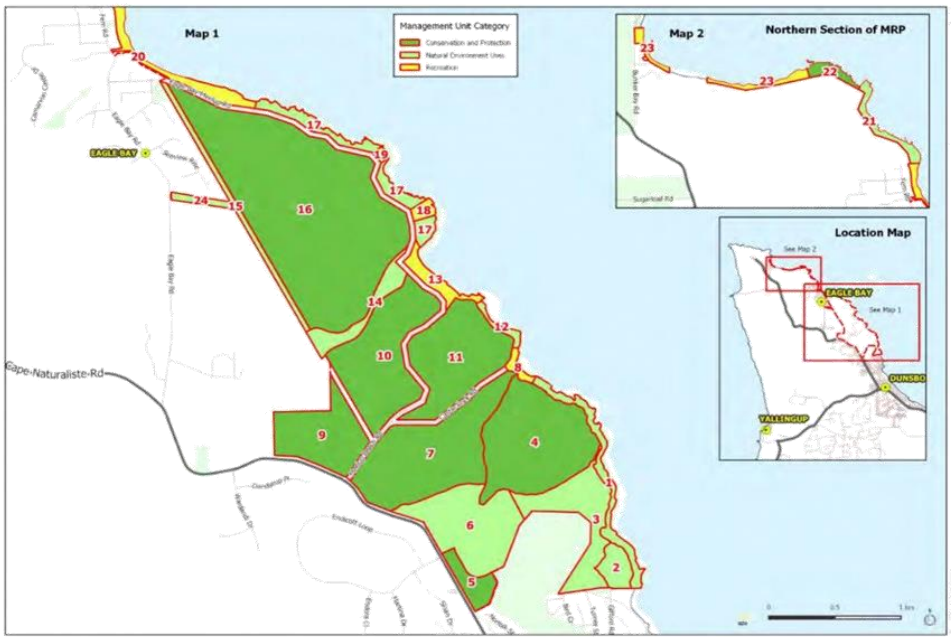
The degree to which a protected area can sustain viable recreational use is dependent on the physical environment, the behaviour of visitors and appropriate management. There are numerous models and processes developed to minimise impacts of visitor use in protected natural areas, whilst providing quality visitor experiences (Brown *et al* 2006).

Categorisation of management units provide a spatial differentiation of protected natural areas and establish a framework for protection of conservation values, provision of appropriate recreation and, indicate the priority management objectives and levels of management required in each unit (Figure 2).

The management unit categories developed for this Management Plan has been adapted from a widely applied system in Western Australia, with the following three management unit categories applicable to the Park (Table 1).

1. Conservation and Protection (CP) areas have high conservation significance and are to be closely managed with conservation as priority. Recreation is to be kept to a minimum and public access restricted. No new trails or other access are to be constructed in these areas, and existing access considered to be incongruous may be considered for closure.
2. Natural Environment (NE) areas are of high conservation significance, and protection of natural values is the highest priority for management, however appropriate nature-based recreational use is encouraged and catered for.
3. Recreation (R) areas are high use areas that experience the highest visitor numbers. Recreation areas have the highest level of visitor facilities and infrastructure. Although recreation is the primary use, preservation of natural values remains the highest priority, consistent with the reserve's purpose, and is pivotal to their recreational appeal.

Figure 2: Management Unit Categories



The evaluation process for the identification of management units within the Park considered the following attributes:

- The conservation values within the Park, including threatened and significant flora, fauna and vegetation communities
- Existing use and recreation values
- Current dieback status and risk of infection
- Existing roads, firebreaks and trails
- Existing level of access and facilities
- Appropriate level of management intervention.

Section 13 - Management Units	
Objective 2: To implement a management scheme that provides for protection of areas of conservation significance, appropriate recreation and management responses.	
Action No	**Management Action**
2.1	Ensure Park management planning and management activity decisions are appropriate to the Park's management unit categories.
2.2	Review management unit categories as knowledge and understanding of the Park's environment develops.

Table 1: Management Unit Category Evaluation

Unit #	Category	Boundary rationale	Dieback status	Conservation values	Recreation values
1	NE	Dunsborough to Castle Bay, beach side of the coastal trail	U, I, UA	Declared Rare Flora (DRF), Threatened Ecological Communities (TEC), quenda/possum habitat, Wilyabrup veg complex, significant vegetation	Coastal trail, beach access
2	NE	Dieback free vegetation (mostly), trail boundary	U, I	DRF, TEC, Wilyabrup veg complex, significant vegetation	Trails, firebreaks
3	NE	Old gravel pit/dieback infested	I	DRF, Wilyabrup veg complex, significant vegetation	Trails, firebreaks
4	CP	Dieback free vegetation, comprises contiguous CP zone with 7,9,10,11	U, I	DRF, priority flora, TEC, Wilyabrup veg complex, significant vegetation.	Access closed for management only, except for whale lookout trail from coastal trail
5	CP	Good quality remnant vegetation, DRF, firebreak boundary	I	DRF, Wilyabrup veg complex	Existing trail(s) have been closed
6	NE	Firebreak boundaries, gravel pit/landfill area. Dieback infested	I	Areas of excellent quality remnant vegetation, Wilyabrup veg complex, significant vegetation	Mountain bike trail area and dual use trails
7	CP	Dolugup Brook valley, firebreak/road boundary	U, I	DRF, Dolugup Brook creek line, Wilyabrup veg complex, significant vegetation	No access
8	R	Castle Bay coastal node	U, I, UA	Dolugup Brook creek line mouth, Wilyabrup veg complex	Recreation area, beach access, facilities (barbeques, picnic area, toilets)
9	CP	Park boundaries, roads	U, I	DRF, significant vegetation	Burton Rd, firebreak, no trail access
10	CP	Roads, Meelup Brook firebreak	U, I	DRF, priority flora, Wilyabrup veg complex, significant vegetation	Currently informal walk trail
11	CP	Bounded by Castle Bay and Meelup Beach Roads. Mostly dieback free	UA	DRF, priority flora, TEC, Wilyabrup veg complex, significant vegetation	No access

Unit #	Category	Boundary rationale	Dieback status	Conservation values	Recreation values
12	NE	Castle Bay to Meelup coast	U, I	DRF, TEC, significant vegetation	Coastal trail
13	R	Meelup Beach coastal node	I, UA	Eagle Bay sanctuary zone (Ngari Capes Marine Park), WRP habitat, Meelup Brook mouth/dam	Recreation area, beach access, facilities (barbeques, picnic area, toilets)
14	NE	Meelup Brook riparian zone	I	Meelup Brook creek line, WRP habitat, significant vegetation	Firebreak/trail runs alongside brook, decking area
15	NE	Eagle Bay boundary firebreak	U, I	Vegetation contiguous with rest of Park	Firebreak also part of trail network
16	CP	Large area of intact remnant vegetation, significant conservation values	U, I	DRF, priority flora, TEC, large area dieback protectable/unprotectable vegetation, granitic apron, creek line and spring (important fauna habitat), includes one of only three areas of banksia woodland in the Park, Wilyabrup veg complex, significant vegetation	Coastal trail along northernmost extent and lookout circuit
17	NE	Meelup Beach to Eagle Bay coast - areas between coastal nodes	UA, U	DRF, priority flora, Wilyabrup veg complex, significant vegetation	Special purpose shore-based fishing zone (Ngari Capes Marine Park), coastal trail, beach access
18	R	Gannet Rock coastal node	UA	Wilyabrup veg complex, significant vegetation	Recreation area, special purpose shore-based fishing zone (Ngari Capes Marine Park), beach access, picnic tables
19	R	Point Picquet coastal node	UA	Wilyabrup veg complex, significant vegetation	Recreation area, special purpose shore-based fishing zone (Ngari Capes Marine Park), beach access, whale watching platform and public amenities.
20	R	Eagle Bay coastline	I, UA	Hooded plover habitat, Jingarmup Brook, Wilyabrup veg complex	Recreation area, beach access, Dual Use Path (DUP) from Fern Road to Eagle Bay beach, dog exercise area on beach, close to public amenities at Riedle Park and Eagle Bay Hall.

Unit #	Category	Boundary rationale	Dieback status	Conservation values	Recreation values
21	**NE**	Eagle Bay to Rocky Point	**U**	DRF, priority flora, hooded plover habitat, Wilyabrup veg complex, significant vegetation	Recreation area, Informal trail, beach access
22	**CP**	Rocky Point to Bunker Bay beach	**U, I**	DRF, priority flora, Wilyabrup veg complex, significant vegetation	Informal trail
23	**R**	Bunker Bay to northernmost Park boundary	**U**	Hooded plover habitat	Recreation area, beach access, adjacent to resort, café and toilets
24	**NE**	Wildlife corridor	**I** ***P.cryptogea***	Small stand of remnant vegetation	Firebreak, part of trail network
Abbreviations		**Management Unit Category** - **CP**-Conservation and Protection - **NE**- Natural Environment Uses - **R**- Recreation	**Dieback Status** **- I-** Infested, **U**- Uninfested, **UA** - Uninterpretable		**P. cryptogea** - (Phytophthora cryptogea)

14. CROSS-BOUNDARY LAND MANAGEMENT

Meelup Regional Park has urban and rural neighbours, as well as neighbouring conservation estate managed by DBCA. The main cross-boundary land management issues pertinent to effective management of the Park, include:

- Fencing
- Fire management
- Weed and pest animal control
- Access to and activities in and adjacent to the Park
- Natural resource management
- Signage
- Neighbour input
- Communication, contacts and liaison.

A Good Neighbour approach, similar to the DBCA Good Neighbour Policy (2007), should be developed to guide the establishment and maintaining of good relationships with adjoining land owners and the management of cross boundary issues for the mutual benefit of the Park and adjoining land owners.

Section 14 - Cross-boundary land management	
Objective 3: **To develop and maintain healthy neighbour relations for the benefit of the Park's management**	
Action No	**Management Action**
3.1	Develop and implement a Good Neighbour Policy to assist the management of cross-boundary issues for Meelup Regional Park.

15. COMPATIBLE LAND MANAGEMENT

There are isolated remnant bushland reserves located in the vicinity of the Park that warrant further assessment to determine the potential for these reserves to contribute towards the protection of biodiversity in the Park. These reserves are under the care and control of the City and include 3 reserves along Jingarmup Brook within the Eagle Bay townsite, Reserve 11316 at the head waters of Jingarmup Brook and Reserve 6229 located at the headwaters of Meelup Brook adjacent to Cape Naturaliste Road. The extension of the management responses identified within the draft MRPMP to these isolated reserves would be for the purpose of implementing a coordinated approach to issues such as resilience of species and ecosystems, environmental water flows, fire, weed and pest control.

Any future additions into the operational management arrangements for the Park, should consider:

- proximity and connectivity to the Park
- presence of threatened or priority species and ecological communities
- contribution to protecting conservation, recreation and landscape values
- extent and quality of vegetation
- contribution to increasing biodiversity
- contribution to management of threatening processes
- contribution to facilitating management as an integrated unit
- size and shape
- current vesting.

Management units 6 and 7 are intersected by an unmade road reserve which aligns with and connects Sheen Road, to the Cape Naturaliste Road. Sheen Road alignment is indicated in Figure 11. This unmade road reserve has good vegetation cover and is unlikely to become part of the City's road network. While it is not intended to formally amalgamate the unmade road reserve into Meelup Regional

Park (Reserve 21629), a change to the current designated land use purpose from 'road' to 'conservation and recreation' would promote consistency of vesting purpose across the Park.

Section 15 - Compatible Land Management	
Objective 4: **To enhance the conservation values of the Park.**	
Action No	**Management Action**
4.1	Investigate the benefit of incorporating remnant bushland reserves located in the vicinity of the Park into the Parks management arrangements.
4.2	Seek and amendment of vesting purpose for the unmade road reserve land intersecting management units 6 and 7, from 'road' to 'conservation and recreation' to promote consistency of vesting purpose across the Park.

16. NGARI CAPES MARINE PARK

Meelup Regional Park is bounded on its ocean side by the Ngari Capes Marine Park. The majority of the Marine Park adjacent to Meelup Regional Park coast has been zoned 'general use', except for the 'Eagle Bay sanctuary zone' (which includes Meelup Beach), and the 'Eagle Bay special purpose zone' (DEC 2013).

Sanctuary zones are 'Look but don't take' areas where all forms of fishing are restricted and special purpose zones (Shore Based Activities) are mainly conservation areas and allow beach or rock fishing (DEC 2013).

The *Ngari Capes Marine Park management plan 2013-2023*[1] (DEC 2013) directs the management for the Ngari Capes Marine Park. For direction in the management of marine waters adjacent to Meelup Regional Park, the *Ngari Capes Marine Park management plan 2013-2023,* should be referred to in the first instance.

The preparation of this management plan has been cognisant of the management arrangements for the Ngari Capes Marine Park, and the management issues that are likely to require inter-agency liaison and a complementary and consistent management approach such as the onshore location and maintenance of regulatory and interpretive signage



Photo 3: Ngari Marine Park sign, Castle Bay

[1]The Department of Environment and Conservation Ngari Capes Marine Park management plan can be accessed at: dpaw.wa.gov.au/images/documents/parks/management-plans/decarchive/20120471-ngari-capes-marine-park-mp-74-2013-2023-v10.pdf

PART C. MANAGING THE NATURAL ENVIRONMENT

17. GUIDING PRINCIPLES FOR MANAGING THE NATURAL ENVIRONMENT

The key guiding principles for management of the Parks natural environment are:

1. Conservation and protection of the natural environment
   Natural processes and biodiversity will be managed to maintain their inherent values. Threats to the Park's natural environment from human use, the surrounding urban area and management practices will be minimised in order to maintain the biodiversity of the Park.

2. Park management priorities
   The Park will be managed with conservation and environmental enhancement as its highest management priority. Recreation and other uses may be allowed to occur to the extent that they do not impair the Park's natural environment.

3. Restoration of the natural environment
   Restoration of the natural environment will be undertaken to maintain biodiversity, and protect and enhance natural systems. Areas with high conservation significance will be considered priorities for restoration.

4. Features requiring special protection
   Declared rare flora, priority flora species, threatened ecological communities, priority ecological communities, priority fauna, other specially protected fauna, outstanding natural and visual landscape features and sites of Aboriginal and historical significance will be given priority for conservation and restoration.

5. Threats to Park values
   Threats to the Park's values attributed to climate change, tree decline and disease (particularly *Phytophthora* dieback), weeds, feral animals, wildfires and inappropriate visitor use will be monitored, investigated and managed.

6. Recognition of cultural and social values
   The Park will be managed in a way that delivers community benefits by maintaining cultural traditions and attributes and by providing opportunities for recreation, education and research.

7. Consistency of management policies
   Management actions will be planned and implemented in a coordinated manner consistent with relevant legislation, principles and policies.

8. Precautionary principle
   If there are threats of serious or irreversible environmental damage, the lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

18. IBRA BIOREGIONS

The Interim Biogeographic Regionalization for Australia (IBRA) seeks to map and describe biogeographic regions based on attributes of geology, landform patterns, climate, ecological features and plant and animal communities (DoE n.d.). Western Australia is grouped in 27 biogeographic regions, with Meelup Regional Park sitting on a narrow north-west extension of the Jarrah Forest bioregion.

This narrow extension of Jarrah Forest bioregion adjoins the Warren bioregion to the south and the Swan Coastal Plain bioregion to the east.

19. CLIMATE

The climate of the south-west, including Meelup Regional Park, is temperate with distinct wet and dry seasons. Most rainfall occurs between April and October and averaged 657.3 millimetres annually at Cape Naturaliste over 2001-2018. The annual mean temperatures for Cape Naturaliste range from a mean minimum of 10.3°C in winter and 26.7°C in summer (BoM 2018).

The wind pattern is generally a morning easterly followed by an afternoon south to south-westerly in summer, with an increase in northerly winds during winter months. Due to its north-east orientation, the Park coastline is sheltered from the strong sea breezes that are experienced as onshore in the majority of Western Australia.

Climate change

In the south-west of WA, the most significate attributes of a changing climate are reduced rainfall, streamflow, and an increase in average annual temperature. Climate change projections include increased drought frequency and duration, further reduction in stream flow, increased temperatures, more frequent and extreme fire danger and increases in extreme storm events (Hughes 2014, Western Australian Local Government Association n.d, DoE n.d.)

The south-west of WA is considered to be at considerable risk of significant biodiversity loss as a result of climate change. Potential direct impacts on biodiversity include changes in animal and plant physiology, changes in life cycle timing, and changes in species distribution and abundance. Indirect impacts may arise from changes in species competition and predation, or through alteration to the nature and intensity of existing biodiversity pressures (e.g. disease, salinization, density and distribution of weeds, erosion, habitat fragmentation and loss of wetlands) (DEC 2010). There are also potential impacts to the landscape, infrastructure and facilities from inundation, saltwater incursion and sea level rise.

Species most likely to be affected are those:

- with narrow temperature or cool temperature requirements
- with narrow geographic ranges that are closely associated with local environmental conditions
- dependent on relatively high rainfall
- unable to evolve in situ (DEC 2010).

Decreased rainfall in the Park may cause some wetlands and waterways to contract or dry out, reducing associated vegetation types and predisposing these areas to fire. This in turn may affect the structure of waterways as well as both the terrestrial and aquatic ecology and fringing vegetation. Landscape fragmentation in the Cape Naturaliste region may make it difficult for some species to migrate, especially those with narrow temperature range tolerance or those at the upper limits of their range. However, the Park's proximity to the Leeuwin-Naturaliste National Park, which extends from Cape Naturaliste to Cape Leeuwin, may assist the migration of some species.

There are some species and communities in the Park that are endemic, at or near the limits of their range and some may exist with restricted wet habitat requirements, and hence may be vulnerable to climate change. Rising sea levels and associated erosion may impact on coastal infrastructure, however, the Park's rocky coastline is likely to provide it with some protection from erosional forces associated with sea level rise and storm surge events.

Response to changing climate

Responding to climate change is complicated by significant knowledge deficits of the potential impact of climate change on the Park. Regional scale monitoring and modelling is necessary to predict impacts, and to guide forward planning and future management of the Park to accommodate climate change.

The key climate change response principles identified for the Park are:

- Increasing research to better understand the impacts of climate variations and change on the Park's biota.
- Implement an adaptive management approach focused on increasing the Parks resilience to any adverse pressures and impacts that result from human activities in the Park
- Adopt the precautionary principle and manage the Park for uncertainty.
- Work with the community, government agencies and natural resource management groups, as appropriate, to develop appropriate responses to changing climate.

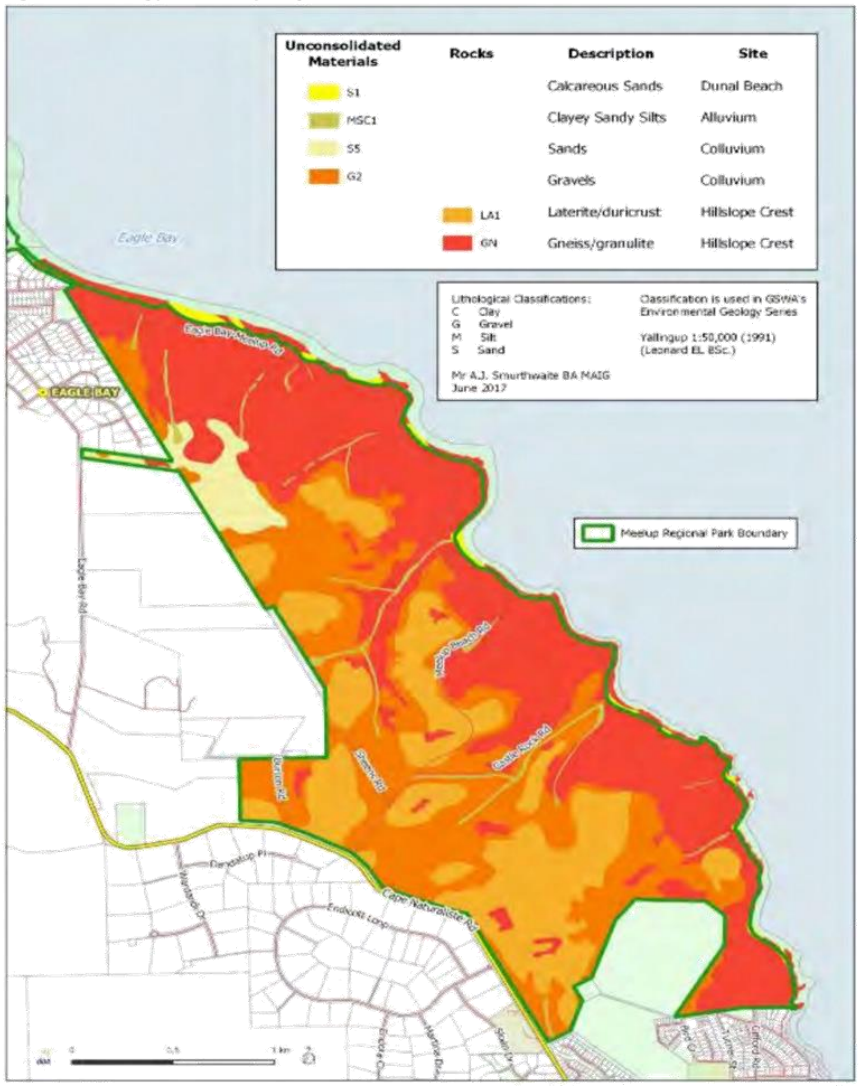
Improving the resilience of species and ecosystems helps to reduce their vulnerability to climate change. This includes continuing management strategies regarding control of introduced plants and animals, fire management, dieback and other disease management and managing impacts associated with visitor use. It also includes maintaining large areas of intact, good quality vegetation, free from visitor use; possible translocation of threatened native plants and animals; and identifying, creating and maintaining wildlife corridors in cooperation with landowners adjacent to the Park.

Section 19 - Climate	
Objective 5: **To protect the Park's values from the impacts of climate change.**	
Action No	**Management Action**
5.1	Investigate climate change impacts, in particular those species of conservation significance or likely to be highly vulnerable to climate change.
5.2	Retain remnant vegetation connectivity within the park and provide wildlife corridor linkages and climate refugia.
5.3	Work with relevant government agencies and landholders to enhance species adaption to climate change and connectivity of wildlife corridors.
5.4	Continually review and adapt management in response to new knowledge and understanding of climate change and its impact on biodiversity.

20 GEOLOGY, ROCKS, LANDFORMS AND SOILS

Geology is the science of the Earth, and it deals with rocks their origins, properties, processes, soils, landforms; and charts their evolution and spatial distribution. Geological mapping of the ground within the boundaries of the Park has identified occurrences of two rock types: granitic gneiss/granulite and laterite; their landforms, and the six soil units and associated intergrades derived from them (Figure 3).

Figure 3: Geology of Meelup Regional Park



Rock Types and Landforms

Granitic gneiss is a metamorphic rock whose outcrops and boulders are widespread (an estimated 60 per cent) throughout the Park and they occur as the crest of hills, as ridge slopes , as stream beds, as escarpments, as coastal head lands , as wave-cut platforms, as beaches, as islands, and as reefs. The Park's eastern areas are very jointed, dissected and heavily eroded. Massive erosion and removal of regolith materials, some 280 Million years ago in the Permian Era, created the rugged photogenic landscape of roundly shaped outcrops known as tors, knolls and inselbergs or island mountains.

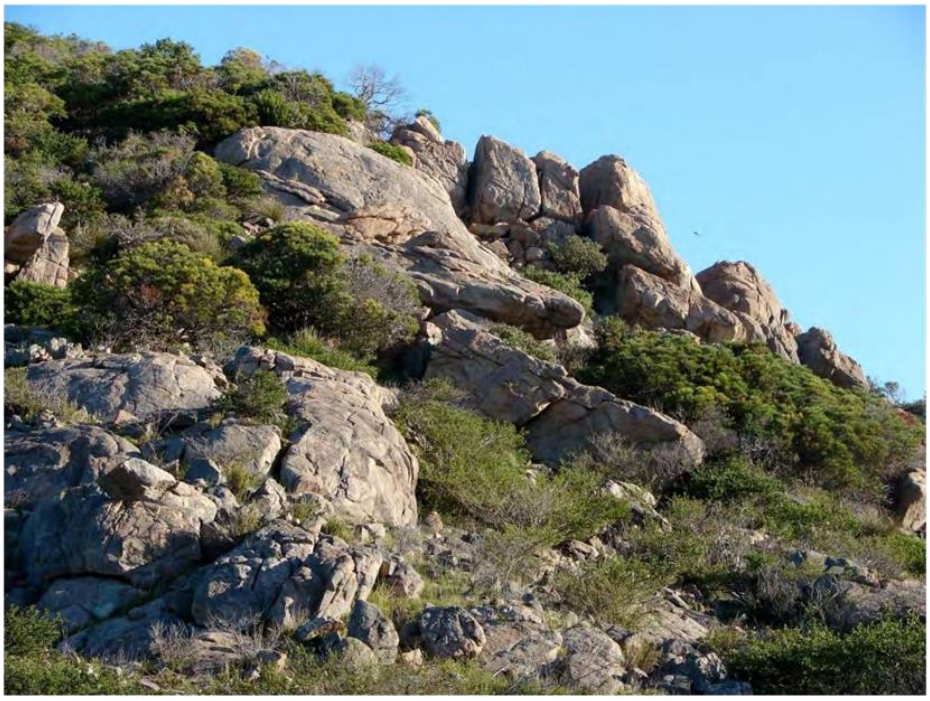


Photo 4: Granitic gneiss - roundly shaped outcrops known as tors, knolls and inselbergs

The Park experienced heavy rain events which resulted in immense volumes of ground water increasing the erosional capacities of the Meelup and Dolugup Brooks and their side- streams to cut down into the bedrock and to carve out deep valleys and 20-degree slopes. The brooks' head ward erosion of their valleys continues currently but, at a reduced rate, due to intermittent stream flow. The four beaches are crest-shaped and lined with mobile aoelian dunes. Beach materials are a mix of quartz sand, shell fragments, isolated ilmenite-rich strand line, pebble and cobble accumulations. Each beach profile is site- specific and is determined by aspect, slope, gravity, the shapes and composition of beach material deposits, and by the dynamics of winds, longshore drift, currents, tides and storms.

Detailed research of the Park's granitic gneiss 'mineral assemblage and texture (alternating bands of quartz, feldspar and pyroxene) classifies it as a *granulite* of the Dunsborough suite of the Leeuwin Complex. During a 600 million year period (from 530 to 1100 Ma), in the Protozoic Era, the original granite rock (a coarse- grained igneous rock) was subjected to intense heat and pressure and was metamorphosed by a violent tectonic episode (the Pinjarra Orogeny) which was associated with the break-up of the Gondwana super continent when Greater India separated from Australia and Antarctica.

Laterite regolith is the second rock type: it forms the plateaus and hills of the northern, western and southern areas of the Park. Because of the mode of laterite development and its mineral suite, laterite

is regarded as being more of fossil soil than as a rock type. It is developed by laterisation which is a complicated weathering process that took place 25 to 40 Ma ago in the Eocene Era: a time when the South West of Western Australia had a tropical climate (prolonged wet and hot seasons alternating with short dry seasons) and dense vegetation comparable to what is habitual in Southeast Asian countries.

Laterite's thin profile (0.5-1.5 metre thick) is formed *in situ* by the chemical weathering of the granulite's feldspars which, over millennia, gradually transforms their constituent iron and aluminium hydroxides into gibbsite, boehmite, hematite and maghemite. This suite of secondary minerals is then segregated by chemical and physical processes into four zones: ferricrete duricrust (a capstone cemented by iron oxyhydroxides), friable mottled and pallid clays, saprolite (partly weathered bedrock) and fresh bedrock.

Soils

Soil formation is broadly controlled by five factors: climate, organisms, parent material, topography and "geologic time"; and, ultimately, soil formation represents the balance achieved between the processes of soil creation and its erosion. In the case of the Park, the weathering of the hard granulitic bedrock, despite the rock's many joints and foliations, is very much a limiting factor. In contrast, the friability of the lateritic regolith causes its break down into pre-weathered floaters, gravels and sands and silts and consequently to expose mottled clays and saprolite weathering and decomposition. All of the Park's soils are thin and fragile which makes them prone to erosion by wind, surface run-off and fluvial processes to produce alluvial deposits downstream.

Mapping the spatial distribution of the Park's soils in relation to slope and relief situation assists in understanding the interplay between weathering, erosion and deposition. Steep slopes and localized heavy rainfall events accelerate erosion. Weathering has a major influence on the permeability and porosity of soil and that of the underlying saprolite, and in turn, influences the movement of surface run-off and groundwater and can adversely affect hill slope stability.

The distribution of the Park's four soil units (unconsolidated materials) is depicted in Figure 3. Each soil unit has been delineated in terms of its areal extent, physical properties, (permeability, slope stability, its ease of excavation, shrinkage, and load- bearing capacity), lithology (clay, gravel, silt sand), grain- size, relief, slope, current process (stream flow, run-off), erosion potential, and the unit's suitability for specific land-uses and is a measure of their environment suitability. The soil mapping is based on literature review, field observations and the geological interpretation of satellite imagery and topographic contour maps.

By using the map one can move inland from the coast, via stream valleys and dissected terrain, to the lateritic regolith uplands, the soil units plus their identifiers (colour and descriptor shown on map) and their principal land forms are listed as follows:

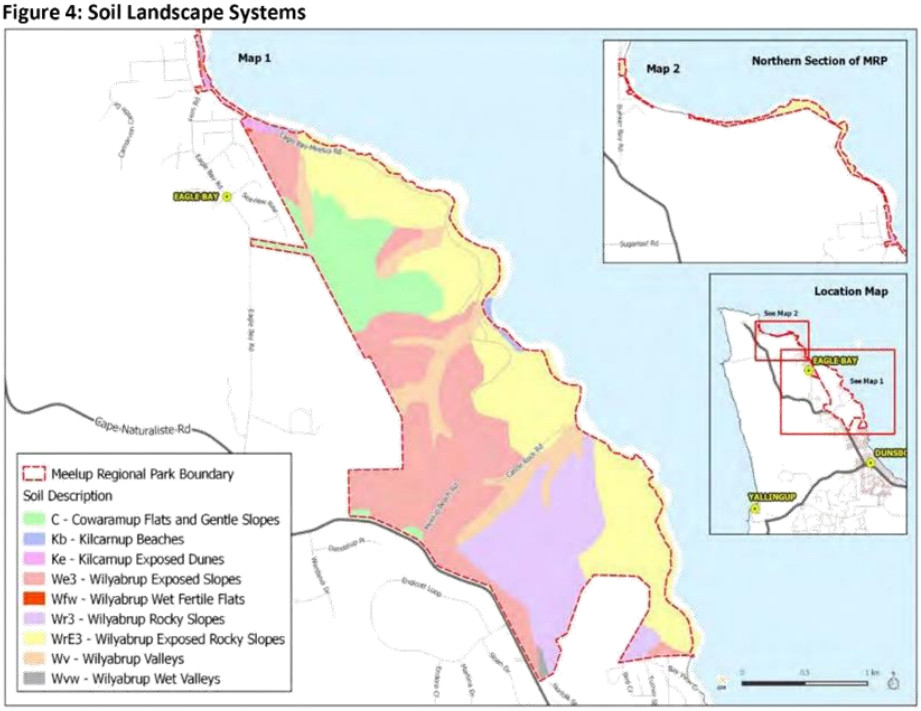
- Calcareous sands (yellow, S1) (dunes and beaches) ;
- Clayey sandy silts (light green Msc1) (alluvium, valley floors);
- Silty gravelly sands (light purple, Sgm2), (colluviums, granulite talus slopes);
- Pisolitic gravels (orange, G2) (crests and slopes of lateritic ridges).

In addition to these mapped soil units, there are intergrades where several units blend into the Park's soil scapes (lateritic upland, valleys and rocky escarpments). For example, pockets of pisolitic gravel and granulite outcrops occur within the lateritic regolith and overlie pallid clays and saprolite. Clayey silts and silty sands form the valley floors and upper reaches of the Meelup and Dolugup Brooks (where there could be acid sulphate soils present), granulite outcrops and boulders are embedded in silty sands and gravels and partially weathered floaters which form the very steep talus or scree slopes. The northwestern lateritic plateau is overlain by grey sand blown there during a previous dry period.

The soil-landscape systems of the Park (Tille and Lantzke, 1990) are:

- **Cowaramup Uplands: Jarrah**- Marri forest is the principle vegetation of this system
- **Kilcarnup Dunes**: Coastal scrub is the predominant vegetation on this system
- **Wilyabrup Valleys System**: Jarrah-Marri forest predominates on this system.
  The soil landscape systems are shown in Figure 4.

Figure 4: Soil Landscape Systems



Acid sulphate soils

Acid sulphate soils are naturally occurring soil or sediment containing iron sulphides (most commonly pyrite) over extensive low lying areas under waterlogged or anaerobic conditions. These soils may be found close to the natural ground level but may also be found at depth in the soil profile.

The Park has some water courses of 'moderate to low risk' acid sulphate soils and a precautionary approach is adopted in these areas to avoid soil disturbance.

Threats

The main threats to the Park's geology, landforms and soils are:

- Extraction. Exploration or mining activities have the potential to significantly impact the Park's geology, landforms and soils.
- Erosion. Removal of vegetation by various mechanisms including clearing, trampling and fire typically results in acceleration of soil erosion. The key to prevention is the retention of vegetation and revegetation of degraded areas. This is particularly critical on banks of waterways, areas of past gravel extraction and landfill, and in fore dune areas. Where dunes are vegetated defined access paths must be provided. No other developments should occur on fore dunes.
- Contamination. Soils can become contaminated by fuel and chemical spills, dumping of waste materials, or disturbance of acid sulphate soils. A former waste disposal site is also located with management zone 6.
- Inappropriate visitor use. This can result in erosion, sedimentation, and other impacts to geological features and soils.

Section 20 - GEOLOGY, ROCKS, LANDFORMS AND SOILS	
Objective 6: **To protect and conserve geological features, landforms and soils and preserve the unique character of the Parks visual landscape.**	
Action No	**Management Action**
6.1	Identify and mitigate potential adverse impacts on the Park's geology, soils, landform, and visual landscape to preserve the unique character of the Park.

21. WATERWAYS

Water is primarily managed for ecological purposes in the Park. The responsibility for water resource protection, licensing and management rests with DWER. The taking of water from catchments is regulated under the *Rights in Water and Irrigation Act 1914* (RIWI Act), which is administered by DWER. Under the RIWI Act, a licence is required to take water in proclaimed areas or non-artesian groundwater areas proclaimed or prescribed under the Act. Such licences specify the amounts and conditions under which water may be taken. All groundwater and surface water catchments in Meelup Regional Park are proclaimed under the RIWI Act.

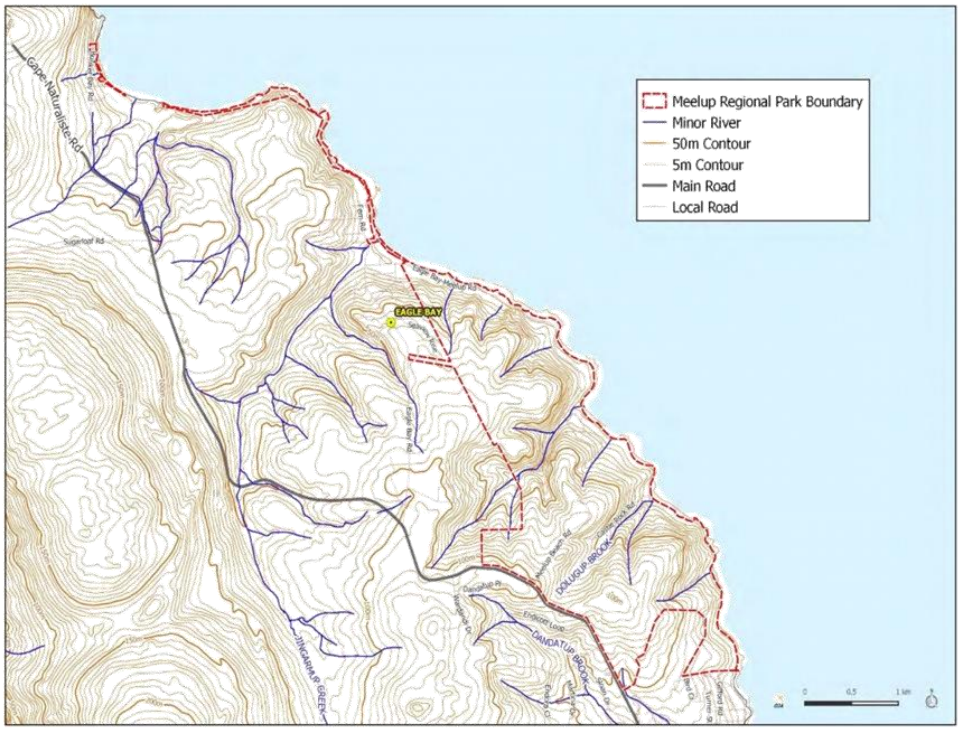
Under the RIWI Act, works that may interfere with the bed and banks of waterways within the Park require a permit from DWER.

Surface water

Many of the wetlands and waterways in the Geographe catchment have been degraded by clearing, drainage, pollution, stock intrusion and altered flow regimes. Therefore, those that are unmodified and within bushland such as Meelup Regional Park have high conservation value. Waterways within the Park are managed primarily for ecological purposes and are not considered a water resource for human use.

The Park has three small and ephemeral surface streams: Jingarmup, Meelup and Dolugup Brooks, which are all within the Geographe catchment Figure 5.

Figure 5: Topography and Surface Water Courses



A River Action Plan developed by the Cape to Cape Catchment Group in 2006 outlines the characteristics, values, condition and management issues for the Dunsborough streams including Meelup Brook, Dolugup Brook and Jingarmup Brook. Approximately half of Meelup Brook is within the Park and its headwaters are on a small reserve to the east of Cape Naturaliste Road. Meelup Brook flows through farmland and a vineyard before reaching the Park. The brook has a number of minor tributaries and much of the riparian foreshore is in excellent condition, although there are some areas of erosion and weed infestation. Two on-stream dams exist on the lower half of Meelup Brook close to Meelup Beach.



Photo 5: Meelup Brook ocean outfall at Meelup Beach

Dolugup Brook is the smallest of the waterways and is entirely within the Park, with its headwaters to the south of Meelup Beach Road. It flows alongside Castle Rock Road before reaching Castle Bay. It is mostly in excellent condition except for some minor erosion and disturbances near the mouth caused by Castle Bay's car Park and road drainage. Observations over the last decade indicate that Dolugup Brook does not flow annually.

Jingarmup Brook is the longest of the three waterways and only has a small portion running through the Park. The headwaters are on farmland at the southern edge of Cape Naturaliste near Vidler Road. It flows north through farmland, then passes through rural residential and residential areas in Eagle Bay before entering the ocean on the western edge of Eagle Bay. The majority of the catchment has been cleared for agriculture and the foreshore is mostly degraded (Cape to Cape Catchments Group 2006).



Photo 6 Jingarmup Brook Eagle Bay

Groundwater

The groundwater of Meelup Regional Park is thought to be restricted to shallow aquifers because the gneiss bedrock is either outcropping or close to the ground surface in most parts of the Park. There are surface springs and seeps, which provide important habitat for aquatic fauna and are a water source for terrestrial fauna. Little is known about the Park's groundwater and further research is required to fill this knowledge gap.

Water quality

Water quality monitoring in Jingarmup Brook has previously been undertaken as part of a catchment-wide assessment of the water quality of major waterways, under the Vasse Wonnerup Wetlands and Geographe Bay Water Quality Improvement Plan (WQIP) (2010)

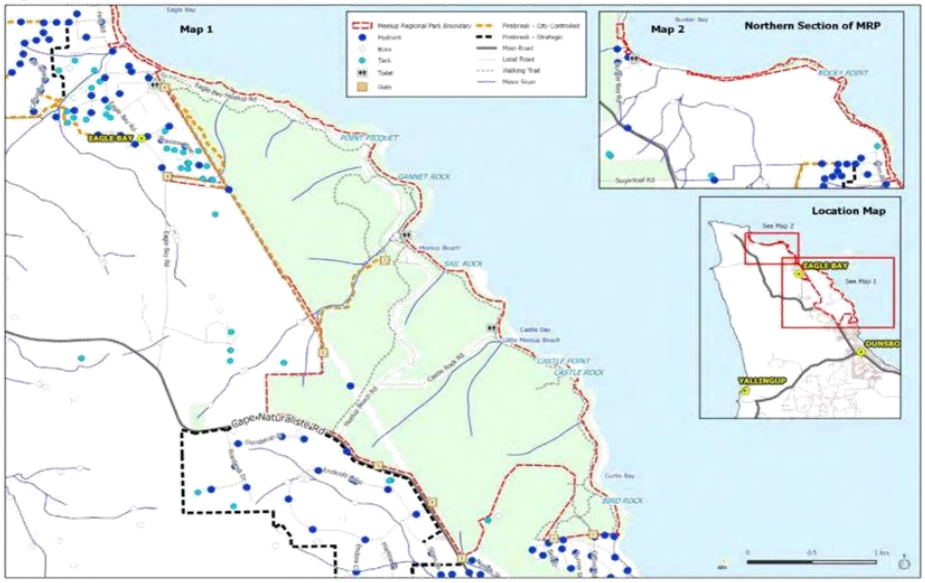
The aim of the WQIP (2010) is to provide a strategic approach to reducing nutrients in the Vasse Wonnerup Wetlands and Geographe Bay. Dolugup Brook was not included in the water quality monitoring programme.

Several water quality issues have been identified within the Jingarmup Brook, including nutrient enrichment (elevated nitrogen), seasonal odour at its mouth arising from decomposition of algae and/or exposure of anoxic sediment, and high turbidity. The management objective for Jingarmup Brook is 'intervention', to prevent phosphorus rising and reduce nitrogen to recommended levels (DoW 2010).

Water Supply Infrastructure

Water resources are required to support Park facilities and for fire management. The water supply pipeline for Bunker Bay provides the ablutions water to Meelup Beach and is used for irrigation of the grassed areas. There is no water supply to other recreation area in the Park. Fire hydrants supply water for fire management purposes, with the locations of fire hydrants detailed in the Fire Management Plan (Figure 6).

Figure 6: Water Infrastructure and Access Roads



Threats

Threats to the Park's waterways and wetlands include:

- Visitor access and associated recreational activities. High visitor usage of sensitive waterways can potentially damage vegetation, causing erosion, sedimentation and spread dieback and weeds.
- Upstream water extraction/contamination. Land use activities within the water catchment upstream of the Park's boundaries, including both on-stream and off-stream activities, can impact surface water quality and stream flow in the Park.
- Infrastructure development. The provision of infrastructure within the Park has the potential to disturb vegetation, alter the local hydrology and impact water quality.
- Extraction. Ground water extraction within the Park poses a threat to these resources and the ecosystems that depend on them.

Section 21 - Waterways and Wetlands	
Objective 7: **To protect and conserve existing surface and ground water resources of the Park, the Park's waterways and wetlands**	
Action No	**Management Action**
7.1	Develop a catchment protection and enhancement plan for the Meelup and Jingarmup Brook catchments in collaboration with relevant government agencies, local catchment management groups and the Park's neighbouring landholders
7.2	Rehabilitate degraded areas, including erosion control, weed control and revegetation.
7.3	Ensure effective stormwater and drainage systems that maintain environmental flow.

22. NATIVE PLANTS AND PLANT VEGETATION COMMUNITIES

The south-west corner of WA is internationally recognised as one of the world's 34 biodiversity hotspots for its rich plant diversity and high endemism with many species unique to the region. The Busselton to Augusta area is listed as one of Australia's 15 national biodiversity hotspots.

Native plants

The Park has a diverse flora with 480 species of native vascular plants recorded and is comparable to other reserves within the south-west botanical province, considered to be centres of species diversity. Little is known or recorded about non-vascular plants in the Park, including fungi, lichen, algae, mosses and liverworts.

The largest families represented are Fabaceae (57 native, 10 weeds), Orchidaceae (37 native, 1 weed), Cyperaceae (34 native, 2 weeds), Poaceae (16 native, 19 weeds), Asteraceae (24 native, 10 weeds) and Myrtaceae (27 native). The largest genera are Acacia (16), Schoenus (15), Caladenia (14), Stylidium (13), Lomandra (10), Drosera (9), Hibbertia (8) and Leucopogon (8) (Webb 2013).

The BC Act 2016 provides for the protection of native flora that is likely to become extinct, rare or otherwise in need of special protection.

Of the significant species in the Park, 11 are listed as threatened, which includes four species listed as declared rare flora (DRF) and seven are assigned a priority flora status (Table 2). Priority flora are those species that may be rare or threatened, but of which there is insufficient information to make a determination of their status. Unlike DRF, priority flora are not gazetted and do not have the same level of legislative protection. However, the priority flora list is maintained as a mechanism to highlight flora of special conservation interest and to encourage appropriate management. Taxa are grouped from Priority 1 to Priority 4 according to the perceived urgency for further survey (DEC 2010). Appendix 1 provides further information on threatened species ranking and priority codes.



Photo 7: Cape spider orchid
(Caladenia caesarea subsp. *maritima)*

DBCA develops and implements recovery plans for threatened species, which outlines action that need to be taken to prevent these species from further decline and eventual extinction. The Australian Government Minister for Environment may also make or adopt and implement recovery plans under the EPBC Act.

Table 2: Threatened and priority flora and rankings

Species	State	Commonwealth
Bussell's spider orchid* *Caladenia busselliana*	CR	EN
Cape spider orchid *Caladenia caesarea* subsp. *maritima* *	CR	EN
Dunsborough spider orchid *Caladenia viridescens* *	CR	EN
Giant spider orchid *Caladenia excelsa*	EN	EN
Meelup mallee *Eucalyptus x phylacis* *	CR	EN
Acacia latericola (glaberous variant)	P3	
Boronia tenuis	P4	
Calothamnus graniticus ssp. graniticus	P4	
Eucalyptus rudis ssp. cratyantha	P4	
Eucalyptus virginea	P4	
Thelymitra variegata	P3	
Meionectes tenuifolia	P3	

Abbreviations		
	EN: Endangered CR: Critically endangered *Interim Recovery Plan	P3: Priority 3: Poorly known species, some on conservation lands P4: Priority 4: Rare, threatened or other taxa in need of monitoring

Two of the Park's priority listed species (*Boronia tenuis* and *Eucalyptus virginea*) are significantly disjunct from their typical area of occurrence. *Caladenia caesarea* ssp. *maritima* and *Eucalyptus x phylacis* (the Meelup mallee) are endemic to Meelup Regional Park and *Caladenia viridescens* is only known from the Park and other bushland areas within 10km of Meelup (Webb 2013).

The Cape Naturaliste endemic and subspecies *Calothamnus graniticus* ssp. *graniticus* (City of Busselton floral emblem) is only known from Meelup Regional Park and nearby Sugarloaf Rock. Keighery et al. (2011) note that the form of this species in Meelup has glaberous leaves compared to hairy leaves at Sugarloaf rock, it is possible that with further taxonomic and/or genetic work that separate forms of this species could be recognised (Webb 2013).



Photo 8: *Calothamnus graniticus* ssp. *graniticus* (City of Busselton floral emblem)

The critically endangered Meelup mallee, *Eucalyptus x phylacis,* is a small mallee to 5 metres with distinctive coarse, non-fibrous bark overlaying thick corky bark. The Meelup mallee was first collected in 1982 and named in 1992. The Kings Park and Botanical Gardens has undertaken research into the genetics of the species and discovered that the only known population is in fact a single plant (clone). The distance between the mallee ramets suggests that the plant is very old, possibly as old as 6600 years. This indicates that it is potentially one of the oldest eucalypts on record (Patten 2004). The

location of the Meelup Mallee is restricted in order to protect the species. Annual monitoring is necessary to observe the ongoing health of the species, identify any concerns and instigate necessary recovery actions. The monitoring data is held by the DBCA.

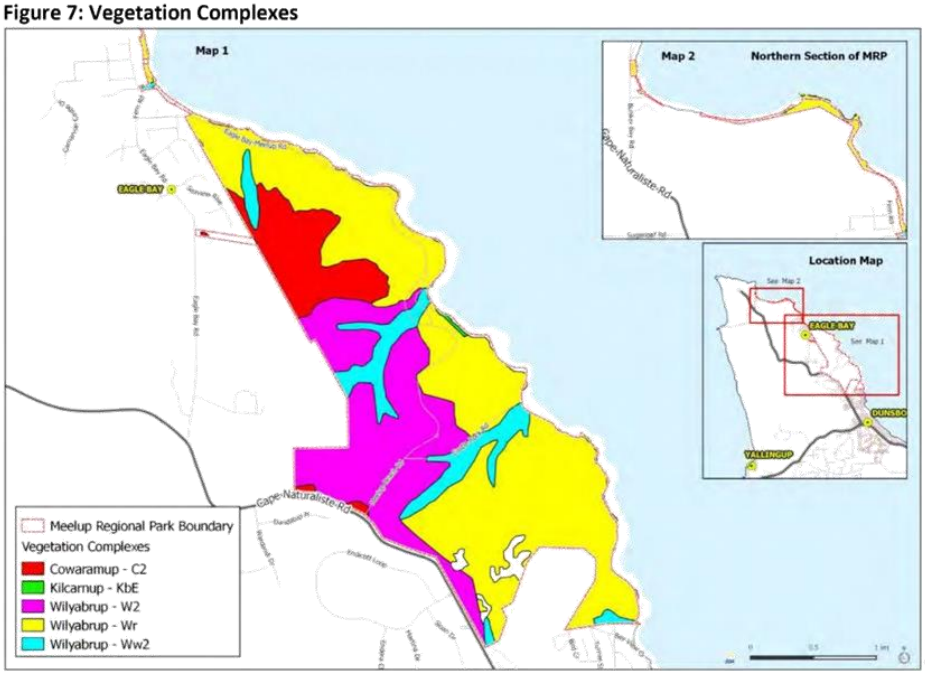
The recent discovery of *Eucalyptus virginea* approximately 300m from the Meelup Mallee population has resulted in Nicolle and French (2012) considering the Mallee to be a hybrid of that species and *Eucalyptus decipiens*. The current conservation listing details the Meelup mallee as a hybrid: *Eucalyptus x phylacis.*

Vegetation complexes

Vegetation complex mapping is the mapping of vegetation based on landform, soils and climatic zones and their relationship to vegetation (primarily understorey vegetation).

Five vegetation complexes are mapped for the Meelup reserve system (Figure 7), as per Havel and Mattiske (2000): Cowaramup (C2), Kilcarnup (KbE) and three Wilyabrup complexes (Wr), (W2) and (Ww2) (Webb 2013).

Figure 7: Vegetation Complexes



The Park's vegetation complexes are highly restricted and poorly reserved. The Wilyabrup (Wr) vegetation complex is one such example, with the Park supporting almost 50% of its remaining pre-European extent (Table 3). All occurrences of this complex support significant populations of endemic and disjunct flora, and in the context of the Leeuwin Block occurrences in Meelup, are the largest and the richest. The National Objectives and Targets for Biodiversity Conservation 2001-2005 (Department of the Environment and Heritage 2001) recognised that in order to protect Australia's biological diversity there needs to be the minimum retention of 30% of the pre-clearing extent.

Table 3: Extent of Meelup reserve system vegetation complexes (Webb 2013).

Vegetation complex	Pre-European extent (ha)	Extent remaining (ha)	% remaining	% in formal reservation	Extent * in Meelup (ha)
Cowaramup (C2)	13,683	4,889	36	6	60
Kilcarnup (KbE)	355	285	80	69	5
Wilyabrup (W2)	4,101	1,407	34	2	145
Wilyabrup (Ww2)	1,328	519	39	0	52
Wilyabrup (Wr)	1,111	799	72	9	390

(* - includes partly cleared and regenerating vegetation)

Vegetation associations

Trudgen and Trudgen (2010) define vegetation associations as covering two or more plant communities with similar structure and dominant species (Webb 2013). Meelup supports an intact granitic landscape and associated vegetation from the top of the landscape to the bottom; the vegetation of the reserve system is linked to its topographic position.

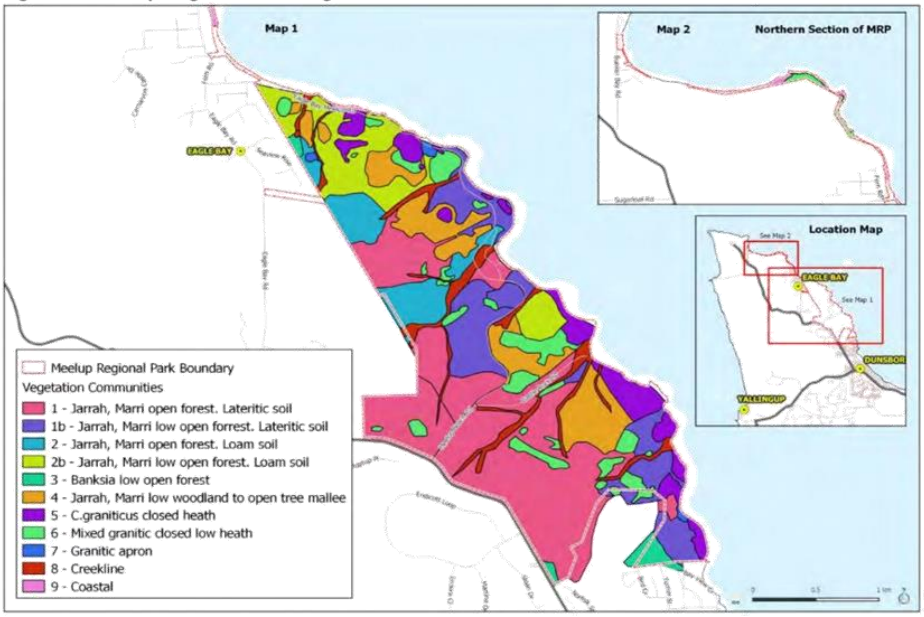
The Flora and Vegetation of the Meelup Reserve System mapped the Meelup vegetation at the association level, detailing the following eight vegetation associations with associated plant communities (Figure 8):

1. Jarrah, marri forests
2. Jarrah, marri woodland
3. *Banksia* woodland
4. Granitic heath
5. *Calothamnus graniticus* closed heath
6. Granitic apron
7. Creek lines
8. Coastal vegetation (Webb 2013).



Photo 9: Jarrah Marri woodlands within the Park

Figure 8: Meelup Regional Park Vegetation Communities



Significant vegetation

Keating and Trudgen (1986) indicate that the Park contains a significant variety of vegetation types that are poorly represented elsewhere. In particular, the jarrah, marri woodland and forest vegetation found in the Park is of significant diversity, good condition and the only area of such vegetation of a substantial extent, in reservation (Webb 2013). In addition, the granitic heath vegetation found in Meelup is thought to only be found within the Park.

Both these forms of vegetation comprise approximately 116 hectares of the Park's vegetation (70 hectares jarrah, marri woodland and 46 hectares granitic heath), appear to be highly restricted, support the majority of the Park's threatened and significant flora, are exceptionally diverse and are of excellent condition. Because of their limited extent it is considered that they should be assessed for nomination as a threatened ecological community. Surveys of nearby reserves need to be undertaken to place these vegetation types in context to surrounding areas (Webb 2013).

The survey undertaken by Keating and Trudgen in 1986, also identified a number of other plant communities that are considered significant in the Park (Webb 2013). The dominant subspecies of *Calothamnus graniticus* ssp. *graniticus* and its associated vegetation is only known from the tip of Cape Naturaliste in Meelup reserve and at Sugarloaf rock (Webb 2013). The threatened ecological community (TEC) "Meelup granites" or "*Calothamnus graniticus* heaths on south west coastal granites" is currently listed in WA as vulnerable and recorded as occurring in several locations in the Park within the heath on granite areas.

Small areas of the Meelup landscape support a granitic apron vegetation, which is also considered of high conservation significance in the broader Leeuwin Block context, as there is only one other location on the Leeuwin Block where comparable vegetation is known. This vegetation comprises edges

of outcropping granite, covered in shallow soil of varying depths resulting in the soil alternating between waterlogged and dry throughout the seasons. These areas can support a plant community ranging from an annually renewed herbland to a wetland taxa influenced scrub community (Webb 2013).

The coastal fringing vegetation is also considered to be of high conservation value, particularly the form on loamy soils associated with outcropping granite. The sheltered nature of the Meelup coastline has allowed for a unique combination of woodland and heath vegetation to combine with a number of taxa typically associated with the coastal fringe to form a very attractive and otherwise un-replicated coastal flora (Webb 2013).

Corridors

Corridors of remnant vegetation provide important ecological linkages for the natural movement of wildlife, and are crucial for helping species adapt to climate change. The Park provides connectivity to about four South West Regional Ecological Linkages (SWREL). These linkages are recognised as having regional importance. The SWREL project identifies regional scale ecological linkages and aims to respond to the issues of fragmentation and climate change through land use planning policy and procedures. It also seeks to retain native vegetation and fauna habitat and reduce the loss of biodiversity and ecological function in the South West (Molloy et al. 2009, in ngh environmental 2015). The SWREL axis lines are a series of vegetation patches, which due to their proximity, act as habitat stepping stones thereby facilitating ecological processes and movement of organisms at the landscape scale) (ngh environmental 2015).

The Park provides secure tenure of mostly remnant vegetation along the coastal fringe from Dunsborough through to Cape Naturaliste (and Leeuwin Naturaliste National Park), apart from about 400m along Bunker Bay Beach, which is recognised as unique for a single reserve along Geographe Bay. There is also a linkage via the wildlife corridor, and two linkages identified to the Leeuwin-Naturaliste National Park to the east (ngh environmental 2015).

Jingarmup Brook and Meelup Brook provide habitat corridor opportunities, however, only a very small portion of Jingarmup Brook is within the Park boundary; the middle and upper reaches are within privately owned land, extensively cleared of native vegetation. Meelup Brook is considered to provide an opportunity to work with upstream landholders to revegetate the brook and provide a riparian corridor to its headwaters, which is contained within a small 3.2 hectare class A reserve located adjacent to Cape Naturaliste Road.

Threats

Threats to the flora and vegetation communities of the Park are:

- Climate change. Climate change may impact the Park's flora and vegetation communities through reduced rainfall, altered seasonal patterns and increased temperatures.
- Disease and tree decline. *Phytophthora* dieback can impact over 40% of species in the south-west of WA. Over 25% of the Park is infested with dieback.
- Visitor use, access and recreational activities. Visitor use and access can affect vegetation through trampling or clearing for trails, or indirectly through erosion, sedimentation and spread of weeds.
- Unplanned or poorly planned fire management. Fire risk mitigation regimes and wildfires impact large areas of vegetation, declared rare flora species and threatened ecological communities. Overuse of fire for risk mitigation purposes could potentially alter the composition of vegetation communities.

- Weeds. Weeds can outcompete native flora species for water, nutrients and space; impact ecology by removing habitat and food sources for native fauna, and increase fire risk.
- Urban interface issues. The Park's proximity to suburban areas means it is highly accessible to the local population. The edge effect is apparent at the Park's boundary, with degradation resulting from uncontrolled access, garden rubbish dumping, litter and weeds.
- Road reserve maintenance. Although the road reserve is not within the Park's boundaries, the vegetation is contiguous and in some locations includes declared rare flora and threatened ecological communities.
- Introduced animals. Introduced animals graze on regenerating vegetation, spread weeds and can contribute to erosion.
- Importation of soil into the Park. Imported soils can introduce disease, deleterious insects, fungus and other foreign materials into the Park, which may impact native vegetation.
- Unauthorised removal of rare flora. Visitors to the Park actively seeking plant species for their private collections.

Section 22 - Native plants and vegetation communities management	
Objective 8: **To protect and conserve native plants and vegetation communities with an emphasis on threatened and priority species and significant vegetation.**	
Action No	**Management Action**
8.1	Avoidance of vegetation clearing for the purpose of developing visitor facilities and infrastructure within the Park.
8.2	Monitor annual weed control program to ensure there are no potential impacts to threatened and priority flora and significant vegetation.
8.3	Provide support to the DBCA with monitoring of important species and vegetation communities within the Park, and with the implementation of DRF recovery plans.
8.4	Undertake revegetation of degraded areas that are unlikely to naturally regenerate using local provenance native species.
8.5	Continue the annual monitoring program of the Meelup mallee with DBCA.
8.6	Monitor quadrats associated with the flora survey as appropriate or every five years.
8.7	Ensure contractors, staff and volunteers working in the park are adequately informed about the protection of threatened and priority flora.
8.8	Develop a roadside vegetation management plan to conserve threatened and priority flora, significant vegetation communities, and visual amenity.
8.9	Develop a procedure for the management and maintenance of the Park's road reserve vegetation.

23. NATIVE ANIMALS

The Park is important for fauna habitat due to several factors:

- The Park is a reasonably sized natural habitat located adjacent to the extensive Leeuwin-Naturaliste National Park.
- Has connectivity to four regional ecological linkages
- Fauna habitats are mostly in good condition with high diversity of fauna species present
- There are a number of conservation significant fauna species within the Park
- The Park is of high importance for the persistence of conservation significant fauna in the local area.
- The limited number of introduced species (Hart, Simpson and Associates Pty Ltd 1997).
- The Park is located in a region of growing population and increasing urbanization

A series of fauna surveys were undertaken during 1994, 1996 and 1997, the results of which are summarised in a single report (Hart *et al* 1997). In 2014 a second fauna survey was undertaken, introducing new surveying methods, targeting a wider range of fauna and surveying representative habitat based on more recent vegetation information. The resultant report found that of the total 293 vertebrate fauna taxa (13 amphibians, 205 birds, 33 mammals, 42 reptiles) that occur within 10km of the Park, 102 fauna species were observed in the Park, excluding fish and invertebrates.

Six of the eleven introduced species recorded locally were also found in the Park, and of those fauna recorded, eight species are of conservation significance and are listed by state and/or federal agencies as migratory, vulnerable or endangered (Table 4). DBCA develops and implements recovery plans for threatened species, which outlines action that need to be taken to prevent these species from further decline and eventual extinction. A full list is included in the report (ngh environmental, 2015).

There has been limited fish and freshwater crayfish surveying in-stream of Meelup Brook and Jingarmup Brook. No freshwater fish have been identified in Jingarmup Brook however, gilgie and estuarine species Swan River goby and sea mullet have been observed. Juvenile sea mullet and marron have been recorded at the mouth of Meelup Brook; the latter were probably introduced into the artificial dam near the beach (Beatty *et al* 2006). The introduced yabby has been recorded in the kangaroo seep. No in-stream surveying has been undertaken of Dolugup Brook due to mostly dry conditions.

Threats

Major threats to the Park's native fauna are:

- Introduced animals. Particularly foxes, which predate on small native fauna
- Domestic animals. Primarily dogs and cats, have the potential to disturb native fauna either directly (by chasing and/or killing animals) or indirectly by disease or scent.
- Visitor use, access and recreational activities. Visitor use and access can affect vegetation, alter hydrology in waterways and wetlands, resulting in disturbance and alteration of habitat.
- Unplanned or poorly planned fire management. Fire risk mitigation regimes and wildfires impact large areas of vegetation and ecological communities through direct mortality and/or loss of habitat.
- Disease and tree decline. Loss of habitat through clearing or disease, such as *Phytophthora* dieback. Over 25% of the Park is infested with dieback.

The listing category abbreviations for significant fauna, conservation status and habitats under the EPBC Act, BC Act and International Union for Conservation of Nature, are summarised in Table 4.

Table 4: Category abbreviations for significant fauna and conservation status.

State BC Act	Commonwealth EPBC Act	Criteria set by DBCA	Criteria set by IUCN
1: Schedule Rare or likely to become extinct: *VU- Vulnerable* *EN- Endangered* *S2- Extinct* *S3-Protected under International Agreements* *S4- Other specially protected fauna*	*VU- Vulnerable* *EN- Endangered* *CE-Critically Endangered*	*Priority 1-3: Poorly known species* *Priority 4-5: Taxa in need of monitoring*	*VU: Vulnerable* *EN: Endangered* *CE: Critically Endangered* *NT: Near Threatened* *LC: Least concern*

Table 5: Recorded significant fauna, conservation status and habitats in the Park

Species	State	Commonwealth	IUCN	Habitat
Mammals				
Western false pipestrelle *Falsitrellis mackenziei*	P4		NT	Roost in tree hollows
Western ringtail possum *Pseudocheirus occidentalis* *	CE	CE	VU	Forest and dense woodlands. Requires tree hollows and/or dense canopy for refuge and nesting
Brush-tailed Phascogale *Phascogale tapoatafa spp*	VU	NT	NT	A variety of forest and woodland habitats
Chuditch *Dasyurus geoffroii* *	VU	VU	NT	Wooded habitat, including Eucalypt forest, dry woodland, mallee shrubland, riparian forest
Quenda or southern brown bandicoot *Isoodon obesulus fusciventer*	P5		LC	Dense understorey vegetation, particularly around swamps and along waterways
Western brush wallaby *Macropus irma*	P4		LC	Forest and woodland supporting a dense shrub layer
Birds				
Forest red-tailed black cockatoo *Calyptorhynchus banksii naso* *	VU	VU	LC	Eucalypt forests
Baudin's cockatoo *Calyptorhynchus baudinii* *	EN	EN		Eucalypt forests
Carnaby's cockatoo *Calyptorhynchus latirostris* *	EN	EN		Eucalypt forests
Rainbow bee-eater *Merops ornatus*	S3 Mig		LC	Most vegetation types, open country
Barking owl *Ninox connivens*	P2		LC	Forest and woodland supporting a dense shrub layer
Caspian tern *Sterna caspia*	S3 Mig		LC	Coastal
Hooded plover ^ (western subspecies) *Thinornis rubricollis tregellasi*	P4		VU C1	Above the high tide mark on wide, sandy beaches
Reptiles				
Dell's Ctenotus *Ctenotus delli*	P4			Not known

Section 23 - Native Animals	
Objective 9: **To protect and conserve naturally occurring fauna species in the park, particularly threatened and priority species.**	
Action No	**Management Action**
9.1	Liaise with the DBCA and with neighbouring land owners on the management of native animals and implementation of recovery plans for threatened species in the park.
9.2	Investigate utilizing the Park as a site for translocation or re-introduction of native species.

24. ENVIRONMENTAL WEEDS

Environmental weeds are introduced plants that establish themselves in natural ecosystems and modify natural processes; often resulting in the decline of the communities they invade (CALM 1999). Weeds impact on ecosystems by competing with native plants for space, nutrients, water and light; pushing out native fauna that depend on native plants for food and shelter; and altering fire regimes. The Park has 91 known introduced species (Webb 2013).

The edge effect is clearly observed in the Park: weeds are primarily found in close proximity to recreational nodes, along trails and firebreaks, and boundaries with neighbouring properties. Weeds are also found along waterways, wetlands and extensively throughout the old gravel pit and decommissioned former landfill site (management unit 6) in the southern portion of the Park. Weeds are often introduced by Park visitors and vehicle movement.



Photo 10: Arum Lily control within the Park

The Environmental Weed Strategy for Western Australia (1999) provided a ranking of weed species on a state-wide basis against three criteria – invasiveness, distribution and environmental impact. A total of 1350 weeds species were rated through this process as either high, moderate or low, with 34 weeds species being rated as high priority for control. Environmental weeds of concern in the Park, are identified in Table 5.

To protect WA agriculture, the Department of Primary Industry and Regional Development (DPIRD) regulates harmful plants under the *Biosecurity and Agriculture Management Act 2007.* Plants that are prevented entry into the State or have control or keeping requirements are known as declared pests. The Western Australian Organism List (WAOL)[2] contains information on the area(s) in which a plant is declared and the control and keeping categories to which it has been assigned in Western Australia. Declared weeds in the Park come under the C3 control category, which means they are established in Western Australia but, may warrant management of spread, impact and distribution.

[2]The Western Australian Organism List is available on the Department of Primary Industries and Regional Development Website: agric.wa.gov.au/organisms

Table 6: Weeds of significance in Meelup Regional Park

Species	Included on WONS list	Included on WAOL List	Environmental Weeds of concern in the Park
Bridal creeper *Asparagus asparagoides*	Yes	Yes	Yes
Mediterranean turnip *Brassica tournefortii*		Yes	
Double gee *Emex spinosa*		Yes	
Flax-leaf broom *Genista linifolia*	Yes	Yes	Yes
Tagasaste *Chamaecytisus palmensis*		Yes	Yes
Hare's tail grass *Lagurus ovatus*		Yes	
One-leaf cape tulip *Moraea flaccida*		Yes	Yes
Rose Pelargonium *Pelargonium capitatum*		Yes	Yes
Guildford grass *Romulea rosea*		Yes	Yes
Harlequin flower *Sparaxis bulbifera*		Yes	
Apple of sodom *Solanum linnaeanum*		Yes	Yes
Watsonia *Wastonia spp*		Yes	Yes
Arum lily *Zantedeschia aethiopica*		Yes	Yes
Brisbane Golden Wattle *Acacia fimbriata*		Yes	Yes
Flinders range wattle *Acacia iteaphylla*		Yes	Yes
Sydney golden wattle *Acacia longifolia*		Yes	Yes
Manna wattle *Acacia micobotyra*			Yes
Queensland silver wattle Acacia podalyrifolia			Yes
Dolichos pea *Dipogon lignosus*		Yes	Yes
Victorian teatree *Leptospermum laevigatum*		Yes	Yes
Sweet pittosporum *Pittospermum undulatum*		Yes	Yes
Milkwort *Polygala myrtifolia*		Yes	Yes
Pyp grass *Ehrharta villosa*		Yes	Yes
Olive *Olea europaea*		Yes	Yes

An extensive weed survey was undertaken by the committee in 2011, with an assessment of all trails and firebreaks, recreation nodes, waterways, wetlands, gravel pits and former waste facility landfill area in management unit 6 (Fisher 2011). This valuable resource provides a baseline for future weed surveying and recommends prioritization of weed control. Meelup Regional Park Weed Control Guidelines have been developed for contractors to maximize the efficacy and minimize the impacts of weed control on Park users and the environment.

An annual weed inspection is also undertaken of key sites within the Park and weed control is prioritized based on financial resources and an assessment of:

- Invasiveness: how rapidly and aggressively the weed can spread.
- Distribution: where it is located and the population's extent. Control should be prioritized for newly established weed populations, areas of good quality bushland and rehabilitation areas.
- Ecological impact on the environment: taking into account the two considerations above and the weed's potential to alter the composition, especially the formation of monocultures, in the natural environment. In addition, weeds that have the potential to impact on rare and threatened flora and fauna need to be prioritized for control.
- Potential and current distribution and feasibility of control.

Non-native trees have been planted for rehabilitation, aesthetic or shading purposes in some locations in the Park, namely at Eagle Bay, Meelup Beach and the old gravel pit/landfill site. These include New Zealand Christmas trees (*Metrosideros excelsa*), coastal mort (*Eucalyptus utilis*) and non-native *Eucalyptus* species. Some of these species have naturalized and are spreading to other areas of the Park, or are preventing natural regeneration. These populations need to be regularly monitored; and

- retained where they pose no threat of spreading or affecting adjacent conservation values;
- incrementally removed and replaced if they are determined inappropriate, are impacting on natural regeneration or revegetation efforts; or have naturally senesced;
- removed where they are self-seeding.

In addition, the efficacy of past rust and leafhopper release programs for the control of bridal creeper must be monitored, as although ongoing recurrence appears to be limiting the weeds spread this may change with time.

Section 24 - Environmental Weeds	
Objective 10: **To minimise the impact of environmental weeds on the natural environment values.**	
Action No	**Management Action**
10.1	Develop and implement a priority weed control action plan, based on assessment of invasiveness, distribution and potential environmental impacts within the Park.
10.2	Regularly review effectiveness of weed control programme and monitor the impact of weed control on native flora and maintain an effective mapping system of weed management.
10.3	Regularly review the Parks annual weed control programme and maintain a mapping system of weed management.

25. INTRODUCED AND FERAL ANIMALS

Introduced animals are feral species that have become established as wild or naturalised populations, whilst problem animals are native species that have altered their natural distribution and population, often to the detriment of locally native species (Table 6). Introduced and other problem animals can seriously impact on ecosystems through predation, habitat destruction, competition for food and habitat, introduction of disease, and by causing environmental degradation.

Table 7: Introduced and other problem animals in Meelup Regional Park

Species	WAOL control category
Mammals	
Black rat *(Rattus rattus)*	
Rabbit *(Oryctolagus cuniculus)*	C3 management
Fox (*Vulpes vulpes)*	C3 management
Feral cat (*Felis catus)*	
Fish	
Rosy barb *(Puntius conchonius)*	
Birds	
Laughing kookaburra *(Dacelo novaeguineae)*	

The house mouse (*Mus musculus*) is also expected to be present but has not been recorded.
Foxes are considered to have contributed to the extinction and decline of many ground-nesting birds, small to medium sized mammals (35g to 5.5kg) and reptiles. Cats are also considered to have a significant impact; however the evidence of their effect on fauna in the south-west is scarce. Rabbits compete with native fauna for food and can impact on the regeneration of native vegetation through grazing.

Kookaburras are commonly observed at Meelup Beach. They are considered an 'acclimatised species' or 'fauna living in a wild state as a result of being released or escaping from confinement or because it is offspring of fauna that has been released or has escaped from confinement'. They are considered native to WA and are protected under the BC Act.

Rosy barb have been recorded in Jingarmup Brook (Beatty *et al* 2006). Although they were recorded outside of Meelup Regional Park, a small section of Jingarmup Brook is within the Park and it is therefore possible that this species exists within Park boundaries. This was the first wild population of the species recorded in WA, and was probably a result of a deliberate aquarium release.

Upstream dams may provide a mother stock of this feral species and so it may prove difficult to completely eradicate them from the stream system. Further research is required on the source and potential eradication of this species.

Control

An annual introduced animal control program is undertaken in the Park, using 1080 poisoned oats and calicivirus virus for rabbits, 1080 baits for foxes and cage traps for feral cats. Baiting results recorded between 2009 and 2018 indicate a relatively consistent bait take by foxes, which supports the importance of continuing a baiting program. Feral cats have been observed in the Park and a trapping program has been implemented.

Section 25 - Introduced and Feral Animal	
Objective 11: **To minimise the impact of introduced and other problem animals on the Park's biodiversity.**	
Action No	**Management Action**
11.1	Implement a feral animal control programme within the Park and in collaboration with adjoining landowners and review the effectiveness of the programme annually.
11.2	Engage with neighbouring landholders to facilitate a coordinated and extended feral animal management programme beyond the Parks boundary.

11.3	Investigate the potential for a rosy barb (feral fish) monitoring project to determine their presence in Jingarmup Brook, and implement management actions as appropriate.
11.4	Conduct regular surveys to identify potential impacts of introduced pest and feral animals on the Park threatened fauna population.

26. TREE DECLINE AND DISEASE

Tree decline

Since the 1990's there has been an observed decline in the health of a number of tree species in the south west, including *Agonis flexuosa, Eucalyptus rudis, E. gomphocephala, E. marginata* and *Corymbia calophylla*. It is thought that high temperatures, declining rainfall and lowered water tables are the primary stressors, with vulnerable trees susceptible to secondary impacts from insects and disease, resulting in the eventual death of trees (Australian Broadcasting Corporation 2012). Tree decline has been anecdotally observed in the Park, but no qualitative data currently exists.

The decline of key tree species in the Park may have significant impacts on the Park's ecology and threatened species such as the western ringtail possum and Carnabys, Baudin and forest red-tailed black cockatoos. Dying trees can pose a safety hazard to visitors from falling branches and limbs. The reduction in the health and number of trees can also impact on the visual amenity and character of the Park, with these species providing an important component of the Park's visual landscape.



Photo 11: Carnaby's Black Cockatoo

The Western Australian State Centre of Excellence on climate change and woodland and forestry health (the Centre), affiliated with Murdoch University, is concerned with the premature decline of key tree species in WA. The Centre is undertaking various research projects in the context of climate change; decline ecology; restoring biodiversity values; and determining policies and action for the restoration of woodlands and forests (Centre 2010). Tree treatment trials are being undertaken in Meelup Regional Park as part of a larger trial in the Margaret River region. This involves treating marri trees with various treatment options and monitoring changes in tree health over time to determine the most effective treatment.

A large-scale treatment program covering the entire Park is considered resource intensive however, an effective treatment programme could target tree treatment in key areas such as along roadsides and in popular visitor nodes such as Meelup Beach and Castle Bay.

Vegetation condition change has been analysed using Landsat multi spectral imagery for the period February 1988 to January 2015. Although full analysis of data is pending, the imagery shows a clear trend of vegetation decline in the majority of the Park over this period, with the key exception being in and around a gravel extraction pit and a former landfill waste disposal site located within management zone 6. Both these sites have been rehabilitated and or naturally regenerated.

Disease

The vegetation of the south-west is under threat from several plant diseases, with the most frequently reported being pythiacious root rots (*Phytophthora* species), Armillaria root rots, stem cankers, rusts, and leaf spots and blights. The disease mostly focused on in Meelup Regional Park is caused by the pathogen *Phytophthora cinnamomi*. This is mostly due to the fact that little is known about other plant diseases and their existing and potential impact on the Park's vegetation and ecosystems.

***Phytophthora* dieback**

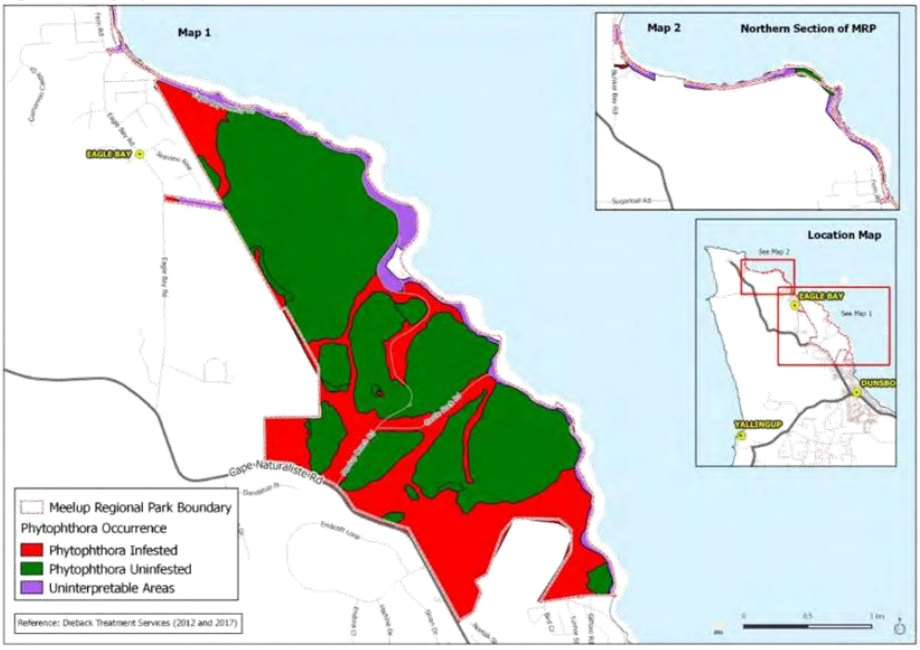
Phytophthora dieback refers to the deadly plant disease caused by the pathogen *Phytophthora cinnamomi,* which is an Oomycete or water mould. There are over 50 species of *Phytophthora*, but *P.cinnamomi* has the most severe impact on native vegetation in Western Australia. Over 40% of Western Australian plant species are susceptible to *P.cinnamomi* (Shearer *et al* 2004). Changes in species composition impact native fauna that depend on this vegetation for food and habitat. *Phytophthora* dieback poses a serious threat to the Park's biodiversity values and is a high priority for Park management.

Distribution of *P. cinnamomi* is known to be widespread in the Park, especially in the area between the Dunsborough townsite and Meelup Beach Road. All riparian areas in the Park are infested with *P. cinnamomi* (Figure 9). *Phytophthora* dieback poses a significant threat to the Park given the existing upland plant communities that contain a number of susceptible species including jarrah, banksia and grass tree.



Photo 12: Grass Tree - Dieback *(Phytophthora cinnamomi))*

Figure 9: Phytophthora occurrence



Phytophthora cryptogea has also been found in the park, as determined by soil samples, in the 'wildlife corridor' accessible from Eagle Bay Road. This pathogen was identified as the cause of death of a cluster of *Xanthorrhoea preissii* (DTS 2012).

Detection of the disease is based on visual assessment of vegetation condition and presence of symptoms in conjunction with soil analysis to detect the pathogen; however, sampling can fail to detect the pathogen in clearly infected areas. An area is declared infested if symptoms and/or pathogens are detected. The Park was most recently surveyed for *Phytophthora* dieback in 2013 (Dieback Treatment Services 2017), which showed that 25.5% of the Park is infested with *Phytophthora cinnamomi* and another 13.5% of the Park is at risk of infestation by natural spread.

Expression of the disease in the Park is generally cryptic in nature with small numbers of fresh indicator species deaths observed along infested boundaries during surveying. The low disease expression is thought to be a result of a combination of factors, namely the deeply incised creek lines, a wildfire that occurred in 2005, vegetation communities that traditionally have low to moderate disease impact and generally drier conditions (Dieback Treatment Services 2009). Although mapping is undertaken approximately every five years, the existing and potential impact of the disease on the significant vegetation communities and flora of the Park is poorly understood.

It is important to note that despite a large proportion of the Park being assessed as infested, these areas still have significant natural environment values that need to be preserved. Mapping tends to be conservative, and pockets of land within larger areas classified as infested remain free of symptoms and have vegetation in good condition. The danger exists that areas classified as infested are perceived as not being worthy of protection, and biological and aesthetic values are compromised as a result.

Introduction or spreading of *Phytophthora* dieback into an area can be considered serious environmental harm under the Environmental Protection Act. There are several publications that provide general guidelines on the management of *Phytophthora* dieback, including:

- *Managing Phytophthora dieback in bushland* (Dieback Working Group 2005)
- *Phytophthora cinnamomi and disease caused by it* (DEC 2003)
- *Managing Phytophthora dieback – Guidelines for local government* (DWG 2000)

Management of *P. cinnamomi* within the Park should focus on uninfested areas and infested areas that have significant environmental values, such as DRF or TECs. A number of management units are dieback free and prevention of infestation of these areas is a high priority. Access to these areas needs to be restricted and strict hygiene measures implemented. This is particularly important for management units 4 and 16, where firebreaks have been cleared along a ridge into dieback free bushland. The movement of visitors and vehicles from infested to uninfested areas should ideally not be permitted, or at a minimum carefully managed to prevent the movement of infected soils to uninfested areas.



Photo 13: Dieback cleaning disinfection station on walk trail

Management of *Phytophthora* dieback will aim to:

1. Implement practices which mitigate the damaging effects of *P. cinnamomi* where it has already established.
2. Contain or prevent further autonomous spread at the boundaries of existing infestations. This may include the realignment or re-surfacing of firebreaks and trails, as well as phosphite application.
3. Reduce the rate of vectored spread and establishment of new infestations within uninfested protectable areas by:
    a. ensuring hygiene management is implemented for new developments where appropriate (e.g. recreational facilities and upgrades, realignments of trails and firebreaks);
    b. restricting operations to dry soil conditions;
    c. applying phosphite in priority areas, and) minimising or prohibiting access into these areas.

Emphasis of management will be on reduction of vectored spread and human-assisted establishment of new areas of infestation within protectable areas.

Due to the relatively small size of Meelup Regional Park and previous surveying efforts, boundary re-checks are a relatively simple and inexpensive exercise. However, due to the apparent slow spread of *P. cinnamomi* in the Park, boundary re-checks are recommended every five years as resources allow. Ideally, treatment with phosphite injection in priority areas should be undertaken every three to five years, whilst phosphite spraying should be undertaken every one to two years. For any new developments in the Park, for example new or realigned trails or firebreaks, dieback surveys should be undertaken to determine the presence or absence of dieback.

Armillaria luteobubalina

Armillaria luteobubalina is a soil-borne fungus common to sclerophyll forests and can infect many woody plant species. It spreads through root to root contact with infected trees, especially old decayed stumps and roots. It becomes a serious killer in disturbed habitats where it causes root rot; destroying the food and water transport systems of its host, and then living on the dead plant's tissue for many years. Symptoms of the disease include the death of branches, yellowing of foliage, poor vigour and darkening and rotting of larger roots.

The range of species susceptible to the fungus is large and poorly defined (at least 50 families and more than 200 species), with little information on the presence of resistant or tolerant species. Shearer and Tippett (1988) and Shearer *et al.* (1997, 1998) found that many species that resist infection by *P. cinnamomi* are susceptible to *A. luteobubalina* (DEC 2010). Seventeen percent of the Park's vegetation was mapped as infected with *A. luteobubalina* in 1994 (Helyar 1994), however, no follow up surveys have been undertaken since.

In natural ecosystems, because it is a naturally occurring fungal species, *A. luteobubalina* is an integral part of ecosystem functioning and is not detrimental. It is generally only a problem when changes or disturbances occur in that system. In natural (undisturbed or unchanged) ecosystems, attempting to control *Armillaria* by traditional means would create physical disturbance and may in fact make it worse (R. Robinson, personal communication, n.d.).

To prevent problems associated with this disease, it is important to limit the introduction of the fungus during rehabilitation of disturbed sites. Materials such as mulch used in rehabilitation should be examined for obvious signs of the fungus and sound hygiene measures should be implemented.

Aerial cankers

Aerial cankers pose a significant risk to vegetation in the Park. It has been identified as a major threat to the *Eucalyptus x phylacis* (Meelup mallee) population in which stem death is evident, as well as *Corymbia calophylla* (marri). Fungi of the species *Quambalaria*, *Endothiella* and *Sporothrix* all appear to cause canker-like lesions on the trees. Once a tree has canker it will eventually die. Cankers have been observed in the Park and impacts becoming progressively noticeable over time, however, information on the extent, spread and impacts of cankers in the Park is limited to anecdotal evidence.

The loss of marri trees, which comprise a significant proportion of overstorey vegetation in the Park, is a significant risk associated with the existence of aerial cankers. Other significant species, including the declared rare flora Meelup mallee, are at risk from aerial cankers.

Quambalaria shoot blight

Marri trees provide important flowering resources over summer, and damage to flowers is likely to cause substantial losses of foraging resources for native fauna and honeybees. *Quambalaria pitereka* is a fungal pathogen responsible for leaf and shoot blight known as Quambalaria Shoot Blight (QSB). QSB is known from eucalypt plantations of NSW and Queensland, but has recently emerged in WA, affecting the leaves, flower buds, flowers and fruit of WA host tree species (*C. calophylla* and *C. ficifolia*) (Marbus 2010). Management of this pathogen is limited due to its occurrence in natural areas, making individual tree treatment with fungicide difficult.

Other plant diseases

There are a range of other plant diseases that have the potential to impact the Park's vegetation, particularly as numerous stressors are resulting in increased plant susceptibility to disease. These stressors include drought stress from falling water tables and reduced rainfall, increased temperatures, altered seasonal patterns and insect attack. Changing species composition impacts dependant fauna, resulting in altered ecosystems and exacerbating stressors, resulting in a negative feedback loop. Management is restricted to human intervention to enhance the resilience of vegetation, including appropriate hygiene measures, controlling human and vehicle access from areas of intact vegetation, creating or enhancing vegetation corridors, weed control and rehabilitation of degraded areas.

Section 26 - Tree Decline and Disease	
Objective 12: **a) To monitor and manage tree decline and its impacts on the park's environment; and** **b) To identify and control the spread of plant diseases and to protect areas currently free of disease.**	
Action No	**Management Action**
12.1	Develop and implement a dieback management program to maintain uninfested conservation and protection areas.
12.2	Develop dieback and hygiene management plans for the park, and implement best practice hygiene measures for dieback management and promote use of trail dieback hygiene stations and limestone capping for fire breaks and trails.
12.3	Conduct dieback surveys as appropriate and at intervals of not more than 5 years duration to monitor and document the spread of dieback within the Park.
12.4	Develop a programme for the use of phosphite in protectable dieback-free areas every one to two years for spraying, and every three to five years for injecting.
12.5	Create no new trails or firebreaks in areas identified as uninfested with dieback.
12.6	Maintain dieback trail markers and re-install if dieback boundaries change.
12.7	Investigate options for the treatment of trees with signs of decline.
12.8	Utilise image mapping and analysis to periodically monitor changes in vegetation condition, to inform vegetation management decisions.

27. FIRE

Australian wildlife has adapted to the natural occurrence of fire, however, fire may also have severe adverse impacts on native flora and vegetation communities of the Park and on fauna through alteration of habitat.

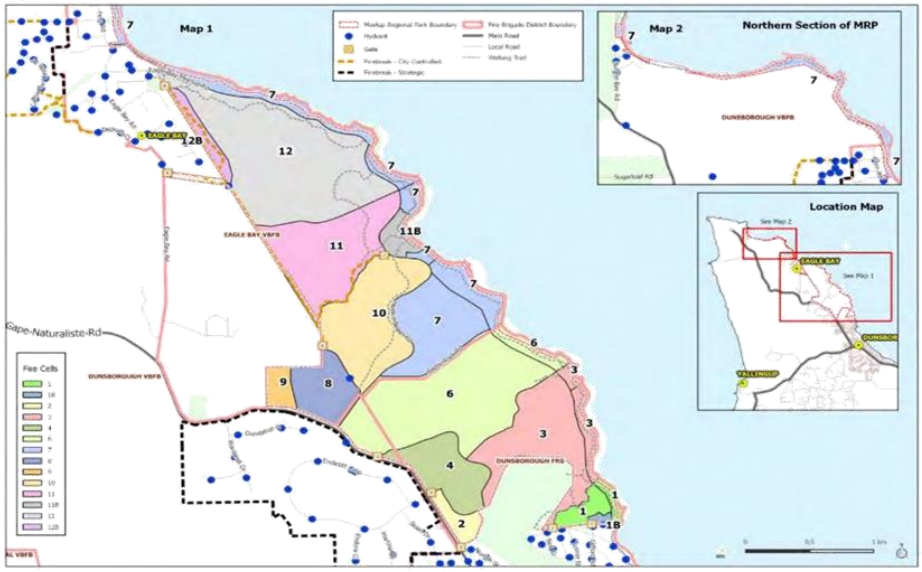
Further research is required to better understand the most appropriate fire regimes to conserve biodiversity values for the Park. This is a complex subject and future research is planned to assess the particular requirements, including knowledge of vital attributes of key fire response of species and habitats, to derive an appropriate 'ecological' fire regime for the Park.

Uncontrolled fire in and around the Park also poses a serious risk to life, property and infrastructure. The coastal towns of Dunsborough and Eagle Bay are located adjacent to the Park whilst semi-rural subdivisions occur at Meelup Hill and to the west at Eagle Bay and Bunker Bay. Peak visitor use coincides with the summer high-risk period.

Currently, hazard reduction burns are carried out in fire cells as required, with higher rotations in the Park's buffer cells located adjacent to town sites. Wildfires have occurred in the past; with the most

significant being an escaped prescribed burn in 2005, which burnt 230 hectares of the Park's bushland. A map of the fire management cells and infrastructure is provided in Figure 10.

Figure 10: Fire Cells and Infrastructure



The management of fire, including the use of fire, fire suppression and bushfire prevention, is guided by the Meelup Regional Park Fire Management Plan, and DBCA is consulted on a regular basis to ensure flora and fauna are protected.

The Fire Management Planning in the Park should consider:

- The size, timing and rotation of prescribed burns in order to protect Park ecosystems
- Appropriate management of declared rare flora, vulnerable habitat and dieback in the event of fire
- Research and development of an appropriate 'ecological' fire regime for the Park
- Water supplies, access and egress routes, the strategic firebreak system, firefighting resources, and education and liaison.
- The potential for *Phytophthora* dieback and weeds spread, particularly in conservation and protection zones.

Section 27 - Fire	
Objective 13: **To manage fire to protect and promote the conservation of biodiversity and natural values, whilst providing for the protection of human life and community assets.**	
Action No	**Management Action**
13.1	Implement the Meelup Regional Park Fire Management Plan in conjunction with the provisions of this Management Plan.
13.2	Implement fire ecology research to guide the future fire management within the Park
13.3	Review fire management planning for the Park in collaboration with the DBCA and traditional custodians.

28. REHABILITATION

Historical land use, visitor access and urban proximity are all factors that have contributed to the degradation of some areas of the Park, resulting in the loss of native vegetation and introduction of weeds and disease. Degradation impacts the natural environment and visual amenity of the Park.

Areas of the Park requiring rehabilitation include the old gravel pit and decommissioned former landfill waste disposal site in the southern portion of the Park, informal trails, disused vehicle tracks and degraded riparian, coastal and bushland areas. The edge effect is observable around the coastal nodes and the reserve-urban interface.

The Coastal Nodes Master Plan (2013) provides for rehabilitation of the nine coastal nodes along Meelup Beach and Eagle Bay-Meelup Roads, excluding Meelup Beach, which is specifically guided by the Meelup Beach Master Plan (2011). Combined, these nodes provide for the majority of the Park's visitation and are experiencing associated impacts.



Photo 14: Revegetation of former gravel extraction area.

Annual revegetation activities undertaken in the Park, focus on specific sites for intensive weed control and planting with local native species to rehabilitate degraded areas. Measures to prevent degradation should be implemented concurrently with rehabilitation where required in the Park.

Management Unit 6

Several gravel extraction areas and a former landfill waste disposal site are located within management unit 6, in the southern portion of the Park and this area is almost entirely infested with *Phytophthora* dieback. Topsoil was removed from the gravel extraction areas and soil erosion is evident. The previous revegetation of the excavated areas in 1993, involved the planting of unsuitable and non-endemic species, resulting in an increased fire risk and potential seed spread into other, more pristine areas of the Park.

Although zone 6 contains large degraded areas, there are areas of excellent to good quality bushland (57% of the total area) (Onshore Environmental 2013) and naturally regenerating vegetation. The Rehabilitation Plan for Zone 6, Meelup Regional Park (2014) provides a detailed framework and management document for the rehabilitation of the Parks management unit 6. The plan ranks rehabilitation of the unit 6 into high, medium and low priority areas; providing prescriptions for each including site preparation, weed control, revegetation and other considerations (ngh environmental 2014).

The former landfill waste disposal site located within zone 6 has been reported to DWER in accordance with the *Contaminated Sites Act 2003*. The *Contaminated Sites Act 2003*, provides for the identification, recording, assessment, management and remediation of contaminated sites in Western Australia. Extensive rehabilitation works are being undertaken to remediate the former landfill waste site for future use as a mountain bike trail facility.

Section 28 - Rehabilitation	
Objective 14: **To rehabilitate and restore natural vegetation in degraded areas of the Park.**	
Action No	**Management Action**
14.1	Develop and implement an annual program for rehabilitation of vegetation throughout the Park.
14.2	Use only local native species of plants that occur in the park for brushing, planting and seeding.
14.3	Use disease and weed free mulch in vegetation rehabilitation activities, within areas of high quality bushland.
14.4	Ensure that seed collection in the park is authorised by the City and licensed by DBCA, and that collectors use appropriate dieback hygiene measures.

PART D. MANAGING CULTURAL HERITAGE

29. GUIDING PRINCIPLES FOR MANAGING CULTURAL HERITAGE

1. Conservation and protection of cultural heritage
The Park will be managed in a way that helps maintain cultural heritage, attributes and traditions. Heritage sites are to be preserved and maintained for their inherent cultural and social values. Impacts from human use and management practices will be minimised in order to maintain heritage values.

2. Consistency of management policies
The managing agencies involved in the Park are to apply management actions that are consistent with appropriate legislation as well as State, Federal and international heritage conventions.

3. Community involvement
The community is to be involved in managing sites of heritage value and a range of consultation opportunities are to be provided to maximise community engagement and community contribution to the management of the Park

4. Research and interpretation
Where appropriate, interpretative information is to be provided to enhance the community's understanding of, and appreciation for, heritage sites. The managing agencies should provide opportunities for, and support, further research into the Park's cultural heritage value.

5. Restoration of cultural heritage
Heritage sites are to be protected and their heritage value preserved. Sites with high heritage significance will be considered priorities.

30. INDIGENOUS CULTURAL HERITAGE

The *Aboriginal Heritage Act 1972 (AH Act)* was enacted to ensure that all Aboriginal cultural heritage within Western Australia is appropriately protected and preserved. The AH Act applies to various places and objects which are culturally, spiritually or ceremonially significant to traditional custodians. A register of sites and objects is maintained under the AH Act, although the Act also protects sites that have not yet been entered on the register.

At the time of European settlement Wadandi of the Nyungar people were the traditional custodians of the land bounded by Capel to the Northeast, Augusta in the South and including the regions now referred to as Busselton, Yallingup and Margaret River. The cultural heritage values and the valuable knowledge that Wardandi of the Nyungar people hold is acknowledged, and the cultural significance of Meelup Regional Park lands, is to be incorporated into the ongoing management arrangements for the Park.

Within the Park, the Castle Bay heritage place is registered under the AH Act as an artefacts scatter site and it is known that Aboriginal people camped above Meelup Beach, but otherwise little is documented about the pre-European use of the area.

As the State register is not a comprehensive listing of all existing Aboriginal heritage sites, assessments may be necessary before any operations where there is potential to inadvertently damage sites. Appropriate approvals under the AH Act are required before proceeding with any public works that may affect heritage values.

A Cultural Heritage Management Plan (CHMP) is a potential means for guiding the conservation and future use of an area containing Aboriginal sites. Statements of significance and an assessment of heritage values are the governing documents that shape and form a CHMP. Consultation methods and procedures are an important part of a CHMP, ultimately providing an ongoing avenue of consultation and partnership in the management of heritage places. CHMPs provide an opportunity to form a working, cooperative and mutually beneficial partnership allowing the management of important cultural places (Sean O'Hara pers. comm. 22/07/14).

Section 30 - Indigenous Cultural Heritage	
Objective 15: **To identify, protect and appropriately manage sites with Indigenous cultural heritage value within the park.**	
Action No	**Management Action**
15.1	Engage actively with the Wadandi people on Aboriginal history and heritage sites in the park.
15.2	Engage actively with the Wadandi people on relevant activities/projects undertaken within the Park
15.3	In consultation with the Wadandi people, incorporate information on history and culture into visitor interpretation facilities.
15.4	Work proactively with traditional custodians, the Wardandi people to understand and promote to the broader community the cultural significance of the Parks lands and waters.
15.5	Develop an indigenous cultural heritage management plan for the Park.

31. NON-INDIGENOUS CULTURAL HERITAGE

Meelup Regional Park's European heritage relates mostly to exploration of the coastline and activities such as whaling and fish processing. For the past 150 years Meelup Beach and nearby bays have been popular picnic and day-trip destinations for both local and regional residents. A small fish processing factory was operated in Eagle Bay during the 1950s, and camping was permitted at Meelup Beach until the 1970s.

There are many different lists of natural, historic and Indigenous heritage places throughout Australia. There are no heritage places within Meelup Regional Park that are afforded protection under the EPBC Act.

Cultural heritage places in Western Australia are recorded in many different heritage listings, some which provide statutory protection to heritage places, through requirements for heritage-related approvals or referrals. Other listings are unofficial or quasi-official designations, often arising from local, community-based or thematic surveys. There are seven heritage places in the Park that are listed on the State Heritage List (Appendix 2).

Captain Nicolas Baudin scientific expedition

In 1801 a French expedition with scientists and crew under the command of Captain Nicolas Baudin visited Geographe Bay in the corvettes *Geographe* and *Naturaliste*. Only two boats were sent ashore when the expedition reached the western shore, one under the command of Sub-Lieutenant Picquet, to examine Cape Naturaliste and the other, under command of Henri de Freycinet, to land at a sheltered cove, thought to be in Eagle Bay, to take soil samples and investigate the country (Marchant 1998). Only Freycinet's mission was successful; the sea was too rough for Picquet to land. This was the only Baudin expedition landing made in the area now known as Meelup Regional Park.

The landing of Baudin at Eagle Bay in 1801 is commemorated by a lookout in the form of a ship's bow overlooking the landing site of the Baudin scientific expedition. A number of sites in the area bear European names of this expedition, including Point Picquet, Cape Naturaliste, Riedle Park and Geographe Bay.

Castle Bay Whaling Company

Castle Bay was a favorite anchorage for whalers in days gone by. In the early 19th century, American whalers from Massachusetts were the first to catch whales here, and every year they made the long five month voyage to the area. Castle Bay was ideal for bay whalers, with plenty of firewood available and water was provided by wells dug close to the beach.

In 1845 John Bateman formed the Castle Bay Whaling Company with three other Fremantle businessmen. They built a shore station at Castle Bay on the west side of Dolugup Brook, which flows into the bay next to the carpark. The station was often referred to as 'The Fishery'; a cairn marks the original site. The 'whale lookout' in this context, on the hill above Castle Rock was used to sight whales swimming past, and quandong trees were seeded there at the time. When the whales were brought ashore, their blubber was boiled in huge cauldrons stirred with long handled spoons. The oil was then poured into casks for shipping.



Photo 15: Cairn marking site of the Castle Rock Company Whaling Station, Castle Bay

In 1872 the Castle Bay Whaling Company closed down because the price of whale oil was falling due to the discovery of petroleum. In 1949 there were thoughts about re-opening the whaling industry. Cape Naturaliste lighthouse keepers were asked to count any whales sighted, but as only 400 were seen from July to November, the idea was dropped.

The Western Australian Heritage Council advises "Nothing obvious remains from the historic use of the place for whaling activities".

Section 31 - Non- Indigenous Cultural Heritage	
Objective 16: **To identify, protect and appropriately manage the park's non-Indigenous cultural heritage sites.**	
Action No	**Management Action**
16.1	Manage visitor activities to ensure the Park's cultural heritage is not adversely impacted.
16.2	Consult with historical records and historians to develop and collate existing information and data on historic sites located in, and general history of, the Park.
16.3	Include historical information about the Park as appropriate on interpretative signage within the Park promote historical information on the Park website.

PART E. MANAGING RECREATION AND VISITOR USE

32. GUIDING PRINCIPLES FOR MANAGING VISITOR USE

1. Preservation of environment values
   The intensity and distribution of recreational activities is managed to maintain the environment and amenity of the Park for the enjoyment of all visitors and to foster appreciation of the Park's natural values.

2. Consistency of recreation with reserve purpose
   Recreational activities must be compatible with the Park's assigned purpose under the Land Administration Act.

3. Equity
   Visitor events and activities that impair or jeopardise the safety of other visitors will be specifically managed, directed to more appropriate places or not permitted. Priority will be given to low impact activities and those that promote awareness, appreciation and understanding of the Park's natural environment.

4. Management
   Visitor access and use of the Park is effectively managed for the benefit of the community and natural environmental values.

5. Recreation opportunities
   A range of recreation opportunities should be provided for in a local and regional context thereby providing Park visitors with a choice of recreation activities and experiences. Facilities within the Park should complement, rather than compete with, those available outside the Park.

The objectives of managing visitor and associated commercial activities in the Park include:

1. Encourage visitor use whilst ensuring the level and type of visitor use is sustainable and minimizes conflict with Park values and other visitors/user groups.
2. Provide opportunities to improve and increase community awareness and appreciation of the Park.
3. Maintain and enhance the natural, cultural and visual landscape qualities of the Park.

33. VISITOR MANAGEMENT

Visitor Profile

Meelup Regional Park is a popular tourist and recreational asset in the south-west, due to the Park's outstanding natural beauty, sheltered beaches, relatively undeveloped and pristine environment, its proximity to the township of Dunsborough and unique recreational opportunities.

Two visitor surveys have been carried out in the Park, in 2010 and 2016. Both surveys found that the largest proportion of field-surveyed visitors were from the Perth metropolitan region. Most visitors were aged 40 years old and above with the most visited site being Meelup Beach followed by Eagle Bay Bunker Bay and Castle Rock. The survey also indicated most visitations to the Park were one to two hours, in small groups of two to five people. The 2016 survey found that most visitors heard about Park through 'word of mouth', that the majority of visitors were very satisfied with their visit. The

majority of visitors spent their time resting and relaxing, spending time with family and friends and enjoying nature and the outdoors.

Traffic counters installed in the Park, generally for a two-week period at several sites annually since 2002, indicate a trend of increasing use. Increased visitations are particularly evident during summer, particularly the summer school holiday and Easter holiday periods.

Ongoing visitor monitoring in the Park assists determination of visitor use pressures, guides sustainable tourism and ensure the values of the Park are protected. Information obtained from visitor monitoring will help:

1. Quantitatively demonstrate the Park's values according to visitor perceptions
2. Guide the provision and location of facilities and infrastructure
3. Assess the importance of Meelup Regional Park to the local economy
4. Provides information to guide the Park's management activities.

Visitor Access

The provision of appropriate visitor access is important to enable visitors to recreate and enjoy the Park. This includes access to beaches, formalized walking and mountain bike trails and facilities.

Visitor access planning within the Park also includes improving access to events, buildings, facilities and information, for the benefit of people with disability, the elderly, young parents and people from culturally and linguistically diverse backgrounds.

Not all areas of the Park are readily accessible to visitors and some areas need to be restricted for the protection of conservation values, culturally sensitive areas and to prevent the spread of dieback and weeds.

There are three main types of access within the Park:

1. sealed roads enabling public access by vehicles.
2. unsealed management access using firebreaks accessible via locked gates
3. trails of varying experience, terrain and difficulty levels for pedestrian and/or bike access, and universal access.

Visitor access to the Park is predominately by vehicle on public roads, followed by walking or cycling from surrounding areas, or by boat. Vehicle access onto beaches and trails in the Park is controlled and restricted to authorized vehicles. Boats can be launched from a sand boat ramp at one location within the Park, at the Eagle Bay Community Hall carpark, Fern Road Eagle Bay.

Public Roads

The public roads that dissect the Park are Meelup Beach, Castle Rock and Eagle Bay-Meelup Roads. Eagle Bay-Meelup Road is a coastal road between Meelup Beach and Eagle Bay and is one of the few locations in the south-west where a road runs alongside the ocean, providing outstanding scenic values. The Coastal Nodes Master Plan recommends that Eagle Bay-Meelup Road should be regarded as a scenic and recreation road rather than a transport route, with an emphasis on the road's natural values and environs (WJLA 2013).

Vehicle management in the Park involves maintaining low vehicle speed limits and implementation of traffic calming measures to:

- Improve safety for pedestrians and cyclists due to the winding nature of the road system and intersecting walk trails.
- Reduce impacts to wildlife (roadkill), including threatened species such as quenda and western ringtail possum.
- Promote increased appreciation of the coastal scenery and landscape.
- Minimise the risk of vehicle collision particular during the Park's peak visitor period during summer.



Photo 16: Annual school leaver's event Meelup Beach

Section 33 – Visitor Management	
Objective 17: **a) To provide opportunities for visitor appreciation of the park while at the same time preventing adverse impacts from uncontrolled access.** **b) To encourage visitor use whilst ensuring that the level and type of visitor use is sustainable and minimise conflict with other Park visitors and values.**	
Action No	**Management Action**
17.1	Maintain existing public vehicle access, parking facilities and management access tracks in trafficable condition.
17.2	Promote 'stay on trail' message on signage and other interpretative material to encourage all users to stay on trails designated for their use.
17.3	Implement controls on visitor access, including closure, rehabilitation and physical barriers where necessary, to prevent negative impacts on the Park's conservation values.
17.4	Prevent unauthorised vehicle entry on management tracks by maintaining locked gates and monitoring and closing other potential access points.
17.5	Implement Meelup Regional Park Trails Master Plan, Coastal Nodes Master Plan and Meelup Beach Master Plan recommendations relevant to management of visitor access and activities.
17.6	Provide appropriate management for peak visitor periods.
17.7	Monitor recreation sites for impacts and undertake remedial measures to mitigate the impact as necessary.
17.8	Regularly implement a visitor survey and vehicle monitoring program, for the purpose of guide the future management of the Park.

34. VISITOR ACTIVITIES

Meelup Regional Park has unique characteristics, in that:

- It is adjacent to suburban Dunsborough and readily accessible by the locals and tourists
- Visitation is concentrated in small, discrete coastal nodes
- Due to its natural beauty, unique aspect, trail network and proximity to an urban centre, it is a desirable location for events
- It has significant conservation values, including listed flora and fauna.

Visitor recreation activities

The majority of visitor recreation in the Park tends to be marine-based and includes activities such as swimming, snorkeling, surfing, diving, kayaking, stand-up paddle boarding and fishing. Although many of these activities occur within the Ngari Capes Marine Park, access to the marine Park is through Meelup Regional Park.

Apart from marine-based activities, other popular activities include bushwalking and picnicking (Polley 2012), and mountain biking with the development of a mountain bike trail network.

The majority of visitor activities are passive and all interact with the natural environment to some degree. The most highly rated reasons for visiting the Park include spending time with family and friends, resting and relaxing, and enjoying nature and outdoors. Some activities are highly seasonal and attract different types of visitors at different times of the year. For example, wildflower viewing in spring, fishing and surfing in autumn/winter, and whale watching in winter/spring (Polley 2012). Viewing of the full moon rising over Geographe Bay is a popular evening activity that occurs in the right conditions only a few times a year, when there is a full moon and when it rises after sunset.



P Photo 17: Whale Viewing Platform Point Picquet

The categorisation of management units to provide a spatial differentiation of protected natural areas and establish a framework for protection of conservation values, provision of appropriate recreation and, indicate the priority management objectives and levels of management required in each unit, is outlined in table 1.

In accordance with the management unit categories developed for this Management Plan, Table 7 provides a management guide for recreational opportunities within the Park, which has been informed by conservation values, potential environmental impacts and the minimisation of visitor risk and conflict.

The following criterion has been used to categorise recreational activities within the Park:

1. Encouraged: positively enabled with provision of facilities and interpretive material.
2. Permitted: allowed for but not actively encouraged.

3. Discouraged: permitted but undesirable, with disincentives (such as the lack of provision of facilities) and signage requesting specified activities not occur.
4. Not permitted: in accordance to this management plan, local laws or overarching legislation.

Table 8: Recreational Activities Management Guide

USE TYPE	MANAGEMENT UNIT CATERGORY[1]			
	Roads	**Recreation**	**Natural Environment Uses**	**Conservation and Protection**
Land Based Activities				
Camping	Not permitted	Not permitted	Not permitted	Not permitted
Collecting natural products	Not permitted[2]	Not permitted[2]	Not permitted[2]	Not permitted[2]
Competitive sports	Permitted	Discouraged	Not permitted	Not permitted
Four wheel and off-road driving	Not permitted	Not permitted	Not permitted	Not permitted
Hang gliding	Not permitted	Not permitted	Not permitted	Not permitted
Horse riding	Not suitable	Not permitted	Not permitted	Not permitted
Mountain bikes	Permitted	Permitted on specified trails/Mountain bike zone	Not permitted	Not permitted
Nature study	NA	Encouraged	Encouraged	Encouraged
Orienteering	NA	Not permitted	Not permitted	Not permitted
Picnics	NA	Encouraged	Permitted	Discouraged
Road bikes	Encouraged	Permitted on specified trails/Mountain bike zone	Not permitted	Not permitted
Rock climbing	Not permitted	Permitted	Permitted	Not permitted
Sightseeing	Encouraged	Encouraged	Encouraged	Permitted
Trail bikes		Not permitted	Not permitted	Not permitted
Walking		Encouraged	Encouraged	Permitted on trails only
Marine Based - Activities				
Fishing	NA	Refer to NCMP[3]	Refer to NCMP[3]	Refer to NCMP[3]
Motor boats	NA	Refer to NCMP[3]	Refer to NCMP[3]	Refer to NCMP[3]
Paddle craft	NA	Encouraged Refer to NCMP[3]	Encouraged Refer to NCMP[3]	Refer to NCMP[3]
Sailing	NA	Refer to NCMP[3]	Refer to NCMP[3]	Refer to NCMP[3]
Snorkelling	NA	Encouraged Refer to NCMP[3]	Encouraged Refer to NCMP[3]	Refer to NCMP[3]

Marine Based – Activities				
Spear fishing	NA	Discouraged Refer to NCMP[3]	Discouraged Refer to NCMP[3]	Refer to NCMP[3]
Surfing	NA	Refer to NCMP[3]	Encouraged at Pt Picquet and Rocky Pt Refer to NCMP[3]	Refer to NCMP[3]
Swimming	NA	Encouraged Refer to NCMP[3]	Encouraged Refer to NCMP[3]	Encouraged Refer to NCMP[3]
Wake boarding / water skiing	NA	Not permitted Refer to NCMP[3]	Not permitted Refer to NCMP[3]	Refer to NCMP[3]
Whale watching	NA	Encouraged Refer to NCMP[3]	Encouraged Refer to NCMP[3]	Permitted Refer to NCMP[3]
Wind/kite surfing	NA	Discouraged Refer to NCMP[3]	Discouraged Refer to NCMP[3]	Discouraged Refer to NCMP[3]

[1]To be read in conjunction with Table 1 – Management Unit Category Evaluation
[2] Except under the Biodiversity Conservation Act 2016 Part 10 Division 3- Aboriginal Customary Purposes
[3] NCMP – Ngari Capes Marine Park (Sanctuary zone and Special Purpose Zone restrictions apply)
NA – Not Applicable within management unit category

Meelup Regional Park Trails Master Plan

The Meelup Regional Park Trails Master Plan (2014) is the guiding document for the development and management of trails in the Park. The TMP was developed to address concerns regarding increased visitor numbers and potential environmental and social impacts of unmanaged trail use. The aim is to provide a quality recreation experience for trail users whilst preventing environmental impacts associated with inappropriate trail use. The TMP:

1. Provides a clear outline of existing trails in the Park, their purpose and current issues
2. Proposes new trails, closures, realignments and upgrades where considered appropriate.

Bushwalking

There are a variety of walking trails within the Park with short walks, loop trails and the longer coastal trail from Dunsborough to Eagle Bay. (Figure 11).

Management of bushwalking focuses on the provision and maintenance of safe and accessible trails, managing user conflict and providing an appropriate level of interpretation that balances the need for the provision of information with protection of the Park's amenity.



Photo 18: Coastal Walk Trail

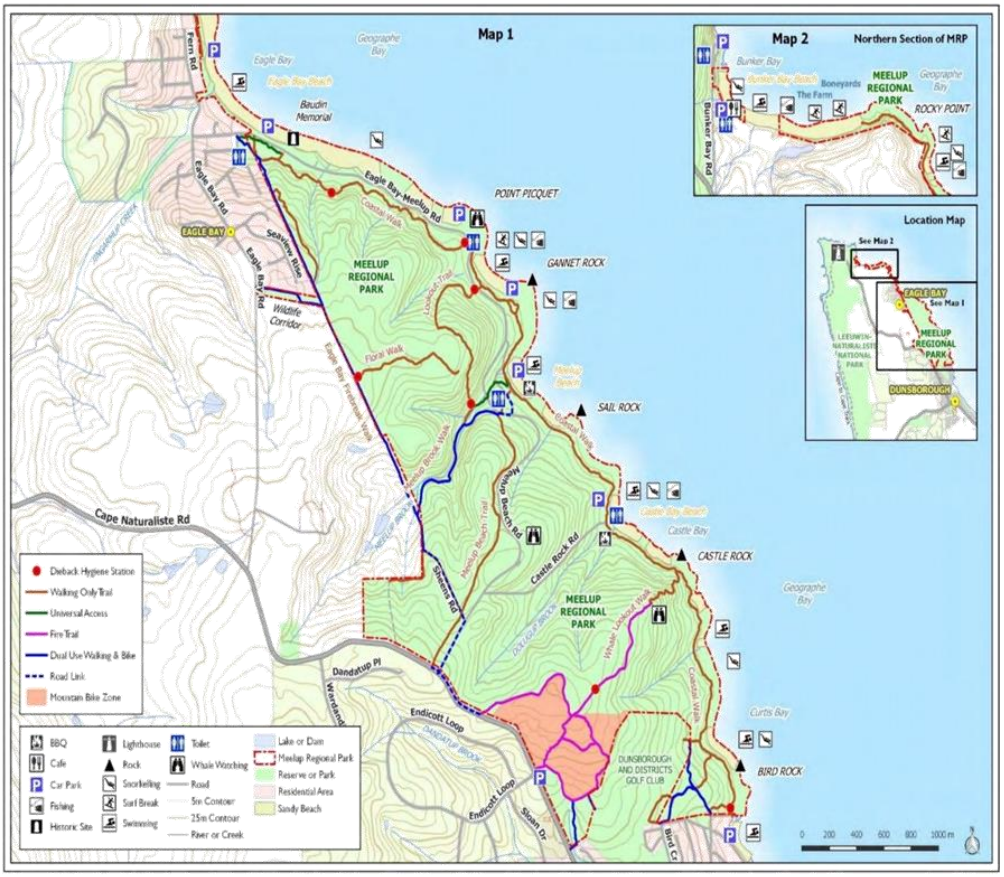
The Park is also connected to the Leeuwin-Naturaliste National Park, Cape Naturaliste and the lighthouse, and the 135 kilometer-long Cape to Cape track to Augusta. With an existing dual use pathway that connects Busselton to Dunsborough, this essentially provides a valuable long-distance trail connection from Busselton to Augusta, along the coastline of Geographe Bay and the Leeuwin-Naturaliste Ridge.

Bike riding on trails

Bike riding on trails within the Park is limited to the dual use trails established along the western fire-break from Sheen Road to the Eagle Bay townsite, with a connecting trail that links the western fire-break trail to Meelup Beach along the Meelup Brook.

A mountain bike trail facility has been established with the former gravel extraction areas and former waste disposal landfill site located within management zone 6. The mountain bike facility has been purpose built as a public facility to meet the growing needs of the local and broader mountain bike fraternity (Figure 11).

Figure 11: Bushwalking and Bike Trails



Rock climbing

Rock climbing and bouldering are activities increasing in popularity, and there are two known sites within the Park where granite formations are suitable for such activities. These are Castle Rock and 'copper rocks' on the northern side of Castle Bay. Both climbing sites are accessible from existing trails

and climbing is permitted at these sites only insofar as these trails are used for access and no new trails are created. No climbing infrastructure has been provided at these locations.

Picnicking

Picnicking is a popular activity in the Park, particularly at Meelup Beach and Castle Bay, where picnic tables and gas barbeque facilities are provided. Tables are also provided at Gannet Rock. Waste disposal bins are provided at nearly all coastal nodes within the Park.

Recreational fishing

Fishing is a popular shore- based activity in the Park due to its sheltered nature and easy access from rocky outcrops. In autumn, the annual salmon run attracts large numbers of recreational fishers to beaches and rocky headlands in the Park.

While there are numerous access points to the Park's beaches, fishers searching the coast for suitable vantage points some of which traverse sensitive areas or significant vegetation, can lead to vegetation loss from trampling, soil compaction and erosion, and the introduction of weeds.

Litter and lighting fires is also a significant issue associated with shore based fishing activities, due to discarded waste fishing line, bait bags and other packaging waste and the occasional small fire to cook catch.

In recognition of the significant use of the Meelup coastline for fishing, the Eagle Bay special purpose zone (shore-based activities) is provided for within the Eagle Bay sanctuary zone in the Ngari Capes Marine Park Management Plan 2013. Meelup Beach is designated as a prohibited fishing area.

Marine-based activities

Marine-based activities occur both in the Park's waters and the adjacent Ngari Capes Marine Park, with swimming indicated to be the most popular activity in the 2010 and 2016 survey of visitors to the Park (Figure 11). Pristine waters with a mixture of sand and reef bottom, protected from prevailing south-westerly winds, provide ideal swimming conditions for visitors of all ages and abilities. Small, isolated coves can be found along the coast for those seeking solitude and seclusion.

Surfing is mostly undertaken in the autumn and winter months, in periods of high swell and south-westerly winds that are offshore for this part of the coastline. Northerly winds push swells into otherwise calm bays and various point breaks can be surfed in these conditions. Popular surfing spots include Bunker Bay and Rocky Point, as well as other small points to the east.

Section 34 - Visitor Activities and Use	
Objective 18: **To encourage visitor use whilst ensuring that the level and type of visitor use is sustainable and minimises conflict with other Park visitors and values.**	
Action No	**Management Action**
18.1	Implement Meelup Regional Park Trails Master Plan, Coastal Nodes Master Plan and Meelup Beach Master Plan recommendations relevant to management of visitor access and activities.
18.2	Provide appropriate management for peak visitor periods.
18.3	Monitor recreation sites for impacts and undertake remedial measures to mitigate the impact as necessary.

18.4	Regularly implement a visitor survey and vehicle monitoring program, for the purpose of guide the future management of the Park.
18.5	Develop and implement a tree safety inspection program for vegetation alongside approved access tracks and trails and in coastal nodes.
18.6	Develop and implement a visitor safety plan for the Park.
18.7	Provide as appropriate visitor safety information and emergency contact information at key visitor locations within the Park

35. VISUAL LANDSCAPE

Undoubtedly one of the most striking characteristic of Meelup Regional Park is its scenic beauty with views of the ocean, the spectacular coastline and natural landscape. These scenic and physical features are central to all other elements that contribute to the character of the Park. The rocky and sandy beach coastline is particularly attractive as it is relatively unspoilt, although well used.

The Park's visual qualities that are highly valued include its:

- contiguity of bushland and coastline
- location on the Leeuwin-Naturaliste Ridge, which provides opportunities for high, panoramic views of Geographe Bay
- calm and turquoise waters, a product of its north-east facing coastline
- contrasting coastline afforded by granite headlands interspersed with sandy coves
- peacefulness in secluded locations during much of the year
- trees located close to the coastline at several locations including Meelup Beach
- sense of isolation and solitude, despite its proximity to urban areas
- near natural state and lack of development.

Ongoing maintenance and upgrading of Park facilities and infrastructure is essential to maintain the visual landscape of the Park, as well as ensuring its environment remains valued by visitors. Both the Meelup Beach Master Plan and the Coastal Nodes Master Plan consider visual amenity in their recommendations.

Threats

Threats to the Park's visual landscape may result from:

- signs, monuments and erected structures
- recreational infrastructure such as trails, barbeques and picnic tables
- built and utility infrastructure such as ablution blocks, gas compounds, tanks and pipelines
- roads and car Parks
- access control measures such as fencing and bollards
- boat moorings and ramps
- past use such as gravel pit extraction and landfill
- visitor behaviours such as litter, informal trail creation of and vehicle incursion into bushland
- vegetation clearing and degradation associated with all of the above.

Rehabilitation of degraded areas and appropriate access control measures help to improve the visual landscape.

Section 35 - Visual Landscape	
Objective 19: **To conserve and enhance the park's visual landscape.**	
Action No	**Management Action**
19.1	Implement the Coastal Nodes Master Plan and Meelup Beach Master Plan recommendations for the preservation and protection of the Parks visual landscape.
19.2	Develop and implement a regular maintenance programme for the Park's infrastructure including roads, car parks and visitor facilities.
19.3	Develop and implement a visual landscape and natural character protection plan for the Park.
19.4	Develop a foreshore management plan to guide long term protection and conservation of the Park's foreshore vegetation and unique coast line.

36. COMMERCIAL ACTIVITIES IN THE PARK

The current management order granted under the LA Act, places responsibility for the care, control and management of the Park for the purpose of 'conservation and recreation', with the City of Busselton. This management order includes the power to grant a lease or license over any part of the Park for activities ancillary or beneficial to the reserve purpose.

A commercial concession is a right granted by way of a lease or license over any part of the Park, which needs to be carefully designed and managed, to ensure any commercial activity remains ancillary or beneficial to the reserve purpose and the conservation and landscape values of the Park.

In the assessment of applications for a lease or license, the overarching principle is to ensure that commercial concessions do not conflict with the management purpose and Park's conservation values. Commercial applications are to be assessed on a case by case basis against the criteria provided in this Plan, and in accordance with City Local Laws and relevant guiding policy.

No leases have been approved for uses within the Park. A small number of licenses have been granted under City Local Laws, which permit visitor-service businesses such as beverage and food, and a water sports equipment hire vendor to operate within the Park. Conditions apply to these licenses.

Section 36 - Commercial Activities in the Park	
Objective 20: **To ensure that commercial activities within the Park are complementary to the protection and conservation of the Park key environmental values.**	
Action No	**Management Action**
20.1	Regularly review the Park's commercial activity policy to ensure the protection of sensitive coastal areas and the Park's unique natural characteristic and values.
20.2	Identify suitable locations where commercial activities can operate in areas without adverse impacts to the natural environment.
20.3	Ensure proponents of commercial activities develop and implement a performance based environmental management plan that ensures the protection of the Park's unique natural characteristic and values.
20.4	Encourage proponents of approved commercial activities to promote the Park's unique natural characteristic and values.

37. EVENTS

City policy guides the event application assessment and approval process for events held within Meelup Regional Park. Applications for the conduct of events within the Park are assessed in accordance with legislative requirements and under the events policy. The Park is a popular event destination and events need to be carefully designed and managed to ensure they do not impact the Park's values.

In the assessment of event applications, the overarching principle is to ensure that events do not conflict with Park values and are consistent with the Park's purpose. The following objectives provide guidance for the management of events in the Park;

- natural systems should be able to sustain the recreational use that is occurring or proposed
- the intensity, frequency, type, duration, timing and distribution of recreational activities may need to be controlled to maintain the amenity of the park.
- recreation planning will seek to foster appreciation of the Park's natural values.

Events are subject to City Local Laws, and approvals generally involve imposition of limits of use, to ensure each event or activity is adequately managed and does not adversely impact the Park.

Events held in Meelup Regional Park are categorised in the following areas:

Trail Based Events:
Trail Based Events generally involve participants walking, running or cycling on designated trails or roads within the Park.

Site Based Events:
Site based events generally involve use of a beach and/or adjacent picnic and car park areas and range from relatively small social gatherings to larger scale events. Wedding ceremonies, school excursions, functions or informal gatherings are not classified as events, however these activities are required to be adequately managed in accordance with the City's Local Laws.

Road Based Events:
Whilst road reserves within the Park are technically not part of the Park, an integrated approach to management of events utilizing or within these road reserves is essential if the Park's values are to be protected and enjoyment of the Park by the broader community is not to be adversely impacted.

Section 37 - Events	
Objective 21: **To ensure that events within the Park are complementary to the protection and conservation of the Park key environmental values.**	
Action No	**Management Action**
21.1	Maintain an Events Policy for the Park that ensures the protection of the Park's unique natural characteristic and values.
21.2	Ensure proponents of events develop and implement a performance based environmental management plan that ensures the protection of the Park's unique natural characteristic and values.
21.3	Encourage proponents of approved events to promote the Park's unique natural characteristic and values.
21.4	Develop, implement and regularly review the Park's events policy to ensure the protection of sensitive coastal areas and the Park's unique natural characteristic and values.

38. INFORMATION AND INTERPRETATION

Information

An effective communication strategy is essential to the promotion of awareness, understanding and enjoyment of the Park's natural environment, and to inform and involve the community in the Parks management. Due to the conservation significance of the Park, it is important that the Parks values are appropriately communicated to visitors and the broader community.

An effective strategy to promote the conservation values of the Park to the wider community and to ensure consistency of messages and approach may include:

- A signage system and style guide to ensure adequate and appropriate interpretative signage, trailheads and trail markers across the Park.
- Publications related to the Park, including general information (wildflower and trails brochures), to expand the visitor interpretation experience.
- Media statements to promote key issues or projects of note for public interest.
- The use of social media platforms to provide ongoing information updates to the community.
- Well maintained website www.meeluppark.com that is updated regularly with information on the Park.
- Promotion of educational opportunities and community awareness activities and events.

Interpretation

Interpretation provides visitors with the opportunity to make a connection with a place, provides information about a natural area in a memorable way and enhances its value. Interpretation leads visitors from understanding to appreciation and from appreciation to conservation (DEC 2010).

The Meelup Regional Park Interpretation Report prepared by the DEC Interpretation Unit (2010) details themes and key messages to deliver to Park visitors. This was used as a guiding document in the development of the Park's interpretative signage.

One of the key components for signage planning is the preservation of the Park's aesthetic values through the minimization and consolidation of signage, and careful design and siting. Visitors most appreciate the Park's pristine, undeveloped nature (Polley 2012); therefore it is important that these values are considered in the planning, development and installation of signage.

Section 38 - Information and Interpretation	
Objective 22: **To increase the community's awareness, appreciation and understanding of the Park's values.**	
Action No	**Management Action**
22.1	Develop and implement a communications strategy to promote the conservation values of the park to the wider community.
22.2	Investigate and develop educational opportunities with external organizations, including schools.
22.3	Develop publications and interpretative materials on the park's flora, fauna and geology
22.4	Ensure signage complies with the Signage Policy, sign system and sign prescription, and is guided by the Meelup Regional Park Interpretation Report.
22.5	Ensure adequate signage to promote visitor awareness of regulated activities within the Park.

39. DOMESTIC ANIMALS

Under the Dog Regulations 2013, the Busselton City Council has specified that dogs are prohibited everywhere in the Park except for a small section on the beach from a point adjacent to the Eagle Bay beach access ramp to a point 450 metres north of Jingarmup Brook, and a section of beach at the northern end of Bunker Bay adjoining the Leeuwin Naturaliste National Park. Guide dogs for the visually impaired or tracker dogs for search and rescue are permitted in the Park.

Hooded plovers are monitored in Eagle Bay and Bunker Bay as part of an annual program coordinated by Birdlife Australia, and are present on an almost annual basis (see section 23 *Native animals).* Unleashed dogs can significantly impact on the already small population of these birds by causing them to:

- abandon their nests for lengthy durations, often resulting in non-hatching of eggs;
- go into hiding, which can result in eventual starvation due to not having sufficient feeding time at the water's edge; and
- abandon their chicks, leaving them vulnerable to predation by bigger birds.

The Cat Act 2011, was introduced by the State Government with the aim of encouraging responsible pet ownership and reducing the number of unwanted cats and the incidents of cats roaming at large and harassing wildlife. Feral cat monitoring and control should be included in ongoing operational management programs for the Park

Section 39 - Domestic Animals	
Objective 23: **To manage and control domestic animals in the park.**	
Action No	**Management Action**
23.1	Implement dog exclusion and control within the Park, except for: • guide dogs for the visually impaired, or dogs for search and rescue operations • dogs that remain in vehicles whilst in transit through the park • dogs in a designated dog exercise area(s).
23.2	Monitor hooded plovers in known breeding areas and implement measures to protect breeding sites including installation of barrier and signage.
23.3	Include feral cat monitoring and control in ongoing operational management programs for the Park

40. WASTE

Litter

Litter within the Park includes discarded beverage container and packaging, toilet waste, and the occasional dumping of garden and other domestic waste, all of which are an ongoing concern for Park management. The Visitor Survey Report found that litter was the most important issue of concern to Park visitors (Polley 2012). Litter impacts visual amenity, makes an area look unmanaged and potentially poses a safety risk (broken glass) to visitors. In contrast, visitors are less likely to litter pristine areas (Litter Prevention Program n.d.).



Photo 19: Beach litter Meelup Beach

Litter management is a priority management issue to maintain visitor enjoyment, respect for the Park and conservation of the environment. Litter programs that include both enforcement and regular litter collection activities are essential to the ongoing operational management of the Park.

The Park is provided with a regular waste collection service and a number of waste bins are installed at sites across the Park for visitor convenience. The collection service frequency is increased during peak visitor periods (November to end April), and reducing these in non-peak periods (May to October).

Public amenities

Public amenities within the Park are located at Meelup Beach, Castle Bay, Point Picquet and within the Eagle Bay town site at Riedle Park and Eagle Bay Community Hall.

Section 40 - Waste	
Objective 24: **To minimize the environmental and social impacts of waste on the Park's values.**	
Action No	**Management Action**
24.1	Implement a litter removal program for the Park
24.2	Develop and implement a litter awareness program for the Park.

PART F. MANAGING RESOURCE USE

41. GUIDING PRINCIPLES

1. Preservation of the values of the land itself
   Land use should not compromise the natural and cultural values of the Park. Future development should be required to assess the environmental impacts and ensure that proposals do not detract from the Park's natural settings and landscape amenity.

2. Consistency of land use with reserve purpose
   Activities must be compatible with the assigned purpose of the Park.

3. Equity
   Land use within the Park should be of a nature that promotes multiple use by Park visitors. Uses that impair other forms of acceptable use or jeopardise safety of other visitors should be specifically managed, directed to more appropriate places or not permitted.

4. Open and competitive assignment process
   Western Australian government Procurement Practice Guide will be followed to ensure that opportunities for commercial concessions in the Park are assigned based on an open and competitive process.

5. Financial viability
   Development proposals within the Park will be required to demonstrate financial viability where the proposal invokes a commercial interest. Revenue from commercial concessions within the Park should be used for Park management purposes.

6. Management compliance
   Commercial activities and facilities within the Park should be subject to regular compliance monitoring.

42. COMMERCIAL AND RECREATIONAL FISHING

The majority of the waters off Meelup Regional Park are within the Ngari Capes Marine Park General Use Zone, however, a large proportion is within the Eagle Bay Sanctuary Zone and Eagle Bay Special Purpose (Shore-Based Activities) Zone. The special purpose zone does not encompass Meelup Beach, which is within the sanctuary zone, therefore fishing is not permitted at Meelup Beach or anywhere else within the sanctuary zone (refer to section 35 *Visitor activities and use*). The Special Purpose Zone extends from Gannet Rock westwards towards Eagle Bay, encompassing Point Picquet and a proportion of the Eagle Bay coastline.

All types of commercial fishing are allowable within the General Use Zone, no commercial fishing is allowed in Sanctuary Zones, while some activities (commercial abalone, aquarium and specimen shell collecting) are allowed in the Special Purpose Zone. Commercial charter boats for non-extractive diving on the Swan Wreck operate from Meelup Beach and commercial diving groups to the Eagle Bay bommie operate from the shore between Point Picquet and Baudin memorial.

Section 42 - Commercial and Recreational Fishing	
Objective 25: **To ensure fishing that occurs along the coast line of the Park does not conflict with Park values.**	
Action No	**Management Action**
25.1	Manage the Meelup coastline onshore fishing activities to minimize impact on coastal vegetation and natural features of the Park.

43. DEVELOPMENT

Development is a defined term within the *Planning and Development Act 2005,* and includes demolition, erection, construction, alteration of or addition to any building or structure on the land, and the carrying out on the land of any excavation or other works. At present, rural land use dominates most of the Park's boundary, with limited development within the Park. However, the close proximity of the Dunsborough townsite to the Parks southern/eastern boundary requires ongoing operational management programs to minimize the risk of direct or indirect impact on the Parks values.

A small reserve of approximately 1.5 hectares being Lot 272, vested with the Water Corporation for the purpose of water supply, intersects a section of Park's management zone 6. There is currently no development on Lot 272, however the Water Corporation have developed a water tank immediately adjacent to the Park boundary on Lot 341 and may have a future requirement to develop additional water supply infrastructure on Lot 272 for the supply of water to the Dunsborough township. More recently a mobile tower for the National Broadband Network has also been developed on Lot 341.

Section 43 - Development	
Objective 26: **To minimise the impact of developments on the Park.**	
Action No	**Management Action**
26.1	Commercial development within the Park is generally not supported and it to be consistent with the reserve purpose 'Conservation and Recreation' and does not enhance of the Park's environment, ecology, cultural and visual landscape values of the Park.
26.2	Development proposals on land adjacent to the Park, should complement the Parks conservation and recreation purpose and enhance the Park's environmental and landscape values.
26.3	Development proposals within the Park, should include a public consultation process
26.4	Development proposals on land adjacent to the Park should be required to undertake and environmental impact assessment and including a targeted dieback survey of the proposed development site, to guide the development assessment process.

44. UTILITIES AND SERVICES

Utility infrastructure and service providers may seek access to the Park for public works (water, sewerage, telecommunications, electric power and gas services) to service communities in the vicinity of the Park. Construction, maintenance and operation of public infrastructure and service lines within the Park can result in a number of management considerations including:

- disturbance of landforms, flora and fauna
- habitat fragmentation and associated problems
- increased susceptibility to soil erosion, and spread of weeds and disease particularly dieback
- visual impacts
- Restrictions on Park recreational usage and or activities.

To limit the problems listed above, utility infrastructure not primarily servicing the Park itself should be located outside the Park boundaries. In accordance with the Leeuwin-Naturaliste Ridge Statement of Planning Policy, a landscape management plan must be prepared by the proponent where new services and utilities are proposed and the clearing of native vegetation is required. Infrastructure should also be sensitive to the character of the area.

Water and telecom providers have laid water supply, sewerage pipelines and telecommunications cables, and constructed two small tanks along the western boundary of the Park in management unit 17; these areas have not been excised and are not within an easement. This infrastructure is primarily to service the resort in Bunker Bay but also provides water supply to the Meelup Beach public amenities and two fire hydrants on the Park boundary. There is also local drainage infrastructure to service part of the Eagle Bay townsite within the Park near the boundary with the Eagle Bay.

Section 44 - Utilities and Services	
Objective 27: **To ensure that utilities and services in the park do not conflict with park values.**	
Action No	**Management Action**
27.1	New public infrastructure works shall generally not be considered unless the works provide a benefit to the ecology, cultural and visual landscape values of the Park.

45. FORESTRY PRODUCE

There are no forest produce industries present in the Park except for seed collection. However, it is possible that unauthorised wildflower picking, firewood collection or timber harvesting occurs. Under the provisions of the BC Act, a licence for scientific or other prescribed purposes is required for non-commercial harvesting of flora on Crown lands, including seed collection.



Photo 20: Seed collection in the Park

Section 45 - Forestry	
Objective 28: **To protect the Park's values from exploitation of forest produce in the Park.**	
Action No	**Management Action**
28.1	The taking of forest produce from the Park, is not supported, except where it is taken for therapeutic, scientific or horticultural purposes and under a licence granted pursuant to the BC Act.

46. WATER RESOURCES

The Department of Water and Environmental Regulation is responsible for water resource protection and water allocation management, and under the RIWI Act, a licence is required to take water in proclaimed areas or non-artesian groundwater areas proclaimed or prescribed under the Act. Licences specify the amounts and conditions under which water may be taken. All groundwater and surface water catchments in Meelup Regional Park are proclaimed under the RIWI Act and no licences exist for the taking of water in the Park.

Ecological Water Requirements (EWRs) are the water regimes needed to maintain, at a low level of risk, the ecological values of water dependent ecosystems. These are the primary consideration in the determination of Environmental Water Provisions. Environmental Water Provisions (EWPs) are the water regimes provided as a result of the water allocation decision-making process taking into account ecological, social and economic impacts. They may meet in part or in full the ecological water requirements (WRC 2005).

Although the Park's waterways are within proclaimed areas, gauging stations have not been installed on any; therefore there is no data with which to determine EWRs or EWPs. Flows are therefore estimated through correlating the rainfall, catchment size, topography and other physiographic information with nearby gauged systems. There are currently two on-stream dams on Meelup Brook within the Park's boundaries. An assessment of the Parks EWRs should be undertaken to better understand the potential impacts on local hydrology and the Parks ecological water requirements.

Section 46 - Water Resources	
Objective 29: **To protect and conserve existing surface and groundwater resources of the Park.**	
Action No	**Management Action**
29.1	Liaise with DWER on the management of Park's ground water and surface water catchment for the benefit to the environmental, ecological, and visual landscape values of the Park.
29.2	Ensure proposals for water extraction of ground or surface water within the Park's water catchment do not adversely affect the environmental, ecological, and visual landscape values of the Park.
29.3	Investigate the potential to install gauge stations on Meelup, Dolugup and/or Jingarmup Brooks to determine ecological water requirements.

PART G. INVOLVING THE COMMUNITY

47. GUIDING PRINCIPLES FOR COMMUNITY INVOLVEMENT

1. Community participation
   The community will be encouraged to have input into the management of the Park. Public participation processes will have a clearly identified purpose and scope. Participation is to be based on a shared understanding (with stakeholders) of objectives, responsibilities, behaviour and expected outcomes. The participatory process is to be objective, open, fair and carried out in a responsible and accountable manner. Participation will provide opportunities for input, representation and joint learning from all relevant stakeholders.

2. Information exchange
   Information regarding the planning and management of the Park will be exchanged between land managers and the community in an open and transparent manner. Data and information used in the decision making process will be available to stakeholders. Public participation processes will emphasise the sharing of information, joint learning and understanding.

3. Outcomes and decision-making
   The outcomes of public participation will form part of the decision-making process. Participants should be informed as to how their involvement may have influenced the decision making process.

4. Management activities
   The community will be encouraged to contribute to nature conservation and land management activities. This will help to build community awareness, understanding and commitment to the Park's management objectives.

5. Education and interpretation
   Education and interpretation will be aimed at giving visitors a 'take home' message that will create an awareness of issues affecting the Park and positively influence visitor behaviour. It will also provide information on the reasons behind management decisions and will convey the objectives of this plan. Education and interpretation will encourage community involvement in and ownership of the Park.

48. COMMUNITY INVOLVEMENT AND LIAISON

Ongoing community support is essential for the successful implementation of this plan. Community involvement with the Park is evident on a number of levels:

- The Park is managed by the city-appointed, community based Meelup Regional Park Management Committee, which provides an ongoing community linkage to the management of the Park.

- A number of voluntary activities take place to assist the management, maintenance and enhancement of the Park, including trail maintenance, vegetation pruning, litter collection, visitor surveys, revegetation and weed control.

- Community consultation is undertaken as part of the development of important management and planning documentation.

- Local schools regular participate in activities within the Park, such as revegetation and weed removal.

Friends of Meelup Regional Park

In December 2018, the community with the support of the City of Busselton established the Friends of Meelup Regional Park (FOM). FOM is an incorporated association and provides a further avenue for building on the many years of good work, undertaken within the Park by community volunteers and for attracting additional resources and support for the long term protection and conservation of the Park values.

Section 48 - Community Involvement and Liaison	
Objective 30: **To provide key stakeholders and the wider community with opportunities to be effectively involved in Park management.**	
Action No	**Management Action**
30.1	Ensure that environmental volunteer programmes and projects align with the key objectives of the Plan.
30.2	Provide resources to support the Park's environmental volunteer programmes and activities.
30.3	Implement a programme for the development of knowledge and skills of the Park's environmental volunteers and volunteer group leaders.
30.4	Develop and implement an environmental volunteer recruitment programme and actively market the benefits of becoming a Park volunteer.
30.5	Develop and implement a programme to recognise environmental volunteer contributions to the management of the Park.
30.6	Identify opportunities to engage the wider community, including schools and community groups, in park activities, partnership projects and programs.
30.7	Promote community awareness of regulated activities within the Park, as appropriate, in published documents and on the Park website (www.meeluppark.com)

PART H. RESEARCH

49 RESEARCH

The aim of research is to better understand the Parks natural, cultural and social values, and the processes that threaten these values. The unique natural values of Meelup Regional Park are of considerable scientific interest. The Park has a unique geology, high biodiversity and a number of rare and endangered flora and fauna of scientific significance. As Park visitation and usage increases, research is invaluable to ensure the Park is appropriately managed into the future.

The Meelup Regional Park Research Proposal 2014-2024 (Appendix 3) was developed to provide guidance for planning and prioritising research projects. The program covers a wide range of topics including:

- flora and fauna
- geology
- dieback and tree decline
- weeds and feral animals
- fire
- visitor impacts
- ground and surface water
- Indigenous and non-indigenous heritage.

Any research undertaken in the Park must be properly managed to ensure it does not adversely impact the Park's values, and proposals therefore need to be assessed for their suitability.

A number of research projects have been undertaken or are ongoing in the Park. Resulting reports are available on the www.meeluppark.com website.

Section 49 - Research	
Objective 31: **To foster research that increases understanding of the Park, its values and visitor use, to ensure appropriate management of the Park; whilst ensuring that research does not conflict with Park values.**	
Action No	**Management Action**
31.1	Progressively implement the Meelup Regional Park Research Proposal 2014-2024 and promote research results to the wider community.
31.2	Actively seek resources for the implementation of research projects to guide the future management of the Park.
31.3	Regularly review the research programme for the Park to prioritise projects and for seeking funding.

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APPENDICES

APPENDIX 1: THREATENED SPECIES RANKING AND PRIORITY CODES

Conservation Codes for Western Australian Fauna

T: Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice; Threatened Fauna (Fauna that is rare or is likely to become extinct). Species that have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such.

X: Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice; Fauna that is presumed to be extinct. Species which have been adequately searched for and there is no reasonable doubt that the last individual has died, and have been gazetted as such.

IA: Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice; Migratory birds protected under an international agreement. Birds that are subject to an agreement between governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction.

S: Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice; Other specially protected fauna. Species that are in need of special protection, otherwise than for the reasons mentioned in the above schedules.

State Rank

Threatened Fauna are further recognised by the Department according to their level of threat using IUCN Red List criteria. For example: *Potorous gilbertii* is specially protected as Fauna that is rare or is likely to become extinct (Schedule 1) in the Wildlife Conservation (Specially Protected Fauna) Notice and is a threatened species with a ranking of critically endangered.

CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild.
EN: Endangered –considered to be facing a very high risk of extinction in the wild.
VU: Vulnerable - considered to be facing a high risk of extinction in the wild.
EX: Extinct – there is no reasonable doubt that the last individual has died.

Please note that a listing at species level, means that the assigned conservation status applies to all recognised sub-species within the state.

Priority Codes

P1: Priority One: Poorly-known species (on threatened lands)
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2: Priority Two: Poorly-known species (on conservation lands)

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national Parks, conservation Parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3: Priority Three: Poorly-known species (some on conservation lands)
Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

P4: Priority Four: Rare, Near Threatened and other species in need of monitoring
(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands. (b) Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable. (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

P5: Priority Five: Conservation Dependent species
Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

APPENDIX 2: HERITAGE PLACES

Name	Place #	Place type	Statement of significance	Description	History
Meelup Reserve Precinct	05346	Precinct or Streetscape	Meelup Reserve, a largely natural and cultural modified site, has cultural heritage value for its associations with the historic whaling industry and for its picturesque natural features and amenity.	The Meelup Reserve Precinct is a natural bushland and coastline that is home to a rich array of endemic species of flora and fauna. Nothing obvious remains from the historic use of the place for whaling activities. There are developed Parking areas and amenities, but the place remains largely a natural site, with spectacular ocean views, beaches and rock features.	Prior to settlement, the place was one of the locations used by American whalers. William Seymour settled at Dunsborough in 1845-1846 to work for Lionel Sampson and Co.'s "Castle Rock Whaling Company", which was later taken over by J. W. Bateman. This enterprise had fluctuating success as it was affected by difficulties with drunkenness, absconding workers and bad language. In 1849, all boats and sheds were destroyed by fire. Castle Rock used to function as a lookout spot for whales. However, nothing remains of the original fabric in the present day. The place is now a popular venue for recreation.
Meelup Brook	05345	Landscape	Meelup Creek, a natural feature, has cultural heritage significance as a popular place for recreation over a considerable period of time that is of social value to the local community and to Western Australians more generally.	The Meelup Regional Park is a large "A" Class Reserve (number 21629) of approximately 550 hectares adjacent to the towns of Dunsborough and Eagle Bay. The Park is vested with the City of Busselton and managed by the Meelup Regional Park Management Committee under a Management Plan, which was approved by the Minister for Lands in 1993; and with an annual operating budget provided by the Busselton City Council. The creek is a natural declivity with surrounding bush.	Meelup became a popular place for recreation in the local community and for Western Australian visiting the State's south-west. Prior to becoming a single "A" Class Reserve, the Park was a collection of a number of smaller "C" Class Reserves. The amalgamation process commenced in 1993 and was concluded in 1994.

Curtis Bay	02948	Landscape	Curtis Bay, a natural environment with no built features, has cultural heritage significance for its historic associations with the American whaling ships, a landing place for stock, and for its aesthetic value as a picturesque setting.	Small stretch of coastline on Geographe Bay. A picturesque beach and bay with a sandy shoreline contained by rocky edges, with a bushland backdrop and beautiful views out to sea.	Curtis Bay is named after Anthony Curtis. Curtis was a master of a coastal trading vessel and later owner of the Vasse-Wonnerup Estate. He bought Inlet Park from the Chapman brothers. The place was an anchorage for early whalers. It was also a landing place for stock and in recent history has become a place associated with leisure and holidaymaking.
Anse Depuch (Baudin memorial)	03820	Historic Site			
Point Picquet	13488	Urban Open Space		Point Picquet: Small northern most point of a number of points in Meelup Reserve between Eagle Bay and Dunsborough. Anse Depuch: Sandy bay adjacent to the north of Point Picquet. 'Anse' is French for 'Cove'.	Landing places for French Explorer Baudin. They are two of a number of areas first named by Nicholas Baudin in 1801. Point Picquet is named after a Lieutenant on the Geographe, Furcy Picquet. Baudin Memorial opened at Anse Depuch in June, 2001.
Castle Bay Whaling Station and Lookout Site	05336	Landscape	Castle Rock, largely natural location with a monument, has cultural heritage significance as the historic location of the Castle Bay Whaling Station	A largely natural site with historic associations. The place is largely a natural location used for recreation. There is a rock monument commemorating whaling activities.	Castle Bay was an historic location for whalers in the region. William Seymour settled at Dunsborough in 1845-1846 to work for Lionel Sampson and Co.'s "Castle Rock Whaling Company", which was later taken over by J. W. Bateman. This enterprise had fluctuating success as it was affected by difficulties with drunkenness, absconding workers and bad

			and lookout site is derived from its close associations with whaling as an early industry in the area. The site's natural splendour contributes to its aesthetic significance as it enhances the beauty of the Cape Naturaliste area at a macro level.		language. In 1849, all boats and sheds were destroyed by fire. Castle Rock used to function as a lookout spot for whales. However, nothing remains of the original fabric in the present day.

More information can be found on the WA State Heritage Register (www.stateheritage.wa.gov.au).

APPENDIX 3: MEELUP REGIONAL PARK RESEARCH PROPOSAL 2014-2024

In 2014, the City of Busselton through the Meelup Regional Park Management Committee commissioned the preparation of the 'Meelup Regional Park Research Proposal 2014 -2024'. The report was prepared by Erica Shedley from the Department of Parks and Wildlife.

The report provides a summary of the 13 highest priority projects identified for further research. These projects were:

- Soil erosion and track maintenance.
- Impacts of fire on Threatened and Priority flora and fire sensitive communities
- Impacts of fire on Threatened and Priority fauna and their habitats
- Impacts of tree decline on vegetation communities and fauna habitat quality
- Understanding the susceptibility of plants to Phytophthora disease
- Monitoring the impacts of introduced predators on western ringtail possums and southern brown bandicoots
- Conservation of Meelup Mallee (Eucalyptus phylacis)
- Conservation of Threatened orchids
- Research into the taxonomy and genetics of priority and disjunct flora
- Determine the sustainable visitor capacity of Meelup Regional Park
- Reduce visitor impacts on vegetation
- Reduce visitor impacts on hooded plovers and other shorebirds
- Trends in stream water flow and quality

The 'Meelup Regional Park Research Proposal 2014 -2024', is available for viewing at www.meelup-park.com.



13. PLANNING AND DEVELOPMENT SERVICES REPORT

13.1 DRAFT ENERGY STRATEGY

STRATEGIC GOAL	3. ENVIRONMENT Valued, conserved and enjoyed
STRATEGIC OBJECTIVE	3.4 Climate change risks and impacts are understood, acknowledged and responded to through appropriate planning and community education.
SUBJECT INDEX	Environmental Projects and Programmes
BUSINESS UNIT	Environmental Services
REPORTING OFFICER	Senior Sustainability/Environment Officer - Mathilde Breton
AUTHORISING OFFICER	Director, Planning and Development Services - Paul Needham
NATURE OF DECISION	Executive: substantial direction setting, including adopting strategies, plans and policies (excluding local planning policies), tenders, setting and amending budgets, funding, donations and sponsorships, reviewing committee recommendations
VOTING REQUIREMENT	Simple Majority
ATTACHMENTS	Attachment A Energy Strategy Attachment B Energy Strategy Summary Document Attachment C Cities for Power Partnership - The Partnership Action Pledge

OFFICER RECOMMENDATION

That the Council:

1. **Endorse the City of Busselton Energy Strategy (Attachment A); and**
2. **In accordance with our membership of the Climate Power Partnership (CPP) and as set out in the Energy Strategy, make the following CPP Pledges:**
   - **(a) Install renewable energy (solar PV and battery storage) on City buildings.**
   - **(b) Set targets to increase the level of renewable power for City operations over time.**
   - **(c) Pursue development of a mid-scale solar farm.**
   - **(d) Identify opportunities to turn waste into energy.**
   - **(e) Roll out energy efficient lighting for City-owned public lighting.**

EXECUTIVE SUMMARY

This report seeks endorsement of an Energy Strategy ('Strategy'). The Strategy is intended to provide the City with strategic direction on how to optimise energy usage efficiency and increase the uptake of renewable energy in order to reduce the City's operational carbon emissions and future proof the organisation against rising energy prices. The report also recommends the endorsement of five pledges to meet the City's commitments under the Cities for Power Partnership program.

BACKGROUND

The City has been actively working toward reducing its energy use and carbon emissions for the last decade, through participation in the now defunct Cities for Climate Protection program, which comprised the monitoring and reporting of carbon emissions and the preparation of Energy Action Plans (EAPs). The EAPs guided a range of earlier energy generation and efficiency initiatives, including some rooftop solar rollout, GLC geothermal project and some efficiency initiatives. While good progress was made, not all recommended initiatives were implemented. This reflects the constantly changing nature of energy management and barriers in achieving organisational change.

In mid-2017, the Council expressed a desire to strengthen its effort to reduce its energy use and increase its uptake of renewable energy, which led to the requirement to prepare an Energy Master Plan (EMP). The EMP was to determine direction for the organisation towards achieving real savings in all energy sources.

In December 2017, Council endorsed the allocation of funding as follows:

The $75,000 to be allocated out of the Strategic Projects Reserve is proposed to be allocated as additional expenditure as follows –

1. $26,500 as additional salaries expenditure in Environmental Management, allowing for the allocation of an existing officer in that team;
2. $45,000 as additional consultancy budget in Environmental Management, allowing for the contracting of specialist professional services to assist with the project; and
3. $3,500 to complete the 'Enquiry' phase of the Western Power process associated with potential development of a mid-scale (approximately 6.0 MW) solar project on City land, being portion of the former Rendezvous Road (Busselton) Refuse Disposal facility, the further pursuance of which would potentially be explored as part of the Energy Master Plan process.

In parallel with preparing the Strategy, the City provided in principle support for joining the Cities for Power Partnership in September 2018. This program is focused on the leading role of local government in climate action, and provides an avenue for information access, sharing experiences, networking, collaboration and celebrating success. The main commitment of the CPP program is to identify, within six months, five items included in the CPP Pledge that the City of Busselton will strive to achieve. The pledges are required to be endorsed by Council. The Council was briefed on the CPP on 3 October 2018, and it was decided to include the adoption of the CPP pledges as part of the preparation of the Energy Master Plan.

OFFICER COMMENT

The Strategy was developed over the last couple of years, with the main drivers being a desire to address climate change, forecasted to severely impact the south west of Western Australia and the financial incentive of decreasing energy consumption as costs of electricity and fuels continue to increase and payback periods for efficiency measures and behind-the-meter renewables are decreasing.

The Strategy was developed under the guidance of the City's Sustainability and Energy Working Group (SEWG), comprised of Councillors and City staff. The process has created a greater understanding of the organisation's energy issues and opportunities for efficiency and cost-savings. The strategy aims is to embed energy management within the City's organisational culture, optimising energy use and uptake of renewable energy.

It is proposed to rename the Energy Master Plan to an 'Energy Strategy' to reflect the high level and strategic nature of the document. Energy management has become a very complex and dynamic space, with technologies and best practice rapidly changing. One of greatest challenges will be to respond to this constant state of flux and embrace new opportunities as they arise. It is considered a *Strategy* is more likely to respond to this challenge than a more detailed, less adaptable *Master Plan*.

Draft Vision and Targets

More and more organisations, councils, states, businesses and countries are setting ambitious renewable energy and carbon emission reduction targets to demonstrate their commitment and leadership to tackling climate change. The Strategy incorporates a vision statement and targets which were workshopped and endorsed by the SEWG and are as follows:

Draft Vision:

Minimised energy costs and greenhouse gas emissions, through using energy as efficiently as possible and optimising our approach to generation and use of renewable energy, and to maximise returns to ratepayers through becoming a net energy generator.

Draft Targets:

1. *To generate 100% of the City of Busselton electricity needs from renewable sources by 2030.*

The global standard for leadership in climate change action is 100% renewable energy. While there is no official definition of what a 100% renewable energy target means, it is usually interpreted as when the amount of renewable energy produced is equal to or more than what is consumed. The City would still be connected to the electricity grid as the intent is not to match current energy consumption with real time renewable energy supply, but using a concept called 'net use accounting' to balance yearly energy consumption by an equal amount of renewable energy generation. The proposed target however specify that the renewable energy needs to be generated on site (i.e. within the City of Busselton).

As per the proposed Vision, this target will be achieved through reducing energy use, improving energy efficiency and increasing the uptake of renewable energy, in particular solar energy. The proposed project to build a mid-scale solar plant on the Rendezvous Road site which would cater for all and more of the City's operational electricity needs is key to meeting this target. Should this project not go ahead, the City may need to review the wording of its renewable energy target to allow the purchase of renewable energy produced off site through government accredited GreenPower, LGCs or Power Purchase Agreements (PPAs).

2. *To reduce City of Busselton corporate carbon emissions per capita to 50% on 2017/18 levels by 2030.*

The City also has the desire to reduce its operational carbon emissions to achieve environmental outcomes and mitigate the impacts of climate change. A carbon emission reduction target also captures any progress made in other energy-related emissions such as transport fuels from fleet and plant and from waste deposited in landfill.

A per capita reduction target is recommended to accommodate the City's ongoing growth, with increasing associated facilities and services, which in turn use increased energy and produce higher emissions. The 2017/18 baseline was chosen to reflect when the new City Administration Centre was completed and to allow comparison with future years.

Previous energy inventories have estimated electricity related emissions for all contestable sites to be approximately 33% of all City's carbon emissions. A switch to 100% renewable electricity with the proposed construction of a mid-scale solar farm (in addition to further energy efficiency upgrades and increased rooftop solar uptake) should bring the City's electricity related emissions of contestable sites to zero. We can also expect reductions in non-contestable sites (approximately 8% of City's emissions) through energy efficiency upgrades and increased rooftop solar uptake. Overtime the Western Power owned street lighting portfolio which represents approximately 17.5% of the City's emissions will also become more energy efficient with the progressive installation of LEDs.

Fleet related emissions have been estimated to be approximately 27% of all City's emissions and we can expect some improvements over the next 10 years with the uptake of Electric Vehicles and alternative fuels for heavy plant. The increasing recycling trend and removing organics from the waste stream will also drive down waste-related emissions which have been estimated to be approximately 14% of City's emissions (from City's facilities only).

These improvements coupled with any reductions in emissions intensity of electricity production (driven by the Federal Government carbon emissions and renewable energy targets) should allow the City to achieve a 50% per capita emissions reduction by 2030. The proposed City's target is also in line with the Federal Government current climate change target of 26-28% emissions reduction on 2005 levels by 2030, which represents a 50-52% reduction in emissions per capita between 2005 and 2030.

While more and more governments are moving to zero net emissions targets, including the WA Government, the City still has an ongoing reliance on fossil fuels for fleet and plant, limited control on street lighting and significant emissions from legacy waste disposal. The suitability of a zero net emission target will need to be reviewed and may be suitable for the next phase of the Strategy.

3. Develop efficiency targets for fleet and plant by 2025

It is still considered too premature to set specific targets for the Fleet and Plant sector. This will need to be reviewed once we have a more thorough understanding of feasible options and as new technologies continue to emerge. A possible fleet reduction target could be a vehicle emissions intensity target (CO2e/km) or the uptake of electric vehicles over time. In the meantime any reductions in fleet energy use will be reflected in the overall carbon emissions reduction target.

Scope and Focus Areas
The scope of the Strategy is restricted to the City's operations and services and divided into the following four streams:

- Stationary use (electricity and gas)
- Street lighting
- Waste (restricted to landfill gas emissions and waste-related energy generation)
- Fleet and plant

The following 10 focus areas, with associated objectives have been identified in the Strategy:

- Monitoring and reporting
- Efficiency upgrades to facilities
- Leased sites
- Design/procurement for new facilities
- Public lighting
- Rooftop solar
- Mid-scale solar
- Waste
- Mobile energy (fleet and plant)
- Behavioural and organisational change

Key recommendations
Each Focus Area has associated strategic actions which are recommended to be implemented. There are 52 strategic actions listed in the Strategy. The following are some of the key initiatives recommended to be implemented:

1. An integrated energy monitoring and reporting system, which allows us to dynamically and proactively manage energy use from the City's facilities, public lighting and water pumping and renewable energy generation including solar energy across the organisation.
2. 208kW of solar PV Systems, including 100kW at the Geographe Leisure Centre, 40kW at the Naturaliste Community Centre, 40kW at the Busselton Library and 28kW at the Depot and installation of batteries when financially viable.
3. A mid-scale solar farm at Lot 27 Rendezvous Road, to allow the City to reach its 100% renewables target.
4. Strategic energy efficiency upgrades at large facilities as recommended by the 'Energy Opportunities Analysis and Prioritisation' report (Yeoman 2018).
5. A Design for New Buildings Policy, which specifies minimum energy efficiency and renewable energy generations for all new City's facilities.
6. LED upgrades of high priority City-owned streetlighting, sporting facilities and Public Open Space.
7. Investigations into multiple resources recovery systems through the South West Regional Waste Group.
8. Move towards more electrically operated fleet, plant and equipment as technologies mature and the price of energy storage decreases, starting with the purchase of a plug-in hybrid electric vehicle (EV).
9. Viability assessments of alternative fuel sources to power the City's fleet, plant and equipment.
10. A watching brief of new and innovative technologies including microgrids, virtual net metering and peer to peer energy trading.

The full list of recommendations is available on page 7-9 of the Strategy (Attachment A). A summary document has also been prepared to assist with communication (Attachment B).

Other work

Implementation of actions likely to be included in the Strategy has been progressing in parallel with development of the document. More specifically the following initiatives were progressed over the last 18 months:

1. Joining of the 'Azility' (previously Planet 'Footprint') online platform which allows for more detailed and accessible reports on energy use at City facilities;
2. Rendezvous Road mid-scale solar project investigations;
3. Sub-metering and data-logging at the GLC; and
4. Installation of additional rooftop solar PV at the Administration Building.

Energy Strategy implementation

Implementation of energy initiatives is a whole of organisation responsibility. While there will often be a leading Directorate/Service Unit responsible for implementing specific actions, collaboration and partnerships across the organisation will be required to implement the Energy Strategy. Leadership from Senior Management will also be necessary to drive implementation of the Strategy. The SEWG was instrumental in developing the Strategy. It is recommended the group continues to regularly review and monitor implementation.

The City Environment Policy and Sustainable Work Practice Operational Practice and Procedure provides the overarching planning framework for implementing the Strategy. A key element for the City to successfully manage its energy portfolio will be to build in relevant responsibilities and associated accountability amongst Senior Management and operational staff and for energy optimisation to become part of the City's organisational culture.

It is essential implementation of the Strategy is built into the City's existing strategic planning cycle. More detailed yearly action planning will be required to progress with implementation. This will include allocating responsibilities for implementation to relevant staff.

The Strategy will be annually updated and fully reviewed every five years. However this is a dynamic document that will need to proactively respond to rapidly changing technologies and what constitutes best practice.

Further information on how the implementation of the Strategy is proposed to be funded is detailed in the Financial Implications section of this report.

Energy Reporting

An integrated energy monitoring and reporting process is currently being progressed through the Azility online platform and the sub-metering and data-logging work undertaken at key facilities. While some energy initiatives are proposed to be implemented this financial year, in particular a significant increase in solar energy, it is not guaranteed that the savings achieved will be higher than anticipated growth, including additional services such as street lighting and rubbish collection to cater for population growth but also new services and facilities such as the BEACH project. The Strategy will be implemented over the next five years and higher savings will be achieved over a longer time frame than this financial year.

CPP Pledges

The City provided in principle support for joining the Cities for Power Partnership in September 2018. This program is focused on the leading role of local government in climate action, and provides an avenue for information access, sharing experiences, networking, collaboration and celebrating success. The Cities Power partnership program includes an action pledge whereby participating councils select five key actions ranging from renewable energy, efficiency, transport and advocacy within six months of joining. Attachment C provides the complete list.

Recommended pledges for the City of Busselton are as follows:

1) Install renewable energy (solar PV and battery storage) on City buildings.
2) Set targets to increase the level of renewable power for City operations over time.
3) Pursue development of a mid-scale solar farm.
4) Identify opportunities to turn waste into energy
5) Roll out energy efficient lighting for City-owned public lighting

These have emerged from the Strategy and will be progressed as part of its implementation.

Statutory Environment

The officer recommendation supports the general function of a local government under the *Local Government Act 1995* to provide for the good government of persons in its district.

Relevant Plans and Policies

The following Plans and Policies are relevant to the Strategy:

1. Environment Policy
   The City's Environment Policy states that (5.6) *The City will plan, design, operate and conduct operations in a manner that minimises waste and resource consumption.*
2. Environment Strategy 2016-2021
   The City's Environment Strategy calls for *An empowered local community and organisation that strive for an environmentally sustainable future, for all, and in perpetuity (Environmental Sustainability Key Area).*
3. Energy Action Plans 2014/2019
   The Strategy builds on previous achievements and learnings from the Energy Action Plan.

Financial Implications

As part of the annual planning for implementation of the Strategy, City staff will be required to give consideration to budgeting requirements. Several sections of the existing budget can currently accommodate most of the strategic actions listed in the Strategy. In many instances it will be a matter of incorporating and prioritising energy considerations into current work programs.

In addition, there is currently $100,000 (plus indexation) per annum allocated in an Energy Sustainability Reserve in the City's 10-year Long Term Financial Plan to implement sustainability projects.

Where possible grant funding will be accessed to implement the Strategy. A project is more likely to be grant funded if it seeks to use new and innovative technologies.

A Revolving Energy Fund (REF) is when savings from sustainability projects are tracked and used to replenish a fund for the next round of investments. Robust energy monitoring systems are required for REFs to be successful. It is not currently recommended the City establishes a REF until an integrated monitoring system is established and operating well.

While energy efficient equipment and assets can be more expensive upfront, they usually have a lower life-cycle costs and can provide other business benefits. Consideration should be given to increasing capital expenditure, either through budgeting or through using alternative financing options (including borrowing and other third party financing arrangements such as leasing, on-bill financing and Energy Performance Contracts) to enable the implementation of projects with lower life cycle costs.

Stakeholder Consultation

Draft Energy Strategy
The Council established a Sustainability and Energy Working Group (SEWG) to guide the development of the Strategy. SEWG membership is currently as follows:

- Cr Barrett-Lennard (previously Cr McCallum);
- Cr Paine; and
- Staff from Strategic Planning, Environmental Management, Waste & Fleet, Major Projects & Facilities, Community Services, Financial Services and Legal & Property Services business units.

The SEWG undertook an analysis of current energy use across City assets to gain a better understanding of energy issues and opportunities, and the subsequent identification of potential projects so that the City may achieve ongoing savings in energy use, costs and greenhouse gas emissions. It reviewed and endorsed the proposed vision, targets, objectives and strategic actions of the Strategy.

Council briefings on the EMP process have occurred on the following dates -

- 3 October 2018;
- 26 June 2019; and
- 20 November 2019

The focus has been on developing a greater understanding of energy issues and opportunities, and a greater capacity for the organisation to achieve ongoing savings in energy use, costs and greenhouse gas emissions, rather than the development of a document *per se*. Significant effort was put towards bringing operational staff, Senior Management and Council along the journey of developing the Strategy and achieve greater buy-in and commitment. This has resulted in additional consultation with staff and senior management when developing the Strategy.

CPP Pledges
The Council was briefed on the CPP program on 3 October 2018. The SEWG at its 6 February 2019 meeting supported the recommended pledges for CPP.

Risk Assessment

No risks of a medium or greater level have been identified.

Options

As an alternative to the proposed recommendation the Council could:

1. Amend the Strategy
2. Select different CPP pledges;
3. Not endorse the Strategy and/or the CPP pledges.

If the CPP pledges are not endorsed by Council, the City may be required to withdraw from the program.

CONCLUSION

The process of developing the Strategy has generated a greater understanding of the City's energy issues and opportunities, and a greater capacity for the organisation to achieve ongoing savings in energy use, costs and greenhouse gas emissions. The strategy provides a starting point for improved energy management, and changes to culture around energy use across the organisation.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

Once the Strategy is endorsed, it will be made publicly available and promoted before the end of January 2020 (to avoid the Christmas period). Once the CPP pledges are endorsed by Council, the CPP Program will be advised within 21 days.

City of Busselton
ENERGY STRATEGY
2020-2025



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City of Busselton
Geographe Bay

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Abbreviations

AD	Anaerobic Digestion
ADR	Australian Design Rules
BEACH	Busselton Entertainment and Creative Hub
BMS	Building Management System
BPEM	Best Practice Environmental Management
CAPEX	Capital Expenditure
CCP	Cities for Climate Protection
CFL	Compact Fluorescent Light
C&I	Commercial and Industrial waste
CH_4	Methane
CO_2e	Carbon dioxide equivalent
CO_2	Carbon Dioxide
CRC	Community Resource Centre
CNG	Compressed Natural Gas
DWER	Department of Water and Environmental Regulation
EAP	Energy Action Plan
EfW	Energy-From-Waste
EOI	Expression of Interest
EPC	Engineering, Procurement and Construction
EPC	Energy Performance Contract
EV	Electric Vehicle
FOGO	Food Organics and Garden Organics
GHG	Greenhouse Gas
GJ	Gigajoule
GLC	Geographe Leisure Centre
H	Hydrogen
HVAC	Heating, Ventilating, and Air Conditioning
kWh	Kilowatt hour
LGC	Large Scale Generation Certificate
$LiFePO_4$	Lithium iron phosphate
LFG	Landfill gas
MWac	Mega Watt alternating current
MSW	Municipal Solid Waste
N_20	Nitrous Oxide
NOx	Nitrous Oxide
LED	Light Emitting Diode
NCC	Naturaliste Community Centre
O&M	Operation and Maintenance
PPA	Power Purchase Agreement
PV	Photovoltaic
PF	Power Factor
REC	Renewable Energy Certificates
REF	Revolving Energy Fund
RRF	Resource Recovery Facility
RRTS	Rendezvous Road Transfer Station
SCADA	Supervisory Control and Data Acquisition
SEWG	Sustainability and Energy Working Group
STC	Small Scale Technology Certificate
YCAB	Youth and Community Activities Buildings
V2G	vehicle-to-grid
VRPL	Vidler Road Putrescible Landfill
WEM	Wholesale Electricity Market
WtE	Waste-to-Energy

Summary

The City of Busselton is committed to addressing climate change and future-proofing its community against rising energy prices. There are expectations from the community that the City will be a climate leader. Local Governments, businesses, states and countries are setting ambitious renewable energy and carbon emission reduction targets to demonstrate their commitment and set a trajectory for reduced emissions.

In 2018-19, the City of Busselton had 157 electricity accounts using over 3MWh annually with a total annual cost of nearly $850,000. Unmetered street lighting accounts, operated by Western Power, cost a further $850,000 annually. Gas use at 11 facilities amounts to around $20,000 p.a. The City owns 117 light fleet vehicles, including 94 diesel and 23 petrol vehicles, which contribute 25% of the City's total fuel costs. The remainder of the City's fuel usage is predominantly diesel for trucks and major plant. Total fuel consumption in 2018-19 was 32,705L of petrol and 626,754L of diesel at a cost of $952,954.

As the City continues to grow, new assets, facilities and upgrades will result in further consumption increases. It is imperative that action is taken to minimise costs and emissions into the future. That is the purpose of this strategy.

The City has developed this Energy Strategy under the guidance of its Sustainability and Energy Working Group, comprised of Councillors and City staff. The process has created a greater understanding of the organisation's energy issues and opportunities for efficiency and cost-savings. The strategy aims to embed energy management within the City's organisational culture, optimising energy use and uptake of renewable energy.

The vision for the Energy Strategy is:

> *Minimised energy costs and greenhouse gas emissions, through using energy as efficiently as possible and optimising our approach to generation and use of renewable energy, and to maximise returns to ratepayers through becoming a net energy generator.*

The energy targets adopted by the City are:

1. *To generate 100% of the City of Busselton electricity needs from renewable sources by 2030.*
2. *To reduce City of Busselton corporate carbon emissions per capita to 50% on 2017/18 levels by 2030.*
3. *Develop efficiency targets for fleet and plant by 2025.*

To achieve these targets, this Energy Strategy includes 52 strategic actions for ten focus areas, summarised in the table below. Key strategic actions proposed for implementation in the short to medium term are:

- An integrated energy monitoring and reporting system, which allows to dynamically and proactively manage energy use from the City's facilities, public lighting and water pumping and renewable energy generation including solar energy across the organisation.
- 208kW of solar PV Systems, including 100kW at the Geographe Leisure Centre, 40kW at the Naturaliste Community Centre, 40kW at the Busselton Library and 28kW at the Depot and installation of batteries when financially viable.

- A mid-scale solar farm at Lot 27 Rendezvous Road, to allow the City to reach its 100% renewables target.
- Strategic energy efficiency upgrades at large facilities as recommended by the *Energy Opportunities Analysis and Prioritisation* Report (Yeoman 2018).
- A Design for New Buildings Policy, which specifies minimum energy efficiency and renewable energy generations for all new City's facilities.
- LED upgrades of high priority City-owned streetlighting, sporting facilities and Public Open Space.
- Investigations into multiple resources recovery systems through the South West Regional Waste Group.
- Towards more electrically operated fleet, plant and equipment as technologies mature and the price of energy storage decreases, starting with the purchase of a plug-in hybrid electric vehicle (EV).
- Viability assessments of alternative fuel sources to power the City's fleet, plant and equipment.
- A watching brief of new and innovative technologies including microgrids, virtual net metering and peer to peer energy trading.

The process of developing this Energy Strategy has generated a greater understanding of the City's energy issues and opportunities, and a greater capacity for the organisation to achieve ongoing savings in energy use, costs and greenhouse gas emissions. The strategy provides a starting point for improved energy management, and changes to culture around energy use across the organisation.

Energy Strategy Focus Areas and Strategic Actions

Energy Monitoring and Reporting	
Objective	To implement an integrated monitoring and reporting system, which fosters collaboration and accountability and is fit-for-purpose.
Strategic Actions	
1. Continue subscription to Azility Carbon Emissions Reporting module (or equivalent) to allow tracking of progress towards the carbon emissions reduction target 2. Report to Council (annually) and Senior Management (quarterly) on energy use and costs. 3. Send weekly facility-based energy benchmarking reports and set up usage anomalies alerts for relevant facility managers. 4. Prepare an energy monitoring equipment strategy outlining priority recommendations for installing sub-metering, data-logging and BMS at key City's facilities. 5. Install smart monitors on all PV systems, both existing and new. 6. Report to the community as opportunities arise on the City's energy use, solar energy generation and implementation of energy projects. 7. Develop a Project Business Case template for energy projects. 8. Undertake an audit and efficiency assessment of key precinct areas, including the Busselton Foreshore, Dunsborough Playing Fields and Vasse Lakeview Entrance. 9. Review accounts with no energy usage (electricity and gas) and disconnect if no longer required. 10. Undertake a review of the City's electricity tariffs and implications for energy costs.	
Efficiency upgrades to facilities	
Objective	To progressively and proactively increase the energy efficiency performance of the City's facilities portfolio.
Strategic Actions	
11. Replace all lights due for replacement with LED. 12. Review all existing lighting in City's facilities to identify opportunities for LED replacement. 13. Review and upgrade lighting to LED at the NCC, Busselton Library, Depot and Busselton Tourist Park. 14. Implement efficiency recommendations for key facilities from the Energy Opportunities and Prioritisation report (Yeoman, 2018). 15. Investigate building improvement opportunities (e.g. glazing, insulation) that can be implemented as part of the City's annual asset maintenance and renewal program. 16. Undertake supply voltage business cases for suitable City's facilities and implement voltage optimisers if installation is warranted. 17. Investigate power factor correction (in parallel to voltage optimisation) to secure reduced electricity tariffs.	
Leased sites	
Objective	To facilitate cost-effective energy reduction and production at all of the City's leased sites.
Strategic Actions	
18. Undertake a review of leased sites to determine which would benefit from sub-metering and/or data-logging. 19. Investigate opportunities for installing solar PV systems at City's leased facilities, either through promoting solar leasing and solar PV PPAs or up-front purchase.	
Design/Procurement for new facilities	
Objective	To aim for lowest life cycle costs when designing and procuring new facilities.
Strategic Actions	
20. Prepare a Design For New Buildings Policy (or similar) which sets the standard for energy efficiency and renewable energy for all new City buildings and major upgrades and investigate options for increasing upfront capital investment to achieve future operational savings. Use the BEACH project as a test case.	
Public lighting	
Objective	To pursue 100% LED public lighting, via new installations or retrofits and advocacy where there is no operational control of lighting assets.
Strategic Actions	
21. Maintain a watching brief for opportunities to reduce Western Power owned street lighting costs. 22. Investigate opportunities to reduce operating hours of street lighting (and use of smart and adaptive lighting) in selected areas to reduce energy use and cost. 23. Upgrade the following City owned street lighting to LED: Naturaliste Terrace, Cyrillean Way, Dunn Bay Road, Hannay Lane, Seymour Boulevard, Keel Retreat and Queen Street (Cultural Precinct). 24. Develop a program to upgrade the remainder of City owned street lighting to LED. 25. Complete a review of City-owned public lighting to identify all lighting infrastructure, associated meters, and opportunities for LED replacement. 26. Commission a condition assessment of all sports lighting and make recommendations for efficiency upgrades and use of smart lighting.	

27. Develop Public Lighting specifications.	
28. Commission an energy efficiency assessment of lights and pumps for key public open spaces.	
Rooftop solar	
Objective	To maximise rooftop solar systems with associated batteries on all City's facilities to achieve best financial return on investment.
Strategic Actions	
29. Implement all recommended rooftop solars in 2019/20.	
30. Pursue additional rooftop solar installations as opportunities arise.	
31. Maintain a watching brief for installation of battery systems and undertake a feasibility study when they become financially viable.	
Mid-scale solar	
Objective	To offset the City's energy use with renewable electricity generation, while achieving lower energy costs through the development of a mid-scale solar farm.
Strategic Actions	
32. Progress investigations into developing a solar farm at Lot 27 Rendezvous Road.	
Waste	
Objective	To lower districtwide Greenhouse Gas Emissions overall by reducing the organic faction of waste being decomposed and exploring renewable energy generation as technologies become financially viable and sustainable.
Strategic Actions	
33. Incorporate all relevant recommendation or actions contained in this Energy Strategy into the review of any existing or new strategic waste documents	
34. Conduct detailed viability investigations into financially sustainable resource recovery systems that are modular and scalable.	
35. Determine and make recommendations on progressing projects and initiatives that achieve the quadruple bottom line on sustainability.	
Fleet and plant	
Objective	To reduce reliance on fossil fuels through a combination of green procurement and investments into alternative fuel sources.
Strategic Actions	
36. Continue to make plant decisions on a best value basis looking at whole of life cycle costs.	
37. Implement initiatives towards incorporating more electrically operated Fleet, Plant and Equipment into the City's mobile asset inventory, as technologies mature and the price of energy storage decreases.	
38. Conduct viability assessments into technologies that offer tangible benefits when considering plant and equipment using alternative fuel sources.	
39. Trial a plug-in-hybrid as pool car replacement.	
Behavioural and organisational change	
Objective	To embed energy management in all levels of the City's organisational culture. To embed life cycle costs and overall energy efficiency in the overall 'best value for money' assessment.
Strategic Actions	
40. Continue to support the Green Taskforce in raising awareness of climate change and the importance of reducing energy use throughout the organisation.	
41. Develop and implement enhanced behaviour change and education programs for each major facility, targeting City staff and other regular facility users.	
42. Report energy use and efficiency outcomes to staff, when monitoring capacity is available, and acknowledge outcomes of energy savings initiatives.	
43. Investigate opportunities and promote the need for energy management training for Western Australia's Local Government Sector.	
44. Update the City's Purchasing Policy and associated Operational Practice to direct greater application of sustainable procurement, with particular reference to energy efficiency.	
Implementation and Review	
Strategic Actions	
45. Monitor the development of emerging and innovative energy technologies (i.e. microgrids, virtual net metering and peer to peer energy trading) and facilitate the development of trials in the City.	
46. Continue to allocate expenditures under the City's Energy Sustainability Reserve as per priorities identified in the Energy Strategy.	
47. Consider options for increasing capital expenditure for implementing projects with the lowest life cycle costs.	

48. Consider the development of a Revolving Energy Fund once an integrated Energy Monitoring and Reporting system is well established.
49. Consider alternative financing options when implementing energy projects.
50. Continue the Sustainability and Energy Working Group.
51. Review specific responsibilities for implementation of the Energy Strategy as part of the yearly action planning cycle.
52. Annually update the Energy Strategy with new information and review every 5 years.

1 Introduction

1.1 Need for an Energy Strategy

Climate change is forecasted to severely impact the south west of Western Australia, including the City of Busselton, with increasing temperatures and more hot days, decreasing winter rainfall, increasing intensity of extreme rainfall events, rising mean sea level and height of extreme sea-level events and a harsher fire-weather climate (CSIRO and Bureau of Meteorology, 2015). This is likely to significantly impact almost all aspects of the City's operations and responsibilities, our local community, economy and the natural environment.

There is also a strong financial incentive for the City to decrease energy consumption as costs of electricity and fuel continue to increase. Payback periods for efficiency measures and behind-the-meter renewables are decreasing, further improved by improvements in technology and affordability. Development of in-front-of-the-meter renewables provides a financial advantage by paving the way to sell and purchase power, and will offset reliance on fossil fuels.

The City of Busselton is committed to addressing climate change, in part through reducing its operational carbon emissions and future-proofing its community against rising energy prices. There are high expectations from the community that the City will be a climate leader. More and more organisations, councils, states, businesses and countries are setting ambitious renewable energy and carbon emission reduction targets to demonstrate their commitment.

The aim of the Energy Strategy is to take energy management within the City to the next level and embed the optimisation of energy usage and uptake of renewable energy within the City's organisational culture.

The Sustainability and Energy Working Group, comprised of Councillors and City staff played a key role in guiding the development of the City's Energy Strategy. The focus has been on developing a greater understanding of energy issues and opportunities, and a greater capacity for the organisation to achieve ongoing savings in energy use, costs and greenhouse gas emissions, rather than the development of a document *per se*. Significant effort was put towards bringing operational staff, Senior Management and Council along the journey of developing the Energy Strategy and achieve greater buy-in and commitment.

1.2 Past and current energy efficiency and renewable energy initiatives

The City of Busselton has been acting on climate change for a decade now with the preparation of the City's Energy Action Plan (EAP) 2010-2014, updated for 2014-2019. These focused on reducing the City's energy use and carbon emissions and included guidance for reducing community emissions.

Many energy efficiency and renewable energy projects have been delivered over the last ten years that have resulted in significant energy use and carbon emissions reduction. It is not possible to quantify total energy and financial savings achieved over the years, due to the lack of an integrated monitoring and reporting system and the rapid population growth (with associated additional facilities, infrastructures and services) seen in the City. However, the benefits have been many and wide-ranging. This Energy Strategy builds on previous achievements and lessons learnt over that time. For a full list of actions implemented under the two Energy Action Plans, 2010-2014 and 2014-2019, refer to Appendix 2 Review of Energy Action Plans.

Key initiative implemented through the EAPs were:

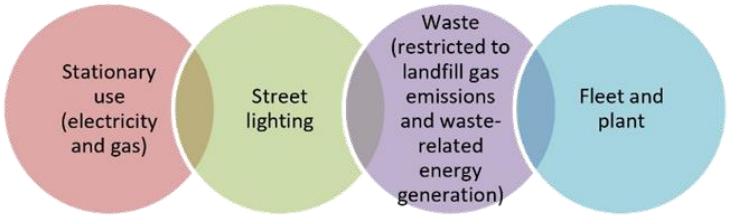
- Annual monitoring and reporting of the City's energy use, cost and carbon emissions;
- Completion of energy audits for the City 5 largest facilities and implementation of a wide range of recommendations to improve energy efficiency;
- Set up of the City's Green Taskforce to oversee a whole of organisation staff behaviour change program;
- Installation of a geothermal system at the Geographe Leisure Centre (GLC);
- Purchase of a bike fleet for use by City staff;
- Installation of solar hot water systems at the Kookaburra Caravan Park and Winderlup Court units (Aged person homes).
- Upgrade of all GLC lighting to LED;
- Installation of more energy efficient public lighting, including LED, solar and wind powered;
- Provision of teleconferencing capabilities to reduce car-based travel for meetings; and
- Installation of 100kW solar system on the new Administration Building.

While good progress was made, not all recommended initiatives were implemented. This reflects the constantly changing nature of energy management and barriers in achieving organisational change.

1.3 Energy Strategy scope and focus areas

The scope of the Energy Strategy is restricted to the City's operations and services and divided into the following four streams:

Figure 1 Energy Strategy scope



The following ten focus areas, with associated strategic actions have been identified in the Energy Strategy:

Figure 2 Energy Strategy focus areas



Energy management has become a very complex and dynamic space, with technologies and best practice rapidly changing. One of greatest challenges of this Energy Strategy will be to respond to this constant state of flux and embrace new opportunities as they arise.

1.4 Vision

The following (working) vision for the City's Energy Strategy was developed by the Sustainability and Energy Working Group (SEWG):

Minimised energy costs and greenhouse gas emissions, through using energy as efficiently as possible and optimising our approach to generation and use of renewable energy, and to maximise returns to ratepayers through becoming a net energy generator.

2 City of Busselton Energy Profile – baseline assessment

2.1 Electricity

2.1.1 Consumption summary

Excluding public street lighting, the City of Busselton currently has 157 electricity accounts, with a total annual cost for the 2018-19 financial year of $846,169 for supply of 3,530,257kWh of electricity (table 1). Eighteen sites (with 37 accounts) consumed 85% of electricity used and incurred 78% of costs (Figure 3). These currently include 13 contestable site[1] accounts, plus two additional sites that meet the threshold for contestable sites. The Geographe Leisure Centre (GLC) and the Administration building are the largest consuming facilities.

Electricity cost has been increasing since 2015-16. The higher costs in 2017-18 could be mainly attributed to new buildings including the Administration building ($77,469 increase), Milne Street Pavilion ($13,786 increase), and Youth and Community Activities Building (YCAB) ($12,274 increase). Cost was again higher in 2018-19 despite 3% lower consumption. The highest cost increase was streetlighting, which is unmetered and therefore not reflected in consumption.

There were significant cost decreases for the Administration Building (-$34,968; 36%) and the GLC (-$19,366; 11%) in 2018-19 compared to the previous year. For the Administration Building, this can be attributed to the installation of a 100kW solar PV system. The reason for cost reduction at the GLC is unclear.

[1] Contestable sites are metered sites with an annual supply greater than 50,000 kWh, as defined by the Electricity (Licencing) Regulations 1991 (Contestable Sites). Supply of these sites can be offered for tender to the WA Wholesale Electricity market. Sites under this threshold must be supplied by Synergy.

Table 1. Electricity use profile for the City of Busselton 2018-2019.

Asset Description	Electricity Use (kWh)	Electricity Cost	Number of accounts
Single large assets:	**3,023,983**	**$ 655,162**	**36**
Geographe Leisure Centre*	979141	$ 164,250	1
Administration Building*	320271	$ 64,032	2
Busselton Jetty Tourist Park*	239676	$ 60,678	3
Busselton Library*	200311	$ 53,822	1
Busselton Regional Airport	182305	$ 42,410	2
Naturaliste Community Centre*	133467	$ 34,296	2
Barnard Park and Pavilion^	133467	$ 32,822	3
Busselton Depot*	112033	$ 27,632	2
Community Resource Centre*	102205	$ 25,623	2
YCAB & Skate Park (YCAB)^	98862	$ 25,739	1
Vasse Lakeview Entrance*	94307	$ 20,511	2
ArtGeo Complex*	85453	$ 20,116	2
Dunsborough Playing Fields*	82005	$ 18,695	3
Bovell Park*	63947	$ 10,393	1
Churchill Park	56426	$ 16,758	5
Interpretive Centre & Jetty lighting	49630	$ 13,299	2
Underwater Observatory	46080	$ 12,344	1
Railway House	44397	$ 11,742	1
Grouped & smaller assets	**506,274**	**$ 191,007**	**121**
Major POS/Reserves	143070	$ 44,856	16
City-owned street lights#	97894	$ 27,585	6
Community Buildings	63620	$ 18,778	10
Car parks, boat ramps, bridges	37748	$ 13,903	8
Bushfire sheds & pumps	29558	$ 16,719	18
Waste Facilities	28932	$ 8,231	2
POS, Reserves, Gardens	25994	$ 33,027	41
Toilets	22340	$ 11,141	10
Butter Factory	14714	$ 4,934	1
Barnard Park Tennis Club (new)	12412	$ 3,607	1
Animal Pound	11572	$ 3,400	1
Lou Weston Oval and Netball Pavilion	11081	$ 2,808	1
Cemeteries	4354	$ 2,780	3
Old Donga City	2985	$ 2,487	3
Sub-total City Assets	**3530257**	**$ 846,169**	**157**
Street Lighting	**(unmetered)**	**$ 850,703**	**2**
Total	**3530257**	**$ 1,696,872**	**159**

*Contestable sites. These are for single accounts with the exception of Busselton Jetty Tourist Park, for which all 3 accounts are contestable.
^Sites that meet the threshold for contestable sites but are not included in the current Energy Sales Agreement.
#Only includes accounts that have been identified as solely used for street lighting or whose proportion of electricity used for street lighting is known.

Figure 3. Proportional electricity consumption by the City of Busselton for 2018-19, excluding street lighting. Shows all single assets and asset groups with ≥1% consumption. Number of accounts included for each asset/group shown in brackets.

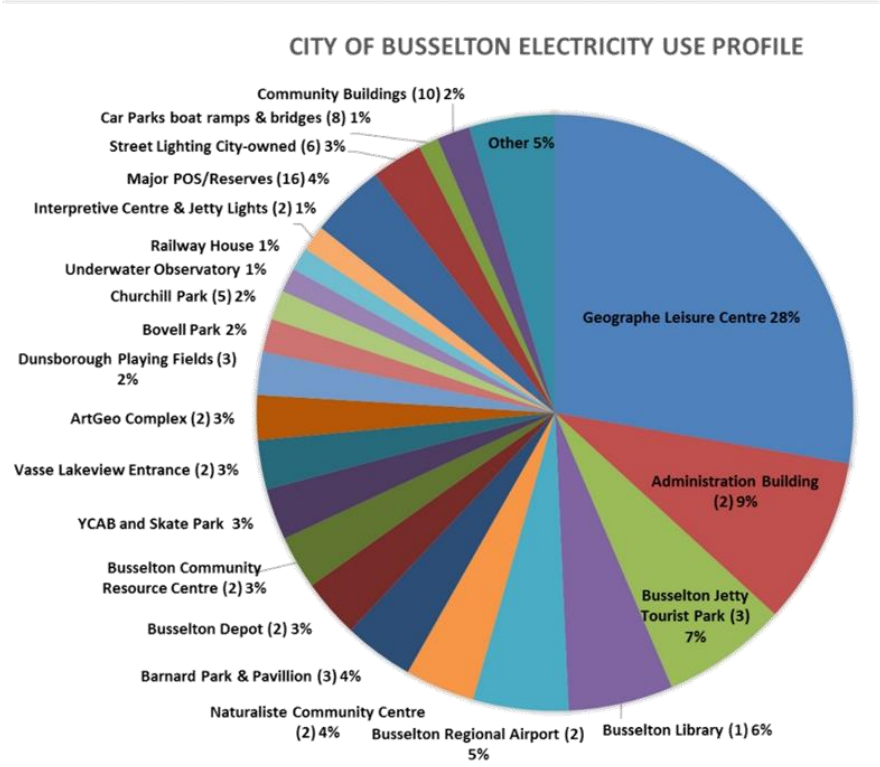


Figure 4. Energy use and cost for financial years 2014-2015 to 2018-19.



2.1.2 Street lighting

Western Power owned street lighting

Western Power street lighting costs a similar amount to the annual asset consumption ($850,703 in 2018-19), but this is an unmetered tariff with no consumption data available. Costs are based on the number and type of lights installed. The City currently has 4,897 streetlights (Mar 2019), comprising of Mercury Vapour (80W, 125W, 250W), High Pressure Sodium (70W, 150W, 250W), Metal Halide (70W, 150W, 250W), Compact Fluorescent Light (42W) and LED (22W). The City holds one main account for street lighting (Synergy account 620324270) and one minor account for 30 decorative lights at Keel Retreat, which contributes 0.2% of total cost (Synergy account) 506847610.

As noted, street lighting had the greatest cost increase in 2018-19, up 6% from $799,767 in 2017-18. Street lighting costs can be expected to continue to increase along with development in the City of Busselton.

City-owned street lighting

The City owns and maintains street lighting in the following areas:

- Dunsborough CBD, including Dunn Bay Road, Cyrillean Way, Hannay Lane, Seymour Boulevard, Naturaliste Terrace , Lions Park and Dugalup Brook reserve;
- NCC access road;
- Cape Naturaliste Road;
- Busselton CBD, including Queen street, Kent Street, Duchess Street, Prince Street and Marine Terrace (east of Queen Street);
- Busselton Foreshore including Foreshore Parade and Jetty Way; and
- Port Geographe, including Layman Road, Freycinet Drive and Keel Retreat.

For the purpose of accounting electricity use for City-owned street lighting, only those accounts that have been identified as solely used for street lighting or whose proportion of electricity used for street lighting is known have been included. These amounted to 86MWh and $25,696Table 1(Table 2), which is equivalent in cost to 3% of Western Power owned lighting.

Table 2. Summary of City-owned street lighting (currently identified).

Location	NMI	Consumption (kWh) 2018/19	Cost 2018/19
Mitchell Park – 29 Prince St (67%)	8001019184	17,748	$ 7,186
Signal Park (50%)	8002304400	3,974	$ 1,871
Port Geographe	8001452577	20,709	$5,797
Dunsborough Town Centre	8001167156 8001157795 8002076474	43,511	$10,842
Total for known City-owned street lights		**85,942**	**$25,696**

Car parks, boat ramps and bridges have been identified by staff as primarily lighting assets, and these consumed 37748 kWh in 2018/19 at a cost of $13,903. It is not currently possible to account accurately for the electricity used for the remainder of City-owned street lighting as these meters are also used for park/security lighting and water pumping, which is likely to be significantly more.

2.1.3 Existing renewables

The City has 133.9kW of existing rooftop solar installations (Table 3). The earlier PV systems were small and mainly installed to demonstrate best practice and leadership in sustainability (as opposed to reducing electricity costs). Rooftop solar installations now make good financial sense with relatively short-term payback periods (2-5 years) and significant long-term cost savings.

Current rooftop solar installations produce an estimated 195,074 kWh of renewable electricity per year or the equivalent of 6% of the City's electricity use (excluding unmetered streetlighting). The City's solar electricity is currently estimated based on a general kWh/kW/annum assessment developed by the Clean Energy Council. This will vary depending on the panels' orientation, any shading, panel/inverter performance, weather etc.

Table 3. City of Busselton's current rooftop solar installations.

Facilities	System size	Installation date
Geographe Leisure Centre	5 kW	2009
Naturaliste Community Centre	2.6 kW	2011
Community Resource Centre	3.5 kW	2012
YCAB	16 kW	2016
Milne Street Pavilion	6.8 kW	2017
Administration Building	100 kW	2018
Total	**133.9 kW**	-

2.2 Gas

Mains gas is used at the Barnard Park Pavilion, YCAB and the Busselton Visitor Centre (Railway House). Bottled gas is supplied to the Administration Building, GLC, Dunsborough Waste Facility, Busselton Jetty Tourist Park, Churchill Park, and the Meelup and Castle Rock barbeque areas. In total the City spent $21,443 and purchased 613,521 MJ of gas in 2018/19.

Table 4 City of Busselton gas consumption 2018/19

Site	Type	Consumption	Cost	Data source
Railway House	Mains gas	45,091 MJ	$2,511	Azility
YCAB	Mains gas	11,355 MJ	$563	Azility
Barnard Park	Mains gas	0 MJ	$164	Azility
GLC	LPG bulk	18,060 litres 451,500 MJ*	$13,820	Kleenheat
Admin. Building	LPG bulk	0	$0	Kleenheat
Dunsborough Waste Facility	45kg VAP CYL	2 cylinders 4,410 MJ^	$200	Kleenheat
Busselton jetty Tourist Park	45kg VAP CYL	16 cylinders 35,280 MJ^	$1,759	Kleenheat
	LPG bulk	1,577 litres 39,425 MJ^	$1,187	Kleenheat
Churchill Park	45kg VAP CYL	2 cylinders 4,410 MJ^	$236	Kleenheat
Meelup Beach BBQ area	45kg VAP CYL	7 cylinders 15,435 MJ^	$662	Kleenheat
Castle Rock BBQ area	45kg VAP CYL	3 cylinders 6,615 MJ^	$341	Kleenheat
Total	-	**613,521MJ**	**$21,443**	-

* Based on 1 L= 25 MJ ^ Based on one 45kg cylinder = 2,205 MJ

2.3 Fleet and Plant

A summary of fuel use and cost is provided in Table 5. In 2018-19, the City owned 117 light fleet vehicles, including 94 diesel and 23 petrol vehicles. These vehicles consumed 132,255 litres of diesel and 30,719 litres of unleaded fuel at a total cost of $236,884 (average $2,024 per vehicle). Light fleet accounts for 25% of the City's total fuel costs. The remainder of the City's fuel usage is predominantly diesel for trucks and major plant, with combined consumption of 494,441 litres at a cost of $714,816 in 2018-19. Lower-emissions diesel fuels included biodiesel and ultra-low-sulfur diesel accounted for a small fraction of diesel used (227L).

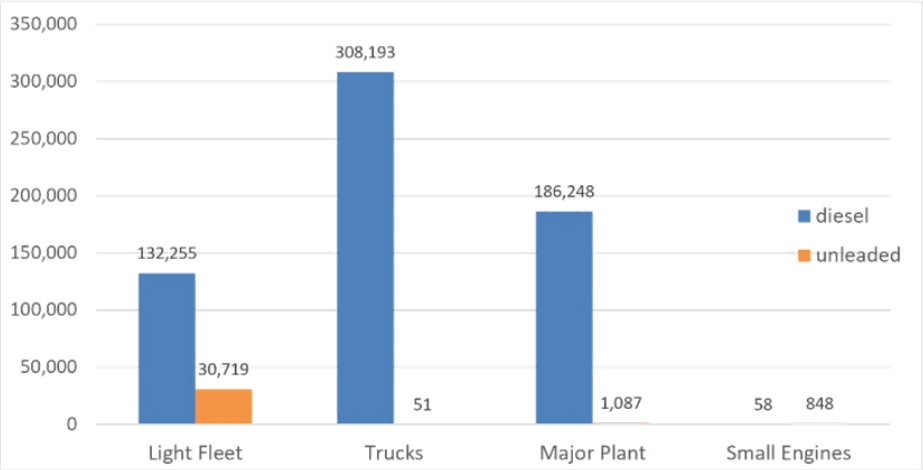
Fuel consumption and costs have been increased over the past three years, mainly owing to an increase in diesel consumption by major plant.

Table 5. City of Busselton's fuel consumption and cost summary 2016-2019.

	2016-17*	**2017-18**	**2018-19**
Light Fleet			
Petrol			
Number of vehicles	15	20	23
Consumption (L)	28,179	30,512	30,719
Cost	$32,335	$42,577	$44,085
Diesel			
Number of vehicles	95	87	94
Consumption (L)	143,376	140,219	132,255
Cost	$161,459	$192,199	$192,799
Light fleet cost per vehicle	***$1,761***	***$2,194***	***$2,024***
Trucks			
Number of vehicles	Not available	49	50
Diesel (L)	342,533*	325,594	308,193
Petrol (L)	3,913*	0	51
Cost	$628,511*	$437,432	$442,638
Truck cost per vehicle	-	***$8,927***	***$8,853***
Major Plant			
Number of plant	Not available	36	39
Petrol (L)	*	893	1,087
Diesel (L)	*	142,304	186,248
Cost	*	$195,054	$272,178
Small Engines			
Number of small engines	Not available	10	8
Petrol (L)	*	460	848
Diesel (L)	*	102	58
Cost	*	804	1,254
Total Petrol (L)	**32,092**	**31,865**	**32,705**
Total Diesel (L)	**485,909**	**608,219**	**626,754**
Total Cost	**$822,305**	**$868,066**	**$952,954**

*Includes fuel consumption and cost for trucks, major plants and small engines in 2016/17.

Figure 5. City of Busselton 2018/19 Fuel use (litres)



3 Targets

3.1 Energy Action Plan Targets

The City has previously set staggered greenhouse gas emission reduction targets as: *50% per capita reduction by 2015 and a 70% per capita reduction by 2020 in corporate emissions on 2006/07 levels*. (EAP 2014-2019).

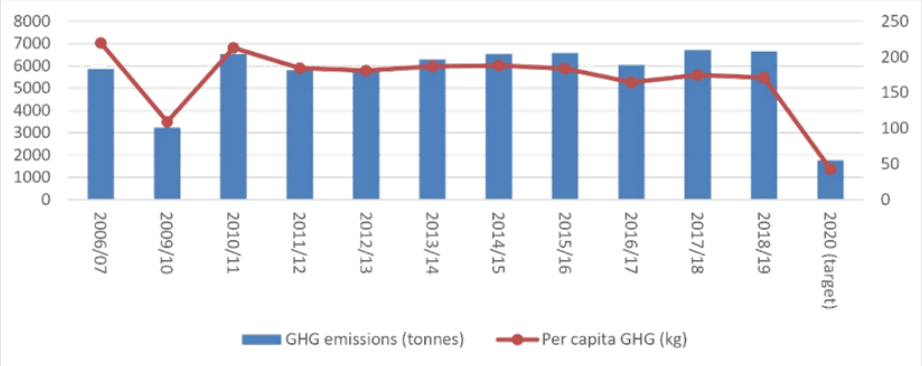
As part of the now defunct Cities for Climate Protection Program (CCP™), corporate greenhouse gas emissions were calculated using electricity, gas and fuel bills of all City's assets during the financial year 2006/07. This was considered the baseline. Energy use, costs and carbon emissions were reported to Council from 2009/10 until 2015/16, when it was decided to review the energy inventory reporting process as part of the preparation of the Energy Strategy. Corporate waste emissions from the disposal of Council-owned building waste to landfill were estimated in the absence of a detailed waste audit. (Figure 6).

The significant reduction in emissions in 2009/10 was mainly due to the purchase of accredited GreenPower, which was subsequently discontinued following Council's decision to invest in energy efficiency improvements instead.

2017/18 and 2018/19 GHG emissions were calculated used the Azility energy management software (emissions module). Emissions associated with Western Power owned street lighting were extrapolated from 2016/17 figures until they are included in the Azility online reporting platform. Reporting of waste related emissions also warrants further work to increase its accuracy. Consideration will need to be given as to the scope as to which waste related emissions are included in future energy inventories.

2018/19 per capita emissions were estimated to be 22.3% lower than the 2006/07 baseline. While this represents a good reduction in emissions, it still falls short of the previous targets.

Figure 6 City of Busselton per capita corporate greenhouse gas emissions 2006/07 to 2018/19.



3.2 Energy Strategy Targets

Most jurisdictions at all levels of government have committed to substantially reducing their emissions and sourcing their own energy needs from renewables through the adoption of renewable energy

and/or carbon emissions reduction targets. These have proven to provide impetus for increased action and allowed for monitoring progress when driving sustainability outcomes (Figure 8).

The following targets were developed by the Sustainability and Energy Working Group (SEWG):

3.2.1 To generate 100% of the City of Busselton electricity needs from renewable sources by 2030.

The global standard for leadership in climate change action is 100% renewable energy. The City through taking a 100% renewable energy pledge aims to become a leader in climate change mitigation. While there is no official definition of what a 100% renewable energy target means, it is usually interpreted as when the amount of renewable energy produced is equal to or more than what is consumed. The City would still be connected to the electricity grid as the intent is not to match current energy consumption with real time renewable energy supply, but using a concept called 'net use accounting' to balance yearly consumption by an equal amount of renewable energy generation (Albert B., 2017). The proposed target however specify that the renewable energy needs to be generated on site (i.e. within the City of Busselton).

As per the City's Energy Strategy Vision, this goal will be achieved through reducing energy use, improving energy efficiency and increasing the uptake of renewable energy, in particular solar energy. The proposed project to build a mid-scale solar plant on the Rendezvous Road site which would cater to all and more of the City's operational electricity needs is key to meeting this target (section Mid-scale solar). Should this project not go ahead, the City may need to review the wording of its renewable energy target to allow the purchase of renewable energy produced off site through government accredited GreenPower, LGCs or Power Purchase Agreements (PPAs).

3.2.2 To reduce City of Busselton corporate carbon emissions per capita to 50% on 2017/18 levels by 2030.

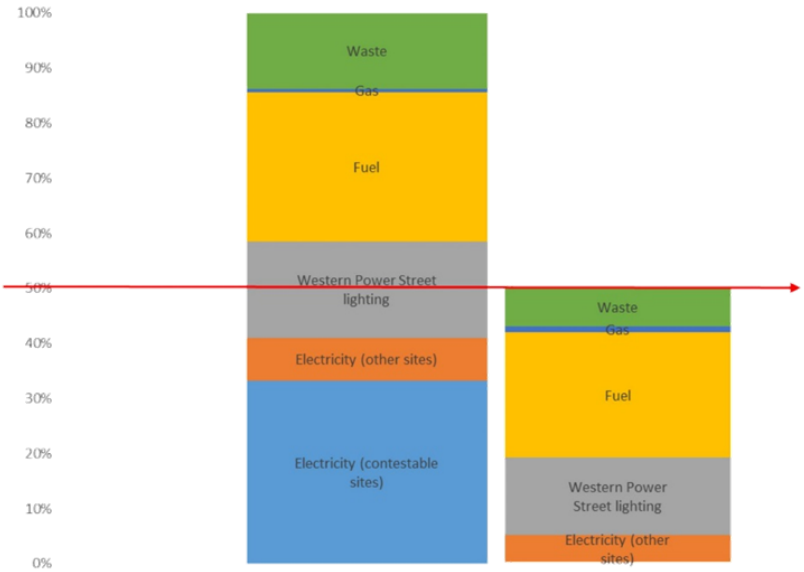
The City also has the desire to reduce its operational carbon emissions to achieve environmental outcomes and mitigate the impacts of climate change. A carbon emission reduction target also captures any progress made in other energy-related emissions such as transport fuels from fleet and plant and from waste deposited in landfill. The target only relates to carbon emissions from the City's operations and activities.

Previous energy inventories have estimated electricity related emissions for all contestable sites to be approximately 33% of all City's carbon emissions. A switch to 100% renewable electricity with the proposed construction of a mid-scale solar farm (in addition to further energy efficiency upgrades and increased rooftop solar uptake) should bring the City's electricity related emissions of contestable sites to zero. We can also expect reductions in non-contestable sites (approximately 8% of City's emissions) through energy efficiency upgrades and increased rooftop solar uptake. Overtime the Western Power owned street lighting portfolio which represents approximately 17.5% of the City's emissions will also become more energy efficient with the progressive installation of LEDs.

Fleet related emissions have been estimated to be approximately 27% of all City's emissions and we can expect some improvements over the next 10 years with the uptake of Electric Vehicles and alternative fuels for heavy plant. The increasing recycling trend and removing organics from the waste stream will also drive down waste-related emissions which have been estimated to be approximately 14% of City's emissions (from City's facilities only) (refer to Figure 7). These improvements coupled with any reductions in emissions intensity of electricity production (driven by the Federal Government carbon emissions and renewable energy targets) should allow the City to achieve a 50% per capita

emissions reduction by 2030. The proposed City's target is also in line with the Federal Government current climate change target of 26-28% emissions reduction on 2005 levels by 2030, which represents a 50-52% reduction in emissions per capita between 2005 and 2030.

Figure 7 Achieving a 50% carbon emissions reduction target



While more and more governments are moving to zero net emissions targets, including the WA Government, the City still has an ongoing reliance on fossil fuels for fleet and plant, limited control on street lighting and significant emissions from legacy waste disposal. The suitability of a zero net emission target will need to be reviewed and may be suitable for the next phase of the Strategy. The target may also need to be reviewed if significant sections of the City's operations are contracted out which would result in some carbon emissions becoming scope 3.

3.2.3 Develop efficiency targets for fleet and plant by 2025.

It is still considered too premature to set specific targets for the Fleet and Plant sector. This will need to be reviewed once we have a more thorough understanding of feasible options and as new technologies continue to emerge. A possible fleet reduction target could be an emissions intensity target or the uptake of electric vehicles over time. In the meantime any reductions in fleet energy use will be reflected in the overall carbon emissions reduction target.

Strategic Action 1: Continue subscription to Azility Carbon Emissions Reporting module (or equivalent) to allow tracking of progress towards the carbon emissions reduction target.

Figure 8 Ambitious climate change commitments by Australia's states and local governments, 100% Renewables Ltd.'s blog (October 2019)

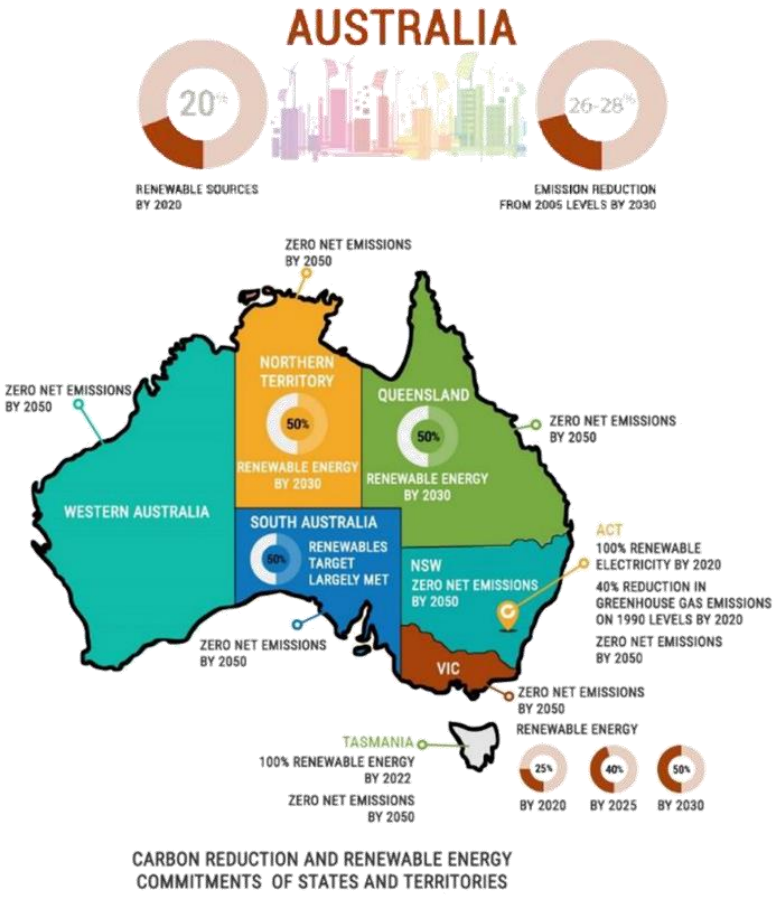


Table 6 Examples of targets set by other LGAs across Australia

State	LGA	Target
Western Australia	City of Perth	Reduce emissions by 20% by 2020 32% reduction in citywide emissions by 2031.
	City of Fremantle	100% renewable energy by 2025 Carbon neutral since 2009 Zero carbon for LGA by 2025.
	City of Mandurah	Carbon neutral by 2020.
	City of Bayswater	Corporate renewable energy target of 100% by 2030. Corporate GHG emissions reduction target of 100% by 2040.
Victoria	City of Melbourne	100% renewable energy from 2019 Carbon neutral from 2012 Net zero emissions for the LGA by 2050

	City of Port Phillip	Zero net emissions by 2020
	City of Greater Bendigo	100% renewable energy by 2036
	City of Moreland	100% renewable energy y 2019 Carbon neutral for operations since 2012 Zero carbon emissions by 2040
New South Wales	City of Sydney	100% renewable energy for Council operations by 2021 Carbon neutral from 2008
	City of Willoughby	By 2028 emit 50% less GHG emissions from operations compared with 2008/09 Achieve net zero emissions by 2050
	City of Lismore	Self-generate all electricity from renewable sources by 2023
	Shire of Eurobodalla	100% renewable energy by 2030
Queensland	City of Brisbane	Carbon neutral since 2017
	City of Gold Coast	Carbon neutral by 2020
	Shire of Noosa	Net zero emissions by 2026
	City of Sunshine Coast	Net zero emissions by 2041.

Information extracted from 100% Renewables Ltd.'s blog (October 2019). For a more comprehensive list of targets set by LGAs across Australia, refer to https://100percentrenewables.com.au/ambitious-commitments-local-governments-2019/

4 Delivering Energy Savings

The City will work towards its vision and energy targets through reduced energy use, improved energy efficiency, energy production, behavioural changes and improved monitoring and reporting. Potential projects are grouped into the following categories:

1. Monitoring and reporting
2. Efficiency upgrades to facilities
3. Leased sites
4. Design/Procurement for new facilities
5. Public lighting
6. Rooftop solar
7. Mid-scale solar
8. Waste
9. Mobile energy (Fleet and plant)
10. Behavioural and organisational change

Given that the City's current objective is not to become carbon neutral, it is not recommended for the City to invest in voluntary carbon offsets, whether through purchasing accredited GreenPower, Renewable Energy Certificates (RECs) or green power via a PPA.

4.1 Monitoring and Reporting

OBJECTIVE	To implement an integrated monitoring and reporting system, which fosters collaboration and accountability and is fit-for-purpose.

4.1.1 Energy use and cost monitoring and reporting

"You can't manage what you can't measure".

While the City has a desire to improve its energy efficiency and achieve the optimal level of ongoing significant energy savings it currently also lacks the ongoing measurement and monitoring system required to achieve the optimal outcome (Yeoman, 2018).

The City will monitor and report on energy use and cost from all energy intensive activities and assets, including all City's facilities such as libraries, leisure centres, work depots, administration buildings and community halls; public lighting including street lighting, sports lighting and park lighting; water pumping for irrigation; and fleet and plant such as light vehicles, rubbish trucks, loaders and small machinery and equipment.

Monitoring and reporting energy use and cost has the following benefits:

- Quantifying savings from sustainability projects;
- Identifying priorities for investment;
- Detecting performance anomalies; and
- Building Senior Management and Elected Members' support for energy initiatives.

The purpose of monitoring and reporting energy use and cost can be broken down into the following three streams:

- Operational management: to reduce energy use and costs of City's facilities.

- Communication and community engagement: to build support and engage with Councillors, City staff and the community on energy management.
- Revolving Energy Fund: to track energy savings of projects to management financial funds used to finance sustainability projects (section Revolving Energy Fund).

The City used to annually report to the Council on energy use, costs and greenhouse gas emissions using a process developed in-house. The City recently subscribed to the Azility (ex-Planet Footprint) online reporting platform with a view to streamlining the monitoring and reporting process. This will be used to report to Council and Senior Management on energy use and costs (and carbon emissions as per the target).

Strategic Action 2: Report to Council (annually) and Senior Management (quarterly) on energy use and costs.

However it is important this information is also regularly made available to facility managers so that they can manage energy use at the facility level. Facility managers also need to be made aware of anomalies in energy use in a timely fashion to give them the opportunity to investigate and rectify the issue(s).

Strategic Action 3: Send weekly facility-based energy benchmarking reports and set up usage anomalies alerts for relevant facility managers (as per table below).

Table 7 Energy use benchmarking reports for facilities

Facility	Officer
GLC	Recreation Facilities Coordinator
NCC	Recreation Facilities Coordinator
Library	Library Services Coordinator
Depot	Manager Operations Services
Administration Building	Facilities Maintenance Coordinator
Airport	Airport Operations Coordinator
Foreshore	Foreshores Supervisor

The current billing cycle means that information on electricity usage is provided retrospectively, on a monthly or quarterly basis and per meter. There is usually one meter per facility but sometimes one meter caters for several assets. This lack of detailed information significantly impacts on facilities managers' capacity and accountability to proactively manage energy use at various facilities. The use of sub-metering and smart meters which record real time data provides much finer detail which would allow better analysis and management of energy use.

Building Management Systems (BMS), which are computer-based control systems installed in buildings that control and monitor the building's mechanical and electrical equipment may be appropriate for the City's largest and more complex facilities. This is an important tool in measuring and identification of areas to improve building energy efficiency. This matched with building occupant training can have a significant impact on the success of energy efficiency measures. When recommending more intensive energy monitoring, there is a need to be mindful of the expected

objectives and resources required. The following facilities have been earmarked as benefiting from more intensive energy monitoring:

Table 8 List of facilities and monitoring equipment recommended

Facility	Monitoring equipment recommended
Geographe Leisure Centre	BMS (or other logging system), sub-metering, data-logging
Administration Building	BMS (or other logging system), sub-metering, data-logging
NCC	Sub-metering
Busselton Library	Sub-metering

Strategic Action 4: Prepare an energy monitoring equipment strategy outlining priority recommendations for installing sub-metering, data-logging and BMS at key City's facilities.

4.1.2 Solar Monitoring and Reporting

PV solar arrays require real time monitoring to detect reduction in generation and fault and help identify whether and when additional generation capacity is warranted (Yeoman, 2018).

The most efficient way to monitor the performance of solar systems is through the installation of smart monitors which provide live reading of electricity used, produced or exported to the grid and financial savings. Smart monitors also allow the timely detection of faults or underperformance.

The Administration Building solar panels are currently the only system equipped with a smart monitor. It is recommended all existing and new solar systems are equipped with smart monitors. The monitoring systems should be linked to the City's online Energy platform Azility to allow for whole of energy portfolio monitoring and reporting.

A City staff should be allocated responsibility to monitor and report monthly on all PV generation as part of ongoing regular energy monitoring and management.

Strategic Action 5: Install smart monitors on all PV systems, both existing and new.

4.1.3 Community Reporting and Engagement

Relevant information from the City's energy monitoring system can be used to raise community's awareness on how to reduce energy use and increase the uptake of renewable energy. This may include presenting up-to-date and interactive information to the community (via the website or display screens located at key facilities) on the City's achievements with regards to energy use and generation.

Strategic Action 6: Report to the community as opportunities arise on the City's energy use, solar energy generation and implementation of energy projects.

4.1.4 Projects Monitoring and Reporting

While most energy efficiency projects provide sufficient information to justify their implementation, it has proven difficult to assess success or otherwise of various projects and actual energy and financial savings. The lack of a detailed monitoring system (including sub-metering and BMS) prevents the

monitoring and quantification of the effectiveness of implemented energy efficiency projects (Yeoman, 2018).

Projects monitoring and reporting occurs prior to the project being implemented to demonstrate that it provides best value for money and after the project has been implemented to demonstrate that it achieved what it was set out to do.

When considering implementation of energy projects, consideration should be given to total lifecycle costs and whole of business benefits. While up-front costs for more energy efficient options may be higher, lifetime operating costs, including operation and maintenance are often lower. There may also be a range of non-related financial benefits (i.e. reduced maintenance costs, improved performance).

Energy monitoring requirements need to be considered at the onset of a project to facilitate project-specific energy reporting. Consideration also needs to be given to any changes to facilities (new/added infrastructures or use/management change i.e. operating hours).

It is recommended a Project Business Case is prepared prior to energy projects being implemented. As a minimum the following information should be provided:

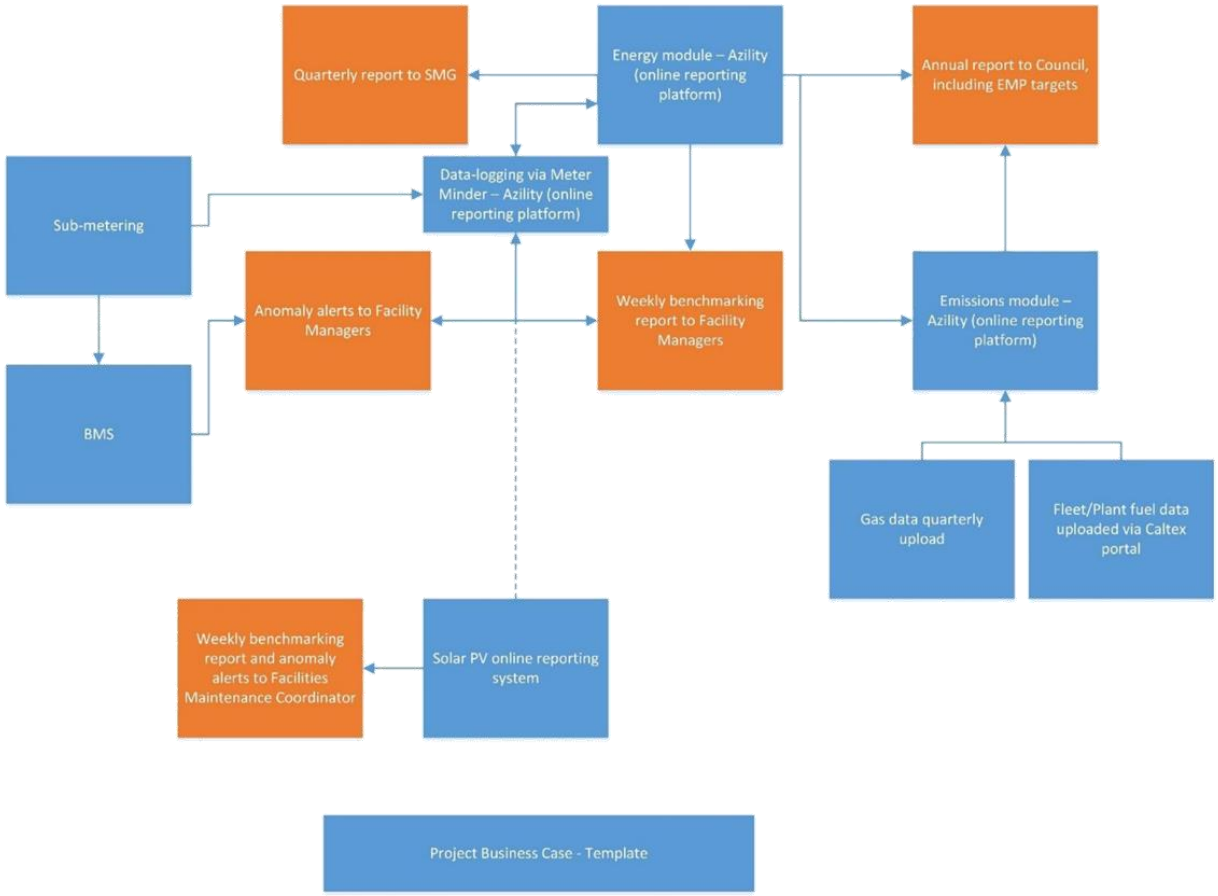
- Implementation cost
- Date implemented
- Payback period. More sophisticated evaluation methods may be required for larger projects such as net present value (NPV), internal rate of return (IRR) and Levelised cost of electricity (LCOE) (Albert, 2018)
- Estimated annual financial savings
- Annual GHG savings
- Other business benefits
- Energy monitoring requirements (if applicable).

This will allow actual performance to be compared with business-as-usual performance.

Strategic Action 7: Develop a Project Business Case template for energy projects.

Through the City's participation in the Cities Power Partnership, access is provided free of charge to the Projects module of the Azility platform to record and track savings from energy projects. All new energy projects implemented by the City should be uploaded onto the platform.

Figure 9 Integrated Energy Monitoring and Reporting System



4.1.5 *Precinct auditing and analysis*

Further to information provided for each project type, there has been an identified need for an audit and efficiency assessment in the following precinct areas:

- Busselton Foreshore area
- Dunsborough Playing Fields
- Vasse Entry Statement

This would:

- analyse energy use by various facilities;
- identify future energy uses and assess capacity;
- review adequacy of existing sub-metering;
- identify energy efficiency and renewable energy opportunities; and
- assess pump station use and opportunities for improving efficiency through SCADA or similar.

Strategic Action 8: Undertake an audit and efficiency assessment of key precinct areas, including the Busselton Foreshore, Dunsborough Playing Fields and Vasse Lakeview Entrance.

4.1.6 *Contractual improvements*

Account review

A number of electricity and gas accounts have been identified as having no usage. If they are deemed not required, the City should request disconnection from the utility supplier and save on unnecessary account charges.

Strategic Action 9: Review accounts with no energy usage (electricity and gas) and disconnect if no longer required.

Tariffs analysis and management

The City is currently on on/off peak energy charges for contestable sites. Without reviewing interval data, available upon request by the electricity provider or through smart meters, we do not know whether it would be better to have anytime tariffs instead. We also cannot look at how we are optimising power use by running power during off peak periods as much as possible. Furthermore, we cannot readily assess rooftop PV outcomes without knowing daily use profiles.

Strategic Action 10: Undertake a review of the City's electricity tariffs and implications for energy costs.

4.2 Efficiency upgrades to facilities

OBJECTIVE	To progressively and proactively increase the energy efficiency performance of the City's facilities portfolio.

The focus of the Energy Action Plans has been on improving the energy efficiency of City's facilities. For a full list of energy efficiency upgrades implemented, refer to Appendix 2. Most of the recommendations for efficiency upgrades to City's facilities in this Energy Strategy are based on the *Energy Opportunities Analysis and Prioritisation report* (Yeoman, 2018). These potential projects can be broadly grouped as:

- Lighting upgrades (short & long term)
- Equipment upgrades (short & long term)
- Voltage optimisation

Major redevelopment or additions to existing City buildings, which will include a broader range of energy efficiency measures tailored to each project is addressed in the Design/procurement for new facilities section.

4.2.1 Lighting upgrades

LED are installed in many facilities, with the whole of the GLC having been converted and all new buildings featuring LED lighting including the Administration Building.

The replacement of faulty bulbs with LEDs in all remaining facilities should be standard practice as this usually has a payback period of between two and three years. The modern LED bulbs also have a much longer life, saving on maintenance costs. In some instances there will be a benefit in early replacement of existing lighting with LED (prior to them failing).

Strategic Action 11: Replace all lights due for replacement with LED.

Strategic action 12: Review all existing lighting in City's facilities to identify opportunities for LED replacement.

Strategic Action 13: Review and upgrade lighting to LED at the NCC, Busselton Library, Depot and Busselton Tourist Park.

4.2.2 Equipment Upgrades

Most of these recommendations will require more detailed feasibility studies before deciding whether to progress their implementation. For further detailed and information on these recommended upgrades, refer to the *Energy Opportunities Analysis and Prioritisation report* (Yeoman, 2018).

Table 9 2018 Efficiency recommendations for key City facilities (Yeoman 2018)

Facility	Efficiency Recommendations
Administration Building	Address HVAC design flaws (4 options)
GLC	Reengineer air handling system
	Gas-boosted solar thermal pool heating and hot water system – feasibility study first
	Variable speed drives for filtration pumps - feasibility study first
	Long term installation of more efficient pumps, motors, filters

NCC	Level 3 audit and review of HVAC, prior to replacing old units with a better system
	Timer for bore pump
Library	Check double metering issue – appears that 2 meters read the same consumption
Depot	Replacement of old inefficient air-con units

Strategic Action 14: Implement efficiency recommendations for key facilities from the Energy Opportunities Analysis and Prioritisation report (Yeoman, 2018).

When the City undertakes significant works to existing facilities, the viability of replacement of glazing and insulation with higher performing options will be considered in the context of overall building performance and potential energy savings. New buildings and facilities will include high performance glazing and insulation where this is demonstrated to have a direct benefit in lowering operational energy costs and achieve a viable payback period.

Strategic action 15 Investigate building improvement opportunities (e.g. glazing, insulation) that can be implemented as part of the City's annual asset maintenance and renewal program.

4.2.3 Voltage Optimisation and Power Factor

Often the supply voltage maintained by the network operator is higher than the optimum operating voltage required for most of the equipment in a building or facility, and there can be significant scope to reduce energy consumption by optimizing the voltage level. When incoming voltages exceed the required equipment voltages, energy gets wasted in the form of heat. This results in wasted costs and potentially reduces the lifespan of electrical appliances. In effect, 1% of voltage increase leads to 1% increase in energy consumption and 1.7% or more increase in reactive power consumption (depending on load types and power factor). Equipment manufacturers and implementation experience suggest that the technology can reduce electricity consumption and carbon emissions on average by 12-15%[20] especially if they include power conditioning to reduce harmonics and power factor losses. Voltage optimisers not only reduce the energy consumption of the building but due to lower, more stable voltage reduce maintenance requirements and extend the life of the equipment (Yeoman, 2018).

Power logging at the GLC and at YCAB meter (Jetty Precinct) indicates very high grid supply voltage and thus potential for energy (and cost) savings through installation of voltage optimisers. For the GLC this would likely achieve savings of 15%. For other sites it is less clear. Equipment suppliers usually undertake business case/feasibility studies at no, or little charge on the understanding that they would be engaged to install the equipment if the business case is sufficiently good to warrant installation.

Strategic Action 16: Undertake supply voltage business cases for suitable City's facilities and implement voltage optimisers if installation is warranted.

The Power Factor (PF) reflects energy use efficiency in terms of conversion to useful output. A PF of 1 is perfect, and anything less reflects wasted electricity. Consumers can be charged power factor penalties if the power factor is too low. Low Power Factor has been recorded at the GLC. If the City can implement power factor correction (as part of installation of voltage optimisers) before the electricity supply tariffs are due for renewal or state they will implement this shortly thereafter, they could earn a cheaper electricity tariff

Strategic Action 17: Investigate power factor correction (in parallel to voltage optimisation) to secure reduced electricity tariffs.

4.3 Leased Sites

OBJECTIVE	To facilitate cost-effective energy reduction and production at all of the City's leased sites.

The City has many leased sites with many different arrangements including:

- Leases of whole building to single lessees – eg Dunsborough Football Club
- Leases of whole building to multiple tenants - eg CRC
- Leases of individual units within a complex - eg Winderlup Court
- Leases of land – eg Locke Estate and commercial leases
- Leases with shared facilities – eg Railway House, Butter Factory, Youth and Community Activities Building (YCAB)
- Short term licences and hire – eg Churchill Park Hall

The City has a number of leased sites for which costs are recouped. This is calculated by manual readings of sub meters and, where there are multiple tenants, splitting costs on an area occupied basis. Arrangements for payment of electricity costs include accounts held by and paid for by tenants; and accounts held by the city with variable cost recovery from 0 to 100%. Railway House (owing to multiple tenants and PV owned by Busselton Jetty Inc.,) and YCAB have been identified as two leased facilities which would benefit from data-logging. The Butter Factory Museum is not sub-metered and user groups get charged a certain percentage of electricity use. Data logging on oval lights and sporting facilities such as Barnard Park and other buildings where lessee occupies only a very small part would be beneficial.

Strategic Action 18: Undertake a review of leased sites to determine which would benefit from sub-metering and/or data-logging.

Leased sites are a special case because although opportunities for energy efficiency or renewable energy exist, the capital expenditure for this would not (all) be recouped over time through reduced energy charges, as savings would be made by the tenant (split incentive). This extends the pay-back period for investment, or in some cases there would be not payback for investment.

Solar leasing and solar PV Power Purchase Agreements (PPAs) may alleviate some of these issues and allow tenants to install PV systems and start reducing their energy costs and carbon emissions. Given the reduced payback periods for installing solar systems, down to 2-5 years depending on size of the system and electricity use patterns, there may even be a case for tenants to purchase solar systems up-front, in particular for longer-term tenants with greater energy use. Up to a dozen currently leased facilities may be suitable. The City may want to investigate how it can provide support, administratively and financially for this to occur, as it would achieve the triple objectives of reducing carbon emissions in the broader community, assisting community groups become more financially sustainable and potentially increasing the value of City's assets.

Strategic Action 19: Investigate opportunities for installing solar PV systems at City's leased facilities, either through promoting solar leasing and solar PV PPAs or up-front purchase.

4.4 Design/Procurement for new facilities

OBJECTIVE	To aim for lowest life cycle costs when designing and procuring new facilities.

The following future new buildings are planned as per the City's Long Term Financial Plan (LTFP):

- Busselton Entertainment and Cultural Hub (BEACH): New building. Consider solar glass concept, which could align with funding from Australian Renewable Energy Agency (ARENA).
- Lou Weston Oval Pavilion: demolition and replacement
- Yalyalup Oval Development: new building
- Churchill Park: upgrade
- Busselton Depot redevelopment

There are considerable opportunities, at much lower whole of life costs to implement high levels of energy efficiency and renewable energy when a building is at the design stage as opposed to retrofitting when funding allows. The same principles should apply to major redevelopments or additions to existing City's buildings, as well as establishing the status in lifecycle of these existing facilities and reviewing opportunities for renewal.

Consideration should be given to alternative financing mechanisms such as loan financing, equipment lease and Energy Performance Contracts (refer to section Other third-party financing arrangements) to increase the City's capacity to implement leading sustainability features at the design stage above and beyond its existing CAPEX budget.

Key to successfully integrating energy efficiency into development of new facilities is ensuring it forms a key part of design specifications from early in project development, and, somewhat more challenging, a capacity to increase upfront capital investment to achieve future operational savings.

The City is already integrating asset management with design of new facilities to better quantify benefits of higher upfront investment with mid to long term payback periods.

Strategic Action 20: Prepare a Design For New Buildings Policy (or similar) which sets the standard for energy efficiency and renewable energy for all new City buildings and major upgrades and investigate options for increasing upfront capital investment to achieve future operational savings. Use the BEACH project as a test case.

4.5 Public lighting

OBJECTIVE	To pursue 100% LED public lighting, via new installations or retrofits and advocacy where there is no operational control of lighting assets.

Public lighting includes the following:

- Western Power owned street lighting;
- City owned street lighting;
- Sports lighting, including sporting ovals, courts and skate parks; and
- Parks and other public lighting such as car parks, boat ramps, public toilets, cemeteries.

They each present unique sets of challenges and opportunities and are being presented separately in the Energy Strategy. However some recommendations, in particular with regards to better understanding how energy is being used will apply to public lighting in general.

4.5.1 Street Lighting – Western Power owned

Street lighting accounts for 50% of the City's electricity costs, with unmetered charges based on types of installed lighting and hours of operation. Streetlight charges include both consumption and maintenance, and there is a level of subsidisation for maintenance in regional areas, including Busselton, although the extent of this is not known. Costs vary for different types of lights, but accounts list only total cost for each type and not the numbers of each type, preventing comparison of costs. Street lighting is the largest single electricity bill received by the City, and is a vital community asset, yet there is little control over its operation as the infrastructure is owned by Western Power.

Street lighting efficiency can be improved greatly by converting luminaires to LEDs and incorporating smart controls that allow lights to be dimmed. Switching to more energy efficient street lighting has the following benefits:

- Economic benefits, including increased energy efficiency, decreased power bills, reduction in operation and maintenance costs. Total long term cost could be reduced by more than 50% (WALGA presentation 2018).
- Environmental benefits including a reduction in energy use and carbon emissions, mercury pollution and light pollution (well-designed LED application can address light trespass, glare and skyglow).
- Safety benefits, including improved road and personal safety.

Current street light bulbs are mostly inefficient, with 57% being very old mercury vapor and very low LED deployment thus far. Western Power has only recently introduced a full range of LED luminaires to cater for all lighting requirement categories and now routinely changes all failed luminaires to LED. This will over time lead to a higher percentage of LED in the Western Power street lighting portfolio. Clearly more action than this is needed to achieve significant benefits in a reasonable time frame.

The high costs of street lighting and lack of management control this is a situation common to all local governments in WA, prompting many to investigate opportunities to improve efficiency and reduce costs. Barriers to increasing street lighting efficiency include non-contestability, lack of transparency and misalignment of objectives (i.e. greater income generated from less efficient, shorter life-span bulbs). WALGA is supporting local governments to address barriers and increase uptake of more efficient public lighting. This includes:

- advocacy for regulatory reforms such as contestability of street lighting services and improved transparency and benchmarking;
- increasing the range of available LED luminaires;
- investigating potential transfer of ownership;
- developing a business case assessment model for LED bulk replacement; and
- investigating funding opportunities (WALGA, 2017).

Over time it is hoped that State Government commitment to addressing climate change will also help to overcome barriers to reduce power consumption by street lighting.

Currently the only option for significant change currently available to the City is to fund a LED bulk replacement of Western Power owned street lights in high priority areas to accelerate the changeover. Western Power has recently created a lower LED tariff to cater for these types of projects. No other local governments have so far taken up this offer as the economics are not yet favourable. It is therefore not currently recommended as part of this Energy Strategy.

A small number of trials are currently underway in the metropolitan area for smart controllers, mainly looking at light trimming (I. Duncan WALGA, personal communication, 15 October 2019). The Institute of Public Works Engineering Australia (IPWEA) has recently released a resource to assist local governments to develop a business case and guide decision making for changing to LED street lighting and smart controls (IPWEA, 2019). National Street Lighting and Smart Controls Programme (SLSC) aimed at accelerating deployment of LEDs and smart controls. It is recommended the City monitors development and implementation of smart controls to assess future potential application.

Strategic Action 21: Maintain a watching brief for opportunities to reduce Western Power street lighting costs.

Strategic Action 22: Investigate opportunities to reduce operating hours of street lighting (and use of smart and adaptive lighting) in selected areas to reduce energy use and cost.

4.5.2 City-owned street lighting

City-owned street lighting presents an opportunity for important energy and cost savings through conversion to efficient luminaires as the City has full operational control of the assets. Engineering and Works Services currently implements a program of replacement with more efficient LED globes. It is estimated 32% of the City owned luminaires (33% Busselton/28% Dunsborough) are currently LEDs, either through upgrades or new installation.

The following LED upgrades are planned for the 2019/20 financial year:

Table 10 LED upgrades of City owned street lighting (2019/20 FY)

Dunsborough	Naturaliste Terrace (Central) Cyrillean Way Dunn Bay Road Hannay Lane Seymour Boulevard
Busselton	Keel Retreat Queen Street (Cultural Precinct)

Once implemented this will bring the total percentage of City owned luminaires to 59% LEDs (54% Busselton/71% Dunsborough).

Strategic action 23 Upgrade the following City owned street lighting to LED: Naturaliste Terrace, Cyrillean Way, Dunn Bay Road, Hannay Lane, Seymour Boulevard, Keel Retreat and Queen Street (Cultural Precinct).

It is recommended 100% of City owned street lighting is upgraded to LEDs as soon as possible.

Strategic action 24 Develop a program to upgrade the remainder of City owned street lighting to LED.

It is currently difficult to identify priority for upgrades and quantify and track cost savings as most meters measure the electricity use of several assets, including non-street lighting assets (i.e. park/security lighting, water pumping). It is also unclear which meters measure which assets. There are also incomplete records of the City's street lighting assets and their condition.

Strategic Action 25 Complete a review of City-owned public lighting to identify all lighting infrastructure, associated meters, and opportunities for LED replacement.

4.5.3 Sports lighting

Lighting at sporting grounds and skate parks would use a considerably amount of electricity at these venues, but has not been quantified. Total electricity consumption by sporting facilities with a flood lighting component is very high (411MWh and almost $100k, Table 11), however the proportion attributable to these lights is not known. There is likely to be considerable potential for consumption and cost savings by using more efficient luminaires and managing lights more effectively. In some cases there may be justification for solar-battery systems.

Of these facilities, the YCAB, Barnard Park and Bovell Park were included in the energy opportunity assessment by Yeoman (2018). For YCAB, daily load profiles showed an obvious high level of consumption by the skate park and youth precinct flood lighting (Figure 10). The solar PV system results in almost no draw from the grid during the day, when there is little activity; but does not contribute to the energy requirement of the lights.

Barnard Park and Bovell Park also show load profiles which indicate evening consumption spikes associated with oval lights (Yeoman, 2018). They also show early morning spikes associated with irrigation. As for parks (see below), there may also be scope to reduce electricity consumption by pumps for these facilities.

Table 11 List of sporting venues

Sporting venue	NMI	Consumption (kWh) 2018/19	Cost 2018/19	Notes
Dunsborough Playing Fields	80020935976	70,642	$ 14,756	Skate park and ovals
	80019654952	11,648	$ 3,550	
YCAB	80022592881	86,178	$ 21,755	Includes skate park
Barnard Park Pavilion and Lights	80018347400	73,514	$ 18,345	35% recoup for Pavilion
Barnard Park Central and Western	80010123982	39,448	$ 8,251	Lights and Pump. Events recoup.
Barnark Park Tennis Club	80023119554	10,252	$ 2,965	
Bovell Park	80010189579	63,070	$ 10,167	Main oval paid for by Football Club. Ovals 2 and 3 paid for by the City.
Churchill Park	80019553997	36,946	$ 9,633	Oval and buildings

	80021868225	7,430	$ 2,449	Western oval
	80021868192	1,335	$ 968	Eastern oval
Lou Weston Oval	80015647827	10,781	$ 2,899	
Total		**411,244**	**$97,738**	

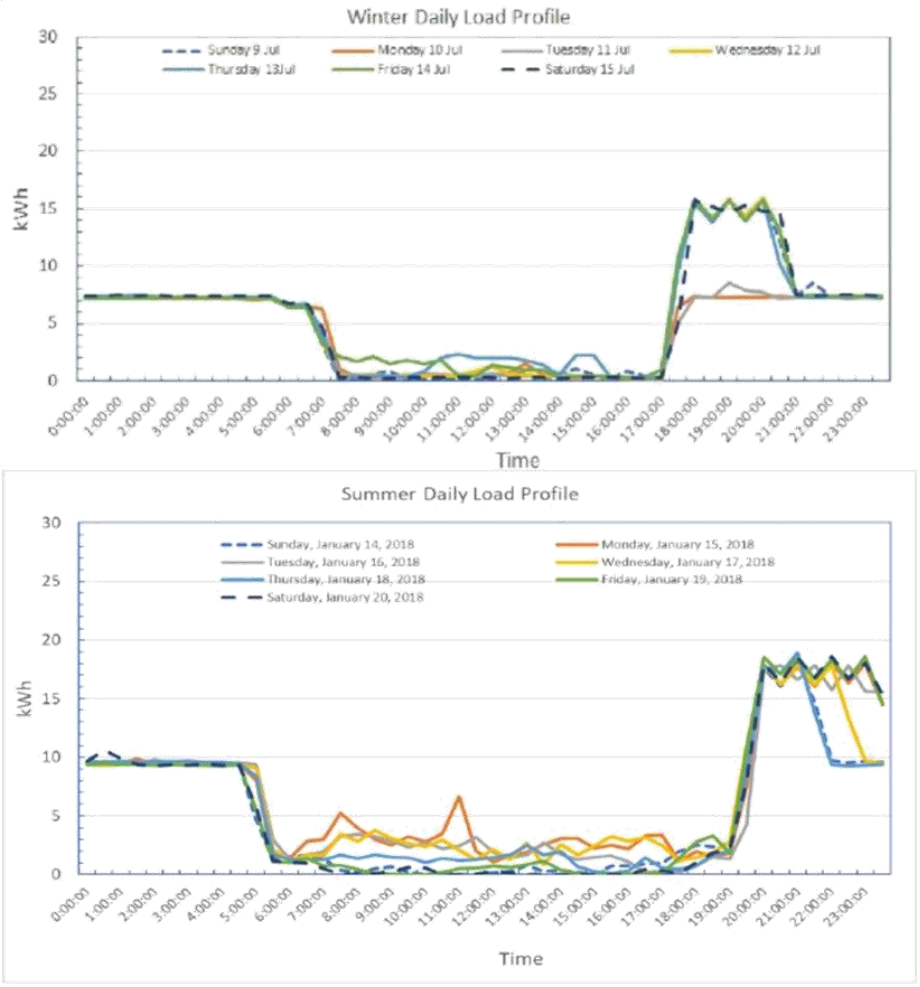


Figure 10. YCAB daily electricity load profile in winter (top) and summer (bottom).

Strategic Action 26: Commission a condition assessment of all sports lighting and make recommendations for efficiency upgrades and use of smart lighting.

4.5.4 Parks and other public lighting

Public lighting is a significant component of many public assets, such as public open spaces, car parks, boat ramps, toilets, cemeteries, etc. A review of City-owned lighting assets is needed, to better understanding public lighting to inform better energy management for these assets. In many cases for reserves, the main power use is likely to be lights and pumps. To determine the opportunities for

improved efficiency across public spaces, it is recommended that a prioritised assessment of lights and pumps is undertaken as a priority.

Strategic Action 27: Develop Public Lighting specifications.

Strategic Action 28: Commission an energy efficiency assessment of lights and pumps for key public open spaces.

4.6 Rooftop Solar

OBJECTIVE	To maximise rooftop solar systems on all City's facilities before the value of STCs significantly decreases.

For an outline of current rooftop PV systems, refer to 2.1.3 Existing renewables.

The following rooftop installations are planned for this financial year (Table 12).

Table 12 Recommended roof-top solar for priority installation

Building	System Size	Estimated payback period	Estimated cost	Estimated financial savings	Yield from solar Energy System
Busselton Depot	28kW	2.3 yr	$20,196	$8,618.66 (ex GST)	42,731kWh
NCC	40kW	2.4 yr	$30,177	$12,550.93 (ex GST)	58,981kWh
Busselton Library	40kW	2.5 yr	$30,177	$11,709.19 (ex GST)	57,759kWh
GLC	100kW	3.1 yr	$87,940	$27,750.68 (ex GST)	135,407kWh
Total	208kW	2.8 yr	$168,490	$60,629.46	294,878kWh

It is recognised that the Busselton Depot and NCC may be redeveloped in the mid to long term future. However given the short payback period of these installations it is still recommended to implement rooftop solar for these facilities.

Systems below 100 kW attract Small Scale Technology Certificates (STCs), which under a federal government program introduced under the Renewable Energy Act 2000, reduces the cost of buying a solar system. The deeming period for solar PV systems is decreasing every year until zero STCs will be created for new solar systems in 2030. There is therefore an impetus to install proposed PV systems as early as possible to start capitalising on electricity savings and make the most use of STCs.

With proposed rooftop solar installations, the City will produce an estimated 391,864 kWh per annum of renewable energy or the equivalent 11% of the City's electricity use (excluding unmetered streetlighting and based on Clean Energy Council kWh/kW/annum estimates).

Strategic Action 29: Implement all recommended rooftop solars in 2019/20.

Additional opportunities may arise for installing either new solar systems on other City's facilities or adding panels to existing systems as technologies and return on investment improve. These should be proactively identified and pursued where possible.

Strategic action 30 Pursue additional rooftop solar installations as opportunities arise.

Refer to the Solar Monitoring and Reporting section on page 27 for recommendations on the installation of smart monitors for PV systems.

Batteries

Solar batteries are currently too expensive for their financial return. This is expected to change within the next three years as the capital cost reduces and it is recommended that the City undertake a feasibility study at this time. A watching brief is recommended for installation of battery systems, with the YCAB a priority to address skate park lighting consumption.

Table 13 Recommended battery installation when the price reaches a suitable payback period (likely in 2020-2022) (Yeoman, 2018)

Site	*Battery kWh*
Administration Building	300
Naturaliste Community Centre	100
Busselton Library	200
Geographe Leisure Centre	300
YCAB	100
Bovell Park	150
Underwater Observatory (leased)	200

Strategic Action 31: Maintain a watching brief for installation of battery systems and undertake a feasibility study when they become financially viable.

4.7 Mid-scale solar

OBJECTIVE	To offset the City's energy use with renewable electricity generation, while achieving lower energy costs through the development of a mid-scale solar farm.

Implementing Rooftop solar (behind the meter) on as many City's facilities as practical is more economical than in-front of the meter renewable energy developments. This Energy Strategy therefore recommends to prioritise implementation of rooftop solar over the development of a mid-scale solar farm. However rooftop solar will ever only offset a set percentage of the City's energy use due to restrictions in roof structure, shading etc.

The City owns a parcel of land at 131 (portion of Lot 27) Rendezvous Road, Vasse. A portion of this land is currently used as a waste transfer station ("tip"), with the balance (approximately 17ha) considered suitable for development of solar infrastructure (Figure 11).

The Site is located in vicinity of a nearby Western Power transmission line with a capacity of 22kV. Western Power indicated that an application to:

- Connect the proposed solar installation at the Site to the Western Power Infrastructure; and
- Supply and sell up to 6.5MW electricity generated at the Site back to the grid,

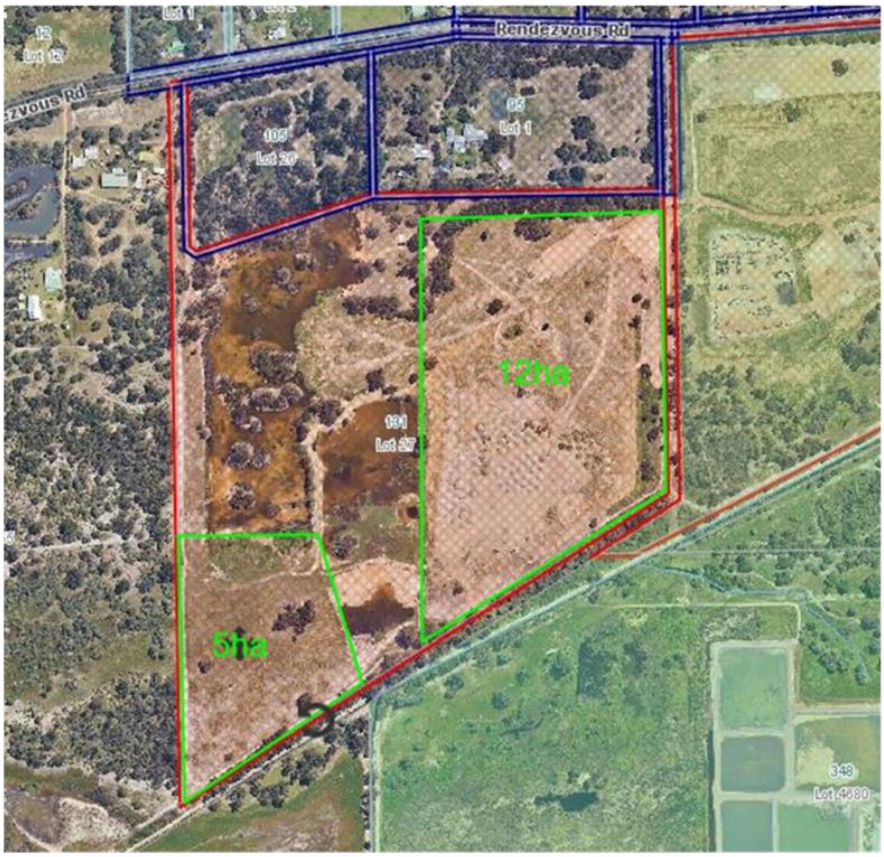
would be favourably considered. However this correspondence from Western Power does not guarantee approval of a future solar farm project at this site.

By developing a mid-scale solar farm, the City aims to achieve the following goals:

- Obtain lower cost energy for the City;
- Seek an alternative income source;

- Gain some reputational benefits by implementing a 'green' source for its energy needs; and
- Ensure internal renewables KPIs are satisfied;

Figure 11 Map of proposed solar farm site



The City recently issued an expression of interest (EOI) calling for interest in working with the City to build a 6.5 MW solar farm on part of the City-owned land at lot 27 Rendezvous Rd. In terms of the process, the Request for Expressions of Interest was an informal (non-statutory) EOI process (rather than an EOI run pursuant to the Local Government (Functions and General) Regulations 1996 that is aimed at making a preliminary selection from amongst prospective tenderers). Objectives of the EOI was to gain interest from the market and investigate concepts. Seven responses were received, which were thoroughly reviewed and included public presentations from a selected number of proponents. Capital costs for building a 6.5MWac solar farm ranged from $8-12 million plus GST.

In summary there are three commercial models that the City can use to develop this Project:

- the City can pay for the Project to be built and run (ie an EPC/O&M model); or
- the City can have an independent power producer build and operate the Project at its own cost, with a much lower capital contribution from the City (ie an IPP/development deed

model). City will need to enter into a long-term offtake arrangement, which arrangement will likely involve either:

- a long-term bilateral power purchase agreement with the Project owner who is also a registered Market Customer in the Wholesale Electricity Market (WEM); or
- a sleeved power purchase agreement negotiated with the Project owner and the City's electricity retailer.

- The City can enter into a Limited Liability Partnership with one or more partners to build the solar farm. Benefits of this approach include receiving a share of profits without commercial risk beyond its subscribed equity and without raising compliance issues under the Local Government Act (Conway Highbury 2019).

Initial investigations focused on a 6.5MW solar farm, however future size may vary depending on the City's projected electricity load, chosen business model and if electricity offtakers can be confirmed. A 6.5MWac solar farm would generate in the order of 9,400-11,500 MWh of electricity. This is four to five times the estimated demand for the City's contestable sites.

Further analysis was conducted to determine the optimal size of a future solar farm, with reference to the City's contestable sites and taking into account potential future growth. The analysis also included two of Busselton Water's contestable sites, as Busselton Water expressed an interest in partnering with the City on this project. The recommendation was to construct a solar farm with an inverter size of 2.5MWac with photovoltaic solar panels totalling approximately 3MW (to be optimised as part of a design process) (EPC Technologies, 2019).

There may also be benefits in running a private line between the proposed solar farm and some large energy users such as the GLC. This would avoid the many regulatory constraints and costs of connecting to the electricity network.

The next stages for implementing the Busselton Solar Farm project have been identified as follow:
1. Geotechnical investigation of the Rendezvous Road site;
2. Basic design of proposed solar development; and
3. Western Power Project Initiation Phase.

The Harris Road vacant land, owned by the City of Busselton[2] was also investigated as an alternative site for installing solar panels on shade structures when the public car park was to be developed. However the cost of providing the shade structures was found to be prohibitive for a solar farm to be cost effective.

Strategic Action 32: Progress investigations into developing a solar farm at Lot 27 Rendezvous Road.

[2] Lot 4, 5 and 10 Harris Rd and lot 6, 7, 181 and 181 Peel Tce, Busselton.

4.8 Waste

OBJECTIVE	To lower district-wide Greenhouse Gas Emissions overall by reducing the organic faction of waste being decomposed and exploring renewable energy generation as technologies become financially viable and sustainable.

4.8.1 Waste management and Resource Recovery

The City operates two waste facilities and manages approximately 30,000 tonnes of Municipal Solid Waste (MSW), from kerbside collections, Commercial and Industrial (C&I) waste, as well as domestic deliveries. Furthermore, the City manages approximately 10,000 tonnes of Greenwaste that has historically been incorporated in commercial composting systems located within the district.

The City's predominant waste disposal facility is the Vidler Road Putrescible Landfill (VRPL) site, where it owns and operates a Department of Environmental Regulation (DWER) licenced, Class II landfill that incorporates a liquid waste facility as well. With a facility lifespan in excess of 20 years, the newly built, lined cell is constructed to the Victorian Best Practice Environmental Management (BPEM) standards.

Additionally, Busselton's Rendezvous Road Transfer Station (RRTS), consisting of a recycling centre that operates as a community drop-off area for waste and recycling material, as well as a material transfer facility for the City's refuse trucks collecting MSW from the Busselton area. MSW and C&I waste deposited at the RRTS are loaded into triaxle, semi-trailers via a static compactor, for transport to the landfill site.

4.8.2 Landfill Gas Generation

Phasing out uncontrolled tip sites and upgrading other landfills to appropriately designed and operated facilities are the first necessary steps towards sustainable waste disposal practices. The City has transitioned towards better practice by closing the former tip site at Rendezvous Road in 2012, ceasing waste disposal into the unlined cell and constructed a lined, Victorian BPEM cell at the VRLF site in 2018. Next, operational practice improvements towards landfill gas (LFG) capture for potential energy recovery become the subsequent priority.

From the organisational perspective, one of the main sources of GHG emissions, aside from energy consumption, is LFG; a complex mix of Nitrous Oxide (N_20), Carbon Dioxide (CO_2) and approximately 50% Methane (CH_4), produced from the aerobic and anaerobic degradation of MSW at the VRPL. CH_4, which has a comparative impact more than 25 times greater than CO_2 over a 100-year period, is the largest source, accounting for 1 – 2% of total GHG emissions. If left uncollected, LFG not only contributes to atmospheric GHG, it may build up in pockets within the landfill, or migrate horizontally underground.

To minimise this lateral migration and gas escaping into the atmosphere, not only does the landfill have to be appropriately designed and lined, other infrastructure such as appropriately timed and spaced gas collection wells require installation, and operational practices have to be modified to align with CH4 gas production and collection. Then, the collected LFG may be used a fuel source in combustion by flaring the methane and other non-methane organic constituents, or in gas turbines for the production of electricity. Using the methane generated by the decomposition of in-situ waste

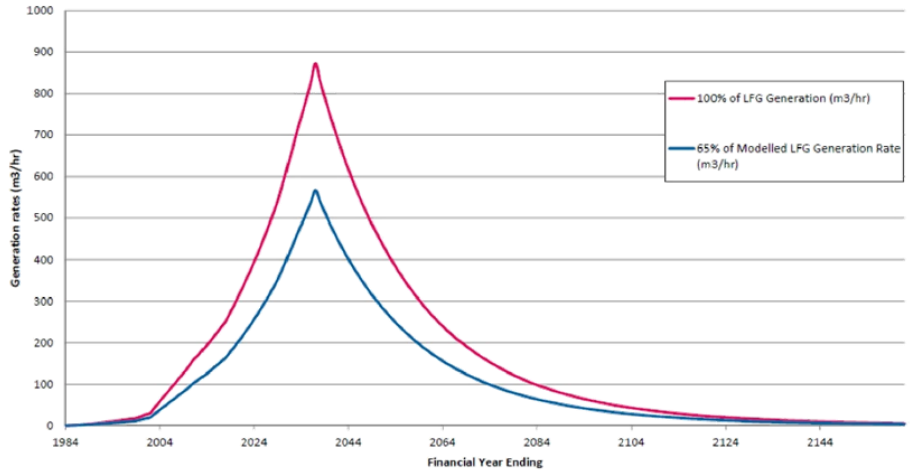
to produce energy is the best method of reducing GHG emissions. It also provides a more renewable alternative fuel source, in comparison to a fossil based one, such as diesel.

Although the foundation of any landfill gas generation project involves appropriate design and construction of the landfill infrastructure, a critical component in determining the project's actual viability is underpinned by the quantity and quality of LFG produced given the landfill's footprint, and if there is a consumer for the energy produced, as it equates to potential revenue, project design requirements and capital and operating costs. Other important factors to consider are cell configuration, in terms of landfilling operations to optimise generation and collection of LFG produced, related costs of capturing and pre-treating the landfill gas to make it suitable, and the commitments of the energy end-user.

In 2017, the City undertook a high level assessment of landfill generation profile for the VRPL. Consultants, GHD authored the report entitled "Dunsborough Waste Facility, Western Cape Drive, Naturaliste WA – High level feasibility assessment of electricity generation from landfill gas". The report modelled landfill gas generation and capture rate scenarios over the 20 year landfill site's lifetime and the consequent viability of different landfill gas powered electrical generation capabilities.

The LFG generation model developed for the site during the desktop study, indicated that between the year's 2035 and 2040, peak landfill gas generation rates of about 900 m3/hour were expected, as indicated in the figure below. However, the study concluded that there are significant uncertainties associated with the landfill gas generation and capture rates' potential, both on-site now, and into the future. While sufficient LFG may be collected from the site to support the operation of a 0.25 MW capacity engine on-site, the commercial uptake for a project of this small scale generation is unclear, and likely to be low (GHD, 2017).

Figure 12 Estimated Methane and Landfill Gas Generation Rates (m^3/hr)



The study further recommended a landfill gas pumping trial, to be undertaken for a 12 month period of to confirm actual volumes of landfill gas that may be collected from the site; to obtain data necessary to conduct a feasibility analysis for a landfill gas power generation project. At the time, the study recommended the trial commence in June 2018, to gain a reasonable understanding of LFG generated and obtainable.

When the City has sought quotes for such a trial, submissions in the order around $75,000 returned. Without a firm, beneficial energy user taking up the electricity produced, the decision was made to postpone the gas pumping trial until the years leading up to the peak generation periods. The City may then reconvene conversations with service providers on installing landfill gas turbines onsite to utilise the LFG in electricity generation.

4.8.3 Waste to biofuel

Around 10% of the world's primary energy consumption comes from bioenergy. Currently, bioenergy resources consist of residues from forestry and agriculture, various organic waste streams and dedicated biomass production from pasture land, wood plantations and sugar cane. A chemical conversion process converts this stored energy derived from organic material such as plant matter and animal waste, into Biofuel, more specifically ethanol and biodiesel. There are two main types of biofuels currently in production in Australia, bioethanol and biodiesel. Bioethanol is used in place of petroleum whilst biodiesel is used as a replacement for diesel, both entirely or blended (Australian Institute of Petroleum, 2017).

The figure below shows an existing biofuel facility in the Pilbara region of WA. It produces biodiesel and biodiesel/diesel blends from used cooking oil, collected from the region's mining camps and businesses, and is used for blast and drill operations, as well as in industrial, agricultural and chemical applications. Furthermore, the facility provides training opportunity for students and work experience, together and employment opportunities to individuals as well.

Figure 13 Existing biofuel facility in the Pilbara region of WA



The City previously engaged Green Values Australia (GVA) to undertake a preliminary assessment on the viability of constructing a Biofuels Facility to convert waste vegetable oil generated within the region, into biofuel. GVA's experience in developing biofuel systems particularly, uncovered two potential treatment options (or a mixture of both), that may be subject to a preliminary feasibility assessment, on the basis of reducing the City's reliance on hydrocarbon based fuel source for its Fleet, Plant and equipment.

Detailed analysis and viability trials would be required prior to switching across to this alternate fuel source, preserve the equipment manufacturer's warranty, and (or) to prevent premature engine failure. However, the study determined, based upon the 2017 data, that approximately 90,000 litres of waste is generated within the Busselton-Margaret River region per annum and a Biofuel production facility may even achieve a 3-plus year payback period, based on the following assumptions:

- 100% uptake of filtered waste vegetable oil for conversion into biofuels for use in power generation; and
- Sole use of biofuels in landfill operations plant and equipment (e.g. compactor, loaders, etc.) and 5% biofuel blend with 95% diesel for light vehicles.

Consequently, the two options worth considering include: –

1. In-depth analysis into the viability of constructing a biofuel facility to treat and produce biofuel; and

2. Treatment of vegetable oil to a quality consistent to operate power generators (Green values Australia, 2018).

4.8.4 Biological Waste Treatment for Energy Production

Biological Treatment, also known as Biochemical Conversion or Digestion; refers to the natural and simple process of breaking down organic waste into molecules by bacteriological action in the presence of Oxygen (Aerobic), or in the absence of Oxygen (Anaerobic). Generally, aerobic digestion produces compost, with the by-products of the decomposition being Carbon Dioxide (CO_2) and water vapour that is usually discharged to the atmosphere. Anaerobic digestion, in contrast, decomposes

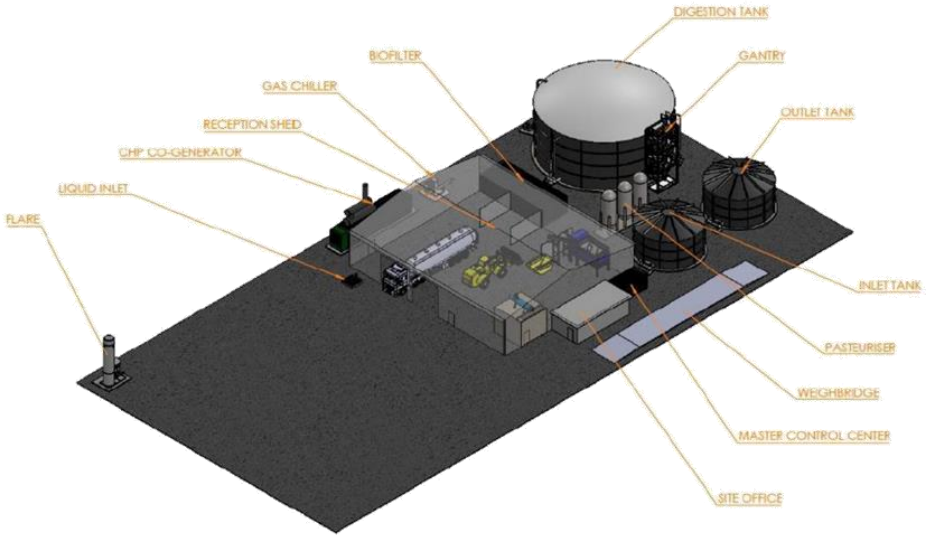
wet and green biomass to produce a mixed gas output of CH_4 and CO_2, known as "biogas", which can be used as a substitute for fossil fuels heating or to generate electricity.

Previously, the City obtained funding from the Waste Authority to undertake an extensive research project into identifying potential sources and quantities of organic waste material within the Busselton and Margaret River region, for use as feedstock in a Biological Waste Treatment facility. The study also undertook a preliminary concept design for such a facility, and a preliminary determination of its feasibility (EVA Environmental, 2018; Biogass Renewables Pty Ltd, 2019).

An initiative of the study, conducted in parallel to the feedstock analysis, was a trial to collect Food Organics and Garden Organics (FOGO) in Busselton. Done to ascertain the viability of recovering organic material from the Municipal Solid Waste (MSW) and C&I waste streams, the FOGO collection concept was to reduce the organic fraction found within these streams from entering and decomposing in the landfill to form CH_4. Consequently, Busselton pursued the recommendation and commenced the trial of collecting 700 FOGO specific bins in the residential locality of Provence, Yalyalup for the next few months.

The study has identified extensive opportunities for regional cooperation amongst the group to substantiate a procurement process for a private partner to deliver an organics recovery project from municipal and C&I streams. From the information provided, which included quantifying sources (and quality) of feedstock material, technical performance forecasts, such as potential bio-methane yields, amount of compost derived, the concept design and prospective gate fee, etc. regional waste management within the context of the South West Regional Waste Group may be progressed. In total approximately 77,000 tonnes, comprising just over 67,400 tonnes of organic material from C&I waste and just under 10,000 tonnes of FOGO, per annum, is estimated to be generated in the project area from sources that include, the tourism sector, agriculture (i.e. viticulture and dairy), liquid waste, Biosolids and sludge. Further, more detailed investigations into the logistics, training, infrastructure would be required as part of the detailed feasibility analysis.

Figure 14 Example of a Biological Waste Treatment facility



The study report provided a roadmap with the steps necessary to progress the project from feasibility, to design and development, through to eventual construction phase. The report contained information about engaging a private contractor or consortium to fund, build and operate a 35,000 – 50,000 tonne per annum food waste to bioenergy Anaerobic Digestion (AD) plant, capable of producing 2.4 – 2.6 MW. Modelled very closely on the West Australian specific, 2016 commissioned, Richgro Bioenergy Plant in Jandakot, the approximately $10 million facility combines organic waste recovery with energy production from biogas. Power generation associated with the implementation of an AD facility further reinforces the potential for micro-grid scale sites around the district, such as the former waste disposal facility at Rendezvous Road site, as potential hubs for V2G renewable energy production.

It also promotes a multi-industry approach to waste management by identifying opportunities to create an organic waste generator network that, through co-processing, can benefit the region with economies of scale whilst facilitating the implementation of innovative waste management technologies at the heart of the waste hierarchy and Circular Economy concept.

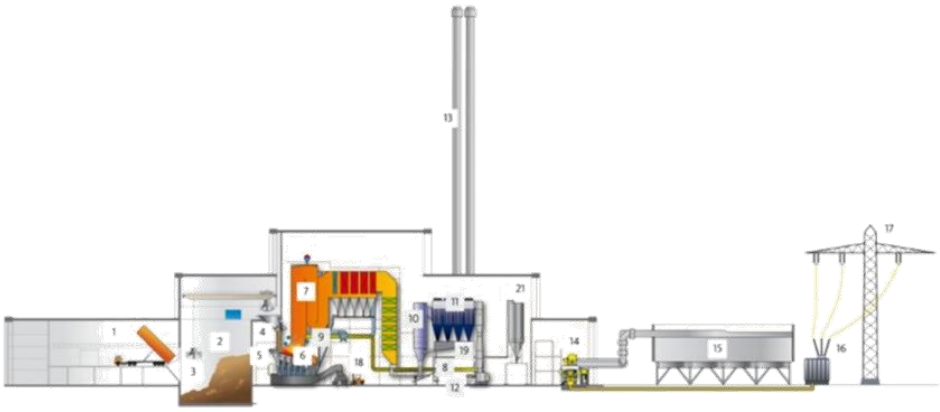
4.8.5 Thermal treatment of waste for energy production

Thermal technologies are processes that use heat to decompose waste into a stable, inert residue; with the main purpose of applying any form of heat to MSW, being overall volume and hazard reduction. In some instances, this process of utilising waste may provide energy and the recovery of certain material fractions from the residues, such as metals (if not separated beforehand) and minerals. Given the vast amount of energy channelled into these Waste-to-Energy (WtE), also known as Energy-From-Waste (EfW) facilities, energy recovered can be in the form of steam, heat and electricity (EPA, 2013).

There are a number of WtE technologies used worldwide, with the most common one being incineration. Incineration is the controlled combustion of waste in an oxygen rich environment, and include the recovery of energy. Used in the 2, upcoming Perth based, Kwinana WtE project and East Rockingham Resource Recovery Facility (RRRF), these 300,000 to 400,000 tonnes of residual waste per annum facilities work typically under a long (i.e. 20 year) waste supply agreement, and recover released heat in the form of steam to generate baseload renewable energy (Kwinana WTE Project Co Pty Ltd, 2015; New Energy Corporation Pty Ltd, 2018).

The Figure below shows a schematic of Hitachi Zosen Inova's Fluidised Bed Incineration system used in the East Rockingham RRF where flue gas treatment system consists of a scrubbing reactor, a bag filter and a catalytic reactor, to reduce the resultant flue gas emission concentration (Hitachi Zosen INOVA, n.d.).

Figure 15 Schematic of Hitachi Zosen Inova's Fluidised Bed Incineration system



Waste receiving and storage	Grate combustion and boiler	Flue gas treatment	Energy utilization	Residue handling
1 Tipping hall	4 Feed hopper	10 Semi-dry reactor	14 Extraction-condensation turbine	8 Bottom ash extractor
2 Waste bunker	5 Ram feeder	11 Fabric filter	15 Air cooled condenser	19 Boiler ash conveying system
3 Waste crane	6 Hitachi Zosen Inova grate	12 Induced draft fan	16 Trafo	20 Residue conveying system
	7 Five-pass steam boiler	13 Stack	17 Electricity	21 Residue silo
	8 Recirculation air			
	9 Secondary air injection level			

As the majority of incineration systems often require feedstock tonnages in excess of 100,000 tonnes per annum to be viable, WtE Projects form part of the market sounding exercise conducted by the South West Regional Waste Group. Led by the City, the project's aim is to harness economies of scale to minimise the costs associated with the investment and operations into achieving the State's per capita reduction targets and overall landfill diversion.

Strategic action 33: Incorporate all relevant recommendation or actions contained in this Energy Strategy into the review of any existing or new strategic waste documents.

Strategic action 34: Conduct detailed viability investigations into financially sustainable resource recovery systems that are modular and scalable.

Strategic action 35: Determine and make recommendations on progressing projects and initiatives that achieve the quadruple bottom line on sustainability.

4.9 Fleet and Plant

OBJECTIVE	To reduce reliance on fossil fuels through a combination of green procurement and investments into alternative fuel sources.

As battery technologies improve, electrical motors become more efficient, and the price of power storage reduces, more equipment manufacturers start investing into these advancements and reduce the reliance on fossil fuel sources. In the case of a lithium iron phosphate ($LiFePO_4$) batteries particularly, the uptake rate of more manufactures in recent years has steadily increased.

4.9.1 Fleet procurement and maintenance

During the fleet procurement process, the following factors are taken into account:

- Record based actual fuel consumption when comparing model updates for vehicles of the same make;
- Preferential rating for Plant and Equipment with lower fuel consumption, or alternative fuel sources;
- Preferential rating for Plant and Equipment that accommodate Euro VI emission standards, with a minimum being Australian Design Rules (ADR) compliant;
- A needs base analysis during replacement and turnover (e.g. if the replacement of a smaller plant is possible or if a larger plant than existing is required).
- Appropriate plant utilisation and charge-out rates;
- Adherence to the Long Term Financial Plan's plant replacement schedule for the Triple bottom line (i.e. to take advantage of technological advancements in engine efficiencies, improvements in emissions reduction technology, and ensure the best value for money).

Strategic action 36: Continue to make plant decisions on a best value basis looking at whole of life cycle costs.

From a maintenance perspective, scheduled servicing, at specific intervals recommended by the manufacturer, are adhered to, and carried out by authorised technicians, using only equipment manufacturer approved products, oils and lubricants. Officers monitor and update the City's new Fleet Admin system in TechOne weekly. Periodic mechanical servicing aside, workshop staff monitor the City's Light and Heavy Vehicle fleets' tyres for appropriate inflation, timely wheel alignments, rotation and balancing to ensure no negative impact on fuel consumption.

Operationally, the fleet and plant's engine hours, fuel usage, and distance travelled are monitored to ensure the plant items are correctly utilised. The plant's actual consumption figures are periodically compared with the manufacturer's recommended consumption figures, noting any exceptions and to determine the reason(s) why.

The City will continue to monitor fuel-efficiency and gas emissions performance of trucks that are available in the Australian market, and consider that component as part of procurement decisions.

Prior to making any investment in new or modified depot facilities, the City will consider potential impacts of a shift towards electric fleet or plant – which may require charging and/or hydrogen fuelling infrastructure.

4.9.2 Alternative Fuel Source and Electric Vehicle (EV) Refuse Truck

The City's internal combustion engine refuse trucks burn between 40 – 50 L/100km on average. Given these fuel consumption figures, they are a prime target for fuel efficiency measures with the prime initiative being the procurement of more fuel efficient, yet emission stringent vehicles. Being a dual control vehicle, the unit of measure for these trucks are in engine hours, with each vehicle turned over at approximately 8,000 engine hours. This strategy has enabled the City's refuse collection fleet to be kept updated with the latest technology available in Australia, in terms of emission controls and fuel efficiency.

Previously, one of the initiatives the City investigated was the viability of an alternative fuel source fleet, particularly around Compressed Natural Gas (CNG). The engine technologies were not only mature, the emissions met some Euro VI criteria, emitting zero particulate matter and less than 0.2 gr of Nitrous Oxide (NOx) per kilowatt hour in some examples. Unfortunately, the refuelling requirements of CNG trucks dictated a back to base type operation, making the practicality of such vehicles prohibitive at the time.

However, the concept may lead to a viability assessment of Hydrogen (H), the most abundant element in the universe, as an alternative fuel source. In particular, green hydrogen, obtained by applying electricity obtained from renewable sources, such as wind and solar, to water, breaking it down to gaseous Oxygen (O_2) and H in a process known as electrolysis. The hydrogen can then be stored and transported, used directly as a fuel, injected back into the natural gas supply network or converted into electricity in a fuel cell.

Another area the City looked into, was the possibility of converting an existing rubbish trucks into a hybrid, internal combustion turbo-diesel and electric power train. At the time, the technology was deemed to be more efficient in heavy-duty, frequent start-stop drive cycle applications; purportedly achieving reduction in overall fuel consumption, in both greenhouse gas (GHG) and noise emissions, whilst reducing brake wear. However, attempts to engage a local partner to pilot a demonstration project proved unsuccessful.

In September this year, the City's waste contractors, Cleanaway and Suez, rolled out the State's first electric side-loading collection trucks in the City of Belmont and Fremantle. Costing approximately, $600,000 each, the all electric trucks were collaboratively developed by waste collection equipment manufacturer, SuperiorPak and La Trobe, Victoria based electric truck maker, SEA Electric. The up to 26 tonne GVM class trucks are powered by a 195kW electric motor that deliver approximately 1,850 Nm of torque, with a realistic range of 160 km from its 216 kWh battery. Having a three phase, 32 A charger on-board, full charge times are in the order of 10 hours (Sea Electric Pty Ltd, n.d.). Given their method of manufacture, in which they obtain a glider (i.e. a vehicle with no engine and drivetrain) from the chassis manufacturer and then add their Electric propulsion unit to those mules, the City may be able to revisit the retrofit a refuse collection truck that is due for replacement initiative.

Hybrid vehicles and Electric-Powered Vehicles may offer the potential for significant reductions in fuel use and the City will continue to monitor pricing and technology. We anticipate an increased take up in local government as the price point lowers and improvements make them more attractive in the second hand market.

Strategic action 37: Implement methods of incorporating more electrically operated Fleet, Plant and Equipment into the City's mobile asset inventory, as technologies mature and the price of energy storage decreases.

Strategic action 38: Conduct viability assessments into technologies that offer tangible benefits when considering plant and equipment using alternative fuel sources.

4.9.3 Electric Vehicle (EV) to Grid

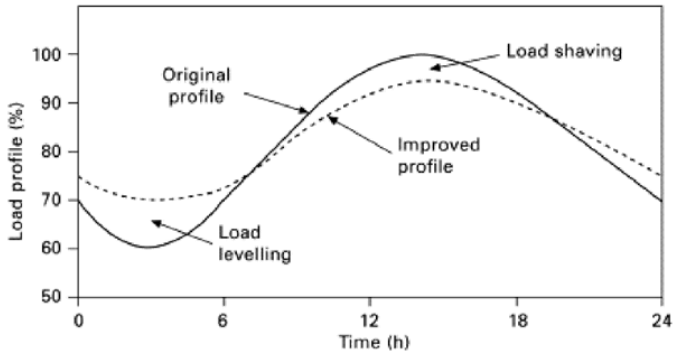
Due to significant advancement in battery storage and information technologies in recent years, the vehicle-to-grid (V2G) initiative is becoming one of the most emerging system-crossover technologies for EVs. Currently, a single EV's battery can only store a limited amount of electricity (i.e. an Average of between 10 – 56 kwh), making an individual V2G operation inefficient and ineffective. However, as the City's number of EVs increase, the group of EVs achieve economies of scale, and no longer become a simple transportation means, but a mobile power-plant capable of feeding electricity to the point of demand.

Since each EV communicates with the power grid in either a storage or electricity generation capacity, it may be combined with a crypto currency styled ledger, such as blockchain for real-time information exchange. By controlling the charging rate for each EV, since most are parked for a significant period of time post travel, their batteries can be used to let electricity flow between the vehicles and the grid, effectively selling electricity back into the grid.

Renewable power generation from wind and solar are intermittent in nature and typically require very large and costly energy storage systems, in order to be fast and efficient in times of power outages. Furthermore, the use of hydrocarbon fuel based standby generators to provide intermittent backup power during outages is not only expensive from a capital depreciation perspective, they are largely inefficient and sluggish.

Since a large fluctuation in the load demand significantly increases the capital cost and operating cost of the power system, the blockchain based V2G operation can utilize the EVs' batteries to absorb and store electrical energy bought from the grid during the off-peak period (i.e. load levelling), followed by generate or sell this stored electrical energy to the where the demand is during the peak period (i.e. load shaving).

Figure 16 Electrical load daily fluctuation



As these discharging processes are much faster than the usual shutdown and start-up processes of a traditional standby generator, the power generation capacity of a group of EVs in a mature V2G operation have the capability to match with the load demand and fully utilize the EV batteries as back up during intermittent power outage events (Kempton, W., Tomic, J., Letendre, S., Brooks, A., Lipman, T. 2001; Folkson, R., 2014).

Further down the track, when an aggregation of EVs in multiple V2G systems are sufficiently mature, the City may be ready for an energy arbitrage; where an aggregator is introduced to coordinate the intragrid power flow to minimise the total power demand and power loss, and together with optimising the voltage deviation, maximises profit of this intragrid operation.

To enable the organisation to gain some early understanding of the potential implications of a future shift towards electric fleet, however, it is seen as appropriate to consider the changeover of the 'pool car' to a 'plug-in hybrid' – which is a kind of vehicle where the wheels are driven by an electric motor, powered by a battery, and the battery can be charged either by electricity (e.g. from the grid) or through a petrol engine.

Strategic action 39: Trial a plug-in-hybrid as pool car replacement.

4.10 Behaviour and organisational change

4.10.1 Staff behaviour change

OBJECTIVE	To embed energy management in all levels of the City's organisational culture.

There is a need to foster an energy saving culture throughout the organisation. The City's Sustainable Work Practice Operational Practice and Procedure (Appendix 4) provides guidance for general energy efficient behaviours but it is unclear the extent to which this is adopted. A staff awareness campaign exists through the Green Taskforce to reduce energy usage across the organisation. It has targeted staff in the Administration Building, promoting 'switching off' and providing a bicycle fleet to reduce fuel consumption. However, it is difficult to determine the effectiveness of this program with regards to actual reduction in energy use. The Green Taskforce also has a broader program of sustainability awareness.

Strategic Action 40: Continue to support the Green Taskforce in raising awareness of climate change and the importance of reducing energy use throughout the organisation.

There are likely to be considerable efficiency gains achievable through staff behaviour changes in the City's other facilities, such as recreation centres, libraries, depot and community buildings. Observed examples include:

- switching off lights in GLC group fitness and stadium when not in use;
- switching off air conditioners and lights at Busselton Depot after hours;
- reducing temperature or switching off drink cabinet when not in use at Barnard Park Pavilion.

More intensive, ongoing energy savings and efficiency behaviour change programs should be developed for each large facility, which includes the City's full time staff as well as regular casual users of the City's facilities (such as fitness program leaders). This would aim to ensure they understand where, how, by what and at what time energy is used (especially in their area), what this means in terms of the tariffs structures and resulting costs, as well as effective ways in which energy can be reduced (Yeoman, 2018). This should be developed by operational and facility managers, and their capacity to do this would be improved by energy management training (see below). Facility managers should work with their staff to implement. This process will create more ownership of proposed initiatives than an organisation-level report/program.

Strategic Action 41: Develop and implement enhanced behaviour change and education programs for each major facility, targeting City staff and other regular facility users.

As behavioural initiatives are implemented, these would be reinforced if staff could see that their efforts were achieving outcomes. As the City's monitoring and reporting capacity improves (e.g. with introduction of submeters and loggers, and increased use of reporting platforms), it would be valuable for this to be used to identify and acknowledge energy efficiency achievements attributable to staff behaviours.

Strategic Action 42: Report energy use and efficiency outcomes to staff, when monitoring capacity is available, and acknowledge outcomes of energy savings initiatives.

4.10.2 Energy management training

Energy management is an emerging field of training for staff, as businesses realise that enhancing internal capability can lead to improvements in energy outcomes. Increasing *Energy Literacy* can help people think more clearly in terms of energy use and energy systems. An energy literate person has greater knowledge of energy management and how to improve and will have greater competency in identifying opportunities and achieving efficiency outcomes. As new building management systems (BMS) are installed for large facilities, it is important that staff receive training in management of the BMS.

Energy management training would provide professional development opportunities for staff and may contribute to a culture of energy efficiency awareness throughout the organisation. It should be targeted firstly at operational and facility managers, who can then share knowledge with their staff.

There are currently no energy management training courses available in Western Australia. WALGA and the Cities Power Partnership are potential avenues for developing and delivering training.

Strategic Action 43: Investigate opportunities and promote the need for energy management training for Western Australia's Local Government Sector.

4.10.3 Sustainable procurement

OBJECTIVE	To embed life cycle costs and overall energy efficiency in the overall 'best value for money' assessment.

Sustainable procurement is defined as *procurement that has the most positive environmental, social and economic impacts possible over the entire life cycle of a product or service* (ISO20400:2017 Sustainable Procurement – Guidance). It is widely adopted in local government policy, however this approach is more informative than coercive, and there is limited evaluation of outcomes (Dawkins et al., 2019). The City of Busselton includes provisions for sustainability in its current Purchasing Policy (26/07/2018), but the extent to which this is adopted in practice is not clear.

Energy efficiency is a key component of sustainability for which purchasing officers have strong potential to influence outcomes for both cost and consumption. The City's Purchasing Policy includes two objectives consistent with sustainability outcomes, including ensuring energy efficient goods and services are procured:

- *Achieving 'best value for money' with respect to all purchasing;*
- *Ensuring that sustainable benefits, such as environmental, social and local economic factors are considered in the overall 'best value for money' assessment*.

The most advantageous outcome is determined based on factors other than prices, including:

- *all relevant whole-of-life costs and benefits*; and
- *purchasing of goods and services from suppliers that demonstrate sustainable benefits and good corporate social responsibility*.

While the consideration of other sustainability components may be difficult at times, selection of energy efficient goods and services is a clear example of how the best value for money approach does not equate to selection of the lowest price option. Energy efficient equipment may (not always) have higher up-front costs, but this may be offset by lower energy use of the life cycle or the product.

Examples include lighting (e.g. LED), appliances (e.g. fridges) and fleet (e.g. electric vehicles). Life-cycle assessment is therefore an essential consideration in determining best value for money.

Although this document is focused on energy management, this should be continue to be considered as part of broader sustainable procurement. The Purchasing Policy should be reviewed in the context of the ISO 20400:2017 standard and adopt more directive sustainable procurement requirements. This should include specific reference to energy efficiency as part of selection of goods and services, including a requirement for full life-cycle assessment of all energy consuming equipment. This would be further supported by an Operational Practice (OP) to ensure its application in practice. Involving key staff in the development of these tools may encourage leadership and more effective implementation.

An example of a directive process to maximise future selection of efficient products is outlined below:

1. Identify the need good or service to be procured.
2. Assess the direct and indirect energy needs of the good or service
3. Research options that may reduce direct or indirect energy consumption
4. If low-consumption options are available for a similar price and quality, purchase more efficient option.
5. If low-consumption options are more expensive, conduct a cost-benefit analysis including:
   - assessment of energy use over the life-cycle of the product
   - life span comparison
   - energy profile and potential to meet needs during the day when solar power is available
6. If additional up-front costs can be reasonably offset by these factors, purchase more efficient option.

Strategic Action 44: Update the City's Purchasing Policy and associated Operational Practice to direct greater application of sustainable procurement, with particular reference to energy efficiency.

5 Implementation of the Energy Strategy

The process of developing this Energy Strategy has generated a greater understanding of energy issues and opportunities, and a greater capacity for the organisation to achieve ongoing savings in energy use, costs and greenhouse gas emissions. The document provides a starting point for improved energy management by providing information and currently relevant strategic actions. Ongoing implementation of the strategy will be driven by changes in the energy sector, financial considerations and changes to culture around energy use across the organisation.

5.1 Innovation

The energy industry is a rapidly changing environment, and what constitute innovative and ground-breaking technologies today can become the new norm tomorrow. Significant progress is currently being made both on the technological and regulatory front, with numerous successful trials of microgrids and associated distributed energy resource technologies being implemented in Western Australia (Economics and Industry Standing Committee, 2019) and further afield. Whether it is the use of smart grids, virtual power plants, community batteries or peer-to-peer trading, these present significant opportunities for radically changing the way the City uses and produces energy.

There may also be synergies between the proposed development of a solar farm at the Rendezvous Road site and the creation of a New Energy hub, which could combine solar energy, waste-to-energy production, hydrogen production and EV charging.

Strategic Action 45: Monitor the development of emerging and innovative energy technologies (i.e. microgrids, virtual net metering and peer to peer energy trading) and facilitate the development of trials in the City.

5.2 Financing and potential incentives

5.2.1 Grants and funding

A range of government grant programs are available to assist organisations with funding energy projects. An up-to-date list of current grant opportunities is available at https://www.environment.gov.au/about-us/grants-funding. A project is more likely to be grant funded if it seeks to use new and innovative technologies.

5.2.2 Annual budgeting and long-term financial planning

As part of the annual planning for implementation of the Energy Strategy, City staff will be required to give consideration to budgeting requirements. In addition, there is currently $100,000 (plus indexation) per annum allocated in an Energy Sustainability Reserve in the City's 10-year Long Term Financial Plan to implement sustainability projects.

Strategic Action 46: Continue to allocate expenditures under the City's Energy Sustainability Reserve as per priorities identified in the Energy Strategy.

While energy efficient equipment and assets can be more expensive upfront, they usually have a lower life-cycle costs and can provide other business benefits. Consideration should be given to increasing capital expenditure, either through budgeting or through using alternative financing options (refer to Revolving Energy Fund, Borrowing and Other third party financing arrangements below) to enable the implementation of projects with the lower life cycle costs.

Strategic Action 47: Consider options for increasing capital expenditure for implementing projects with the lowest life cycle costs.

5.2.3 Revolving Energy Fund

A Revolving Energy Fund (REF) is when savings from sustainability projects are tracked and used to replenish a fund for the next round of investments. Robust energy monitoring systems are required for REFs to be successful. It is not currently recommended the City establishes a REF until an integrated monitoring system is established and operating well.

Strategic Action 48: Consider the development of a Revolving Energy Fund once an integrated Energy Monitoring and Reporting system is well established.

5.2.4 Borrowing

The City, like all WA Local Governments has access to low interest rates from WA Treasury. If loans are used to fund energy projects, interest repayments should be factored in the business case assessment.

5.2.5 Other third-party financing arrangements

There are a number of alternative financing arrangements, funded by third parties, which can alleviate the need for capital to undertake energy projects. The most common ones are listed below.

5.2.6 Leasing

Leasing equipment enables companies to avoid upfront costs and manage energy efficiency projects within operational budgets.

5.2.7 On-bill financing

On-bill financing allow businesses to install and upgrade energy efficiency equipment which is financed by the energy utility. Repayments are made by the business through their monthly power bill and ownership is transferred on final payment of the finance. Up-front capital is not required and repayments can be equal or less than the energy cost savings achieved.

5.2.8 Energy Performance contracts (EPCs)

EPCs are commonly used as a financing method in the commercial building sector. Energy service companies guarantee reduced energy bills for commercial tenants by identifying potential savings in a building's operations, commissioning and funding a retrofit of the building, and using the energy saved to fund the upfront costs. This financing model overcomes the inherent barrier of split incentives where building tenants benefit from retrofits through reduced energy bills, but building owners are responsible for the upfront infrastructure costs (DEE, 2019)

Strategic Action 49: Consider alternative financing options when implementing energy projects.

5.3 Implementation management

Implementation of energy initiatives is a whole of organisation responsibility. While there will often be a leading Directorate/Service Unit responsible for implementing specific actions, collaboration and partnerships across the organisation will be required to implement the Energy Strategy. Leadership from Senior Management will also be necessary to drive implementation of the Energy Strategy.

The City Environment Policy (Appendix 3.) and Sustainable Work Practice Operational Practice and Procedure (Appendix 4.) provides the overarching planning framework for implementing the Energy Strategy. A key element for the City to successfully manage its energy portfolio will be to build in relevant responsibilities and associated accountability amongst Senior Management and operational staff and for energy optimisation to become part of the City's organisational culture.

The SEWG was instrumental in developing the Energy Strategy. It is recommended the group continues to regularly review and monitor implementation of the Energy Strategy.

Strategic Action 50: Continue the Sustainability and Energy Working Group.

Table 14 Proposed roles and responsibilities of City of Busselton staff

Directorate	Roles and responsibilities
Planning and Development Services	Energy Management and Planning Coordination Community engagement and communication Solar Farm project
Engineering and Works Services	Monitoring Energy Use and Costs* Fleet and Plant Waste Streetlighting Public lighting Pumping PV solar systems and monitoring systems* Energy Sustainability Reserve Implementation Utilities budgeting (facility-specific)*
Finance and Corporate Services	Contestable electricity procurement* Utility bill management
Commercial and Community Services	Operation of Recreational and Cultural Facilities Utilities budgeting (facility-specific)*

* indicates potential changes to existing responsibilities.

The following changes to responsibilities are proposed as part of the Energy Strategy:

- It is proposed to **hand over overall energy monitoring and reporting to Engineering and Works Services** as they have more operational control of facilities that use energy.
- Engineering and Works Services is currently responsible for preparing utilities budget. Facilities Managers have a greater understanding of a facility's energy use patterns and therefore it is considered **Facilities Managers should be responsible for preparing their utilities budget**. This would allow for operational changes to be better incorporated into budget planning.
- It is recommended all new PV systems should be installed with an associated monitoring systems to report and control on their performance (section Solar Monitoring and Reporting). **Operational management of PV monitoring systems along with ensuring the information that feeds into the**

monitoring software is up-to-date is recommended to be allocated to Engineering and Works Services.

- As the City's energy portfolio changes, either through the addition of new sites or changes to the energy use of existing sites, it is necessary to periodically review whether they meet the contestability threshold of 50,000 kWh per annum and whether they should be included in the City's contestable electricity contract. This can potentially lead to substantial financial savings through securing lower electricity tariffs. The Azility online platform can be used to easily review contestability thresholds. **Review of contestable sites status is recommended to be allocated to Finance and Corporate Services.**

These arrangements will be reviewed as part of the Strategy's yearly action planning cycle.

Strategic Action 51: Review specific responsibilities for implementation of the Energy Strategy as part of the yearly action planning cycle.

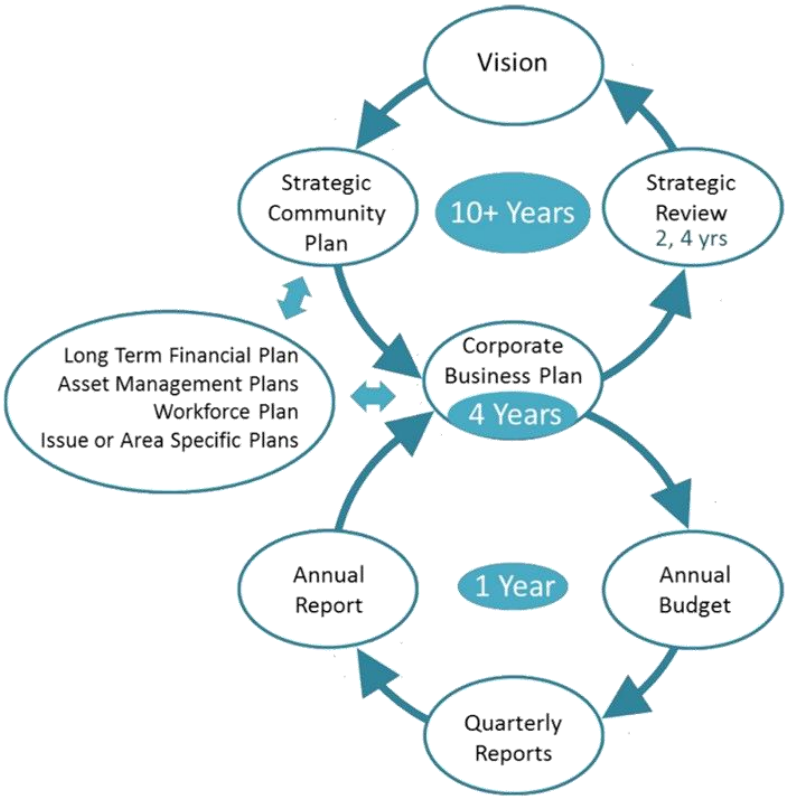
The Energy Strategy intends to provide direction to the City on how to optimise energy usage and potential savings from the development and implementation of energy initiatives across the organisation. However it is recognised that technologies and best practices are rapidly changing, therefore it is recommended a continuous improvement cycle approach is taken while implementing the Energy Strategy.

Figure 17 Continuous improvement cycle approach



It is essential implementation of the Energy Strategy is built into the City's existing strategic planning cycle.

Figure 18 City's strategic planning cycle



More detailed yearly action planning will be required to progress with the implementation of the Energy Strategy. This will include allocating responsibilities for implementation to relevant staff.

5.4 Review

The Energy Strategy will be annually updated and fully reviewed every 5 years. However this is a dynamic document that will need to proactively respond to rapidly changing technologies and what constitutes best practice.

Strategic Action 52: Annually update the Energy Strategy with new information and review every 5 years.

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Appendix 1. List of Strategic Actions

Strategic Action 1: Continue subscription to Azility Carbon Emissions Reporting module (or equivalent) to allow tracking of progress towards the carbon emissions reduction target. 22
Strategic Action 2: Report to Council (annually) and Senior Management (quarterly) on energy use and costs. 26
Strategic Action 3: Send weekly facility-based energy benchmarking reports and set up usage anomalies alerts for relevant facility managers (as per table below). 26
Strategic Action 4: Prepare an energy monitoring equipment strategy outlining priority recommendations for installing sub-metering, data-logging and BMS at key City's facilities. 27
Strategic Action 5: Install smart monitors on all PV systems, both existing and new. 27
Strategic Action 6: Report to the community as opportunities arise on the City's energy use, solar energy generation and implementation of energy projects. 27
Strategic Action 7: Develop a Project Business Case template for energy projects. 28
Strategic Action 8: Undertake an audit and efficiency assessment of key precinct areas, including the Busselton Foreshore, Dunsborough Playing Fields and Vasse Lakeview Entrance. 30
Strategic Action 9: Review accounts with no energy usage (electricity and gas) and disconnect if no longer required. 30
Strategic Action 10: Undertake a review of the City's electricity tariffs and implications for energy costs. 30
Strategic Action 11: Replace all lights due for replacement with LED. 31
Strategic action 12: Review all existing lighting in City's facilities to identify opportunities for LED replacement. 31
Strategic Action 13: Review and upgrade lighting to LED at the NCC, Busselton Library, Depot and Busselton Tourist Park. 31
Strategic Action 14: Implement efficiency recommendations for key facilities from the Energy Opportunities Analysis and Prioritisation report (Yeoman, 2018). 32
Strategic action 15 Investigate building improvement opportunities (e.g. glazing, insulation) that can be implemented as part of the City's annual asset maintenance and renewal program. 32
Strategic Action 16: Undertake supply voltage business cases for suitable City's facilities and implement voltage optimisers if installation is warranted. 32
Strategic Action 17: Investigate power factor correction (in parallel to voltage optimisation) to secure reduced electricity tariffs. 32
Strategic Action 18: Undertake a review of leased sites to determine which would benefit from sub-metering and/or data-logging. 33
Strategic Action 19: Investigate opportunities for installing solar PV systems at City's leased facilities, either through promoting solar leasing and solar PV PPAs or up-front purchase. 33
Strategic Action 20: Prepare a Design For New Buildings Policy (or similar) which sets the standard for energy efficiency and renewable energy for all new City buildings and major upgrades and investigate options for increasing upfront capital investment to achieve future operational savings. Use the BEACH project as a test case. 34

Strategic Action 21: Maintain a watching brief for opportunities to reduce Western Power street lighting costs. 36
Strategic Action 22: Investigate opportunities to reduce operating hours of street lighting (and use of smart and adaptive lighting) in selected areas to reduce energy use and cost. 36
Strategic action 23 Upgrade the following City owned street lighting to LED: Naturaliste Terrace, Cyrillean Way, Dunn Bay Road, Hannay Lane, Seymour Boulevard, Keel Retreat and Queen Street (Cultural Precinct). 37
Strategic action 24 Develop a program to upgrade the remainder of City owned street lighting to LED. 37
Strategic Action 25 Complete a review of City-owned public lighting to identify all lighting infrastructure, associated meters, and opportunities for LED replacement. 37
Strategic Action 26: Commission a condition assessment of all sports lighting and make recommendations for efficiency upgrades and use of smart lighting. 38
Strategic Action 27: Develop Public Lighting specifications. 39
Strategic Action 28: Commission an energy efficiency assessment of lights and pumps for key public open spaces. 39
Strategic Action 29: Implement all recommended rooftop solars in 2019/20. 40
Strategic action 30 Pursue additional rooftop solar installations as opportunities arise. 40
Strategic Action 31: Maintain a watching brief for installation of battery systems and undertake a feasibility study when they become financially viable. 41
Strategic Action 32: Progress investigations into developing a solar farm at Lot 27 Rendezvous Road. 43
Strategic action 33: Incorporate all relevant recommendation or actions contained in this Energy Strategy into the review of any existing or new strategic waste documents. 50
Strategic action 34: Conduct detailed viability investigations into financially sustainable resource recovery systems that are modular and scalable. 51
Strategic action 35: Determine and make recommendations on progressing projects and initiatives that achieve the quadruple bottom line on sustainability. 51
Strategic action 36: Continue to make plant decisions on a best value basis looking at whole of life cycle costs. 51
Strategic action 37: Implement methods of incorporating more electrically operated Fleet, Plant and Equipment into the City's mobile asset inventory, as technologies mature and the price of energy storage decreases. 53
Strategic action 38: Conduct viability assessments into technologies that offer tangible benefits when considering plant and equipment using alternative fuel sources. 53
Strategic action 39: Trial a plug-in-hybrid as pool car replacement. 54
Strategic Action 40: Continue to support the Green Taskforce in raising awareness of climate change and the importance of reducing energy use throughout the organisation. 55
Strategic Action 41: Develop and implement enhanced behaviour change and education programs for each major facility, targeting City staff and other regular facility users. 55

Strategic Action 42: Report energy use and efficiency outcomes to staff, when monitoring capacity is available, and acknowledge outcomes of energy savings initiatives. 55
Strategic Action 43: Investigate opportunities and promote the need for energy management training for Western Australia's Local Government Sector. 56
Strategic Action 44: Update the City's Purchasing Policy and associated Operational Practice to direct greater application of sustainable procurement, with particular reference to energy efficiency 57
Strategic Action 45: Monitor the development of emerging and innovative energy technologies (i.e. microgrids, virtual net metering and peer to peer energy trading) and facilitate the development of trials in the City. 58
Strategic Action 46: Continue to allocate expenditures under the City's Energy Sustainability Reserve as per priorities identified in the Energy Strategy. 58
Strategic Action 47: Consider options for increasing capital expenditure for implementing projects with the lowest life cycle costs. 59
Strategic Action 48: Consider the development of a Revolving Energy Fund once an integrated Energy Monitoring and Reporting system is well established. 59
Strategic Action 49: Consider alternative financing options when implementing energy projects. 59
Strategic Action 50: Continue the Sustainability and Energy Working Group. 60
Strategic Action 51: Review specific responsibilities for implementation of the Energy Strategy as part of the yearly action planning cycle. 61
Strategic Action 52: Annually update the Energy Strategy with new information and review every 5 years. 62

Appendix 2. Review of Energy Action Plans

ENERGY ACTION PLAN 2010-2014

Nb	Action	Implemented
	BUILDINGS	
1	Prepare and implement a Council policy to mandate inclusion of energy efficiency requirements and investigation of energy generation in all future Shire of Busselton design and construction tenders.	✗
2	Undertake a feasibility study on geothermal heating (pool and buildings) and cogeneration/trigeneration at the Geographe Leisure Centre.	✓
3	Implement the recommendations of the feasibility study on geothermal heating and cogeneration/trigeneration at the Geographe Leisure Centre.	✓
4	Insulate all ceiling spaces in the Shire Administration Centre with R 3.5 wool or Polyester insulation.	✓
5	Paint IT House roof with Insultec reflective paint or similar.	✓
6	Install load-shedding control system to all air-conditioning units via Ethernet in the Shire Administration Centre.	✗
7	Upgrade APAC ducted units to VRF system with possible removal/deactivation of some split system units in the Shire Administration Centre.	✓
8	Remove unnecessary fluorescent tubes (294) in the Shire Administration Centre.	✗
9	Replacement of older style fluorescent tubes.	✓
10	Develop and implement procedures for all unnecessary IT equipment to be turned off after hours.	✓
11	Install a 5 kW Solar PV System at the Geographe Leisure Centre	✓
12	Install a 2 kW Solar PV system at the Naturaliste Community Centre.	✓
13	Install a 5 kW Solar PV system at the Shire Civic Centre.	✓

14	Install a 25 kW Solar PV system at the Shire Civic Centre.	✓
15	Implement recommendations from the Geographe Leisure Centre energy audit.	✓ Partly
16	Undertake energy audits for the Kookaburra Caravan Park, Busselton Library, Busselton Depot and the Naturaliste Community Centre.	✓
17	Implement recommendations of the energy audit for the Kookaburra Caravan Park.	✓ Partly
18	Implement recommendations of the energy audit for the Busselton Library (only actions with payback periods of 5 years or less).	✓ Partly
19	Implement recommendations of the energy audit for the Busselton Depot.	✓ Partly
20	Implement recommendations of the energy audit for the Naturaliste Community Centre.	✓ Partly
	WASTE	
21	Review and improve procedures and provide staff education to aim towards 100% paper recycling.	✓
22	Purchase at least 20% recycled paper.	✓
23	Implement a 3-bin system (mingled, recycling and putrescible waste).	✗
	STREET LIGHTING	
24	In consultation with Western Power, investigate and implement if cost-effective the retrofit of Shire-owned streetlights to more energy efficient technologies such as fluorescent lights.	✗
25	In partnership with Western Power, review Shire Technical Specifications to include requirements for energy efficient streetlights in new subdivisions.	✓
26	Lobby Western Power to speed up the roll out of energy efficient street lights.	✓
	FLEET	
27	Undertake an audit of the greenhouse gas emissions performance of the light vehicle fleet utilising data acquired through the Australian Green Vehicle Guide.	✗
28	Develop a Shire policy requiring a minimum green star rating for new light fleet passenger vehicles.	✗

29	Undertake a feasibility study on the use of alternative technology vehicles and fuels.	✗
30	Continue to update the fleet to ensure more vehicles meet latest environmental standards.	✓
31	Investigate staff incentives for sustainable transport to and from work.	✗
	OTHER	
32	Implement a staff awareness campaign to reduce energy usage across the organisation.	✓
33	Investigate the feasibility of allocating financial savings from reducing the Shire's energy usage into the Shire Energy Efficiency and Generation Reserve.	✗
34	Investigate how to attract or facilitate renewable energy projects in the Shire (i.e. planning incentives, joint-ventures etc)	✗

ENERGY ACTION PLAN 2014-2019

Nb	Action	Implemented
	BUILDINGS	
1	Investigate energy performance contracts for the Busselton Library and the Naturaliste Community Centre.	✗
2	Develop a program of internal audits and retrofits for small facilities.	✓ partly
3	Install automated lighting in all large ablution facilities.	✓
4	Retrofit hot water systems with solar hot water system or heat pumps - Churchill and Bovell Parks	✗
5	Upgrade all lighting at the GLC with LED technology.	✓
6	Design new Administration building to 5 green star rating (without certification) or equivalent.	✓
7	Prepare a Council policy or guidelines to mandate inclusion of energy efficiency requirements and investigation of energy generation in all future City of Busselton design and construction works.	✗
8	Install an additional 5 kW solar PV system at the NCC.	✗
9	Install a 5 kW solar PV system at the Busselton Library.	✗
10	Install an additional 25 kW Solar PV system at the City Civic Centre.	✓
11	Attend the applied energy efficiency course or equivalent.	✗
	WASTE	
12	Enhance drop off facilities for fluoro tubes, mobile phones and dry cell batteries at the City Administration Building	✗
13	Review recycling facilities at all City's facilities and upgrade where required	✓
14	Review and improve procedures and provide staff education to aim towards 100% paper recycling.	✓
15	Purchase 50% recycled office paper at all City's facilities	✓
16	Increase purchase of products with recycled content	✓
	FLEET	

17	Develop a City policy requiring a minimum green star rating for new light fleet passenger vehicles.	✗
18	Implement the CleanEco Drive program, with an initial trial with rubbish truck drivers.	✗
19	Implement a Maintenance program to ensure best environmental performance of fleet.	✓
20	Investigate feasibility of alternative fuels and technologies	✓
21	Review rubbish trucks routes with a view to reduce fuel use.	✗
22	Investigate alternatives to providing private use of vehicles	✗
23	Support use of City's existing Bike fleet for short business trips.	✓
24	Facilitate travel smart to work, including cycling, walking and car-pooling.	✓
25	Investigate teleconferencing and use of Skype or other technologies to reduce travel for off-site meetings.	✓ partly
	STREET LIGHTING	
26	Upgrade City's owned streetlights to 42W CFL or LED	✓
27	Complete audit of open space lighting	✗
28	Implement high priority recommendations from open space lighting audit	✗
29	Prepare energy efficiency guidelines for new City-owned public lighting.	✗
30	Investigate options for reducing hours of operation of existing streetlights.	✗
31	Lobby Western Power for use of more efficient street lighting	✓
	OTHER	
32	Continue to report on energy use and cost and greenhouse gas emissions annually to Council.	✓
33	Continue to implement staff awareness campaign through the Green Taskforce to reduce energy usage across the organisation.	✓
34	Investigate Carbon Farming Initiative (CFI) opportunities	N/A
35	Review purchasing procedures to facilitate the implementation of the sustainable purchasing component of the City's purchasing policy.	✗

Additional actions not listed in the Energy Action Plan

Nb	Action
	BUILDINGS
1	Installation of solar powered security lighting at various community halls.
2	Installation of solar hot water systems at the Kookaburra Caravan Park and Winderlup Court units (Aged person homes).
3	Installation of a pool blanket on the indoor pool at the Geographe Leisure Centre.
4	Completion of an Energy Strategy for the GLC and NCC.
	RENEWABLE ENERGY
9	Installation of a 3.5kW PV system at the CRC.
10	Installation of a 6.8kW PV system at Barnard Park Pavilion (relocated from the old Administration Building).

Appendix 3. Environment Policy

1. PURPOSE

1.1. The purpose of this Policy is to outline Council's commitment towards continuous improvement in environmental management practices and the long-term protection of environmental values within the District.

2. SCOPE

2.1. This Policy applies to all land managed by the City and to all operations of the City.

3. DEFINITIONS

Term	Meaning
Policy	this City of Busselton Council policy entitled "Environment Policy"

4. STRATEGIC CONTEXT

4.1. This Policy links to Key Goal Area 3 - Environment of the City's Strategic Community Plan 2017 and specifically the following Community Objective/s:

a. 3.1: Development is managed sustainably and our environment valued;

b. 3.2: Natural areas and habitats are cared for and enhanced for the enjoyment of current and future generations;

c. 3.3: The health and attractiveness of our waterways and wetlands is improved to enhance community amenity.

5. POLICY STATEMENT

5.1. The City will ensure:

a. the proactive management of City land to protect and enhance environmental values;

b. the establishment and maintenance of effective working relationships and partnerships with the community and other stakeholders to undertake environmental management;

c. decision making by the City gives due regard to environmental values alongside economic and social considerations

5.2. The City will maintain an Environment Strategy to provide direction on how the City will meet the environmental aspirations of the community, as set out in the Strategic Community Plan, and to guide the City's activities.

5.3. The City will ensure its decision making considers potential impacts on the environment by integrating environmental protection, social advancement and economic prosperity principles within sound governance frameworks.

5.4. The City will implement best practice in its management of the environmental values of the District in order to identify and protect the City's exceptionally high biodiversity values.

5.5. The City will develop and maintain an Environmental Volunteer Management and Engagement Strategy with the aim of building and maintaining community capacity and engagement in relation to the management of the environmental values of the District, in particular through:
   a. encouraging and supporting community participation and inclusiveness;
   b. promoting community engagement and collaboration;
   c. encouraging and nurturing partnerships

5.6. The City will plan, design, operate and conduct operations in a manner that minimises waste and resource consumption.

6. RELATED DOCUMENTATION / LEGISLATION

6.1. Local Environmental Planning Strategy
6.2. Environment Strategy 2016-2021
6.3. Environmental Volunteer Management and Engagement Strategy 2017

7. REVIEW DETAILS

Review Frequency		3 yearly		
Council Adoption	**DATE**	10 October 2018	**Resolution #**	C1810/202
Previous Adoption	**DATE**	9 November 2016	**Resolution #**	C1611/128

Appendix 4. Sustainable Work Practice Operational Practice and Procedure

PURPOSE
To recognise the importance of minimising the environmental impact of the organisation and to ensure that sustainability is part of ordinary work practices.

SCOPE
The objective of this policy is to empower City of Busselton employees to adopt environmentally sustainable work practices which reduce harm on the environment, minimise waste of resources and save money.

BACKGROUND
In 2011, the Council resolved to update their Environment Policy as part of the wider Environment Strategy adopted in 2004. The Environment Policy commits to continuous improvement and the creation of a sustainable balance between environmental, social and economic values. The Council has also adopted an Energy Action Plan to reduce the organisation's energy consumption. The Green Taskforce was created to support staff in reducing their impacts on the environment in their work practices.

PRACTICE AND PROCEDURE
The following are general guidelines for sustainable work practices but will vary according to the nature of a particular work environment and the practices therein. As such, these guidelines are not limited, and any other practice and procedure that contributes to the overall aim of this policy should be brought to the attention of the Green Task Force for future consideration and addition to the list as appropriate. It is expected that all employees will consider sustainable practice within their work environment and act in accordance with the following general guidelines.

GUIDELINES

Energy
- Use these strategies to minimise energy wastage:
  - ✓ Maintain air-conditioning at a constant temperature of 23-24ºC.
  - ✓ Close blinds or curtains to minimise heat transfer.
  - ✓ Maintain only security lighting after business hours.
  - ✓ Switch off equipment (including computers, monitors, printers, air-conditioners) overnight wherever possible.
  - ✓ Repair or report malfunctioning utilities (e.g. leaking taps) as soon as possible.
  - ✓ Turn off lights in an unoccupied room.
  - ✓ Service Council vehicles regularly and consider lower emissions vehicles.

Paper
- Buy and use recycled paper or recycled content paper where possible.
- Make double-sided copies when printing and photocopying, wherever possible.
- Make double sided copies when printing and photocopying, wherever possible.
- Consider using electronic communication means where appropriate.

- Only print documents when necessary.
- Use the blank side of used paper for notepaper before recycling.
- Re-use envelopes for internal mail.

Change your thinking from 'waste' to 'resource recovery'

- Reduce:
  - ✓ Use goods which stop waste being generated.
  - ✓ Reduce waste by choosing products that have minimal packaging and can be used productively and then recycled.
- Re-use:
  - ✓ Re-use containers, packaging or waste products, wherever possible.
- Recycle:
  - ✓ Recycle waste material into useable products, wherever possible.
  - ✓ Place recyclable materials in the yellow topped bins, including:
    - Paper & cardboard
    - Aluminium (including foil wrap and trays)
    - Glass
    - Steel
    - PET and HDPE plastics (with symbols 1,2,3 & 5)
- For waste that cannot be avoided, reused or recycled:
  - ✓ Treat the waste to make it less harmful to the environment or reduce the volume of the harmful component (note: dilution is not the solution).
  - ✓ Dispose of the waste safely.

RESPONSIBILITIES

Strategies to be implemented by the Manager and Supervisors

- Consider sustainability issues when making planning and managing decisions.
- Promote and encourage environmental awareness to ensure employees are aware of their environmental responsibilities.
- Aim to continually improve environmental performance by identifying and addressing environmental risk.
- Make resources available to implement environmental risk management procedures.
- Consider improvements to work practice to increase sustainability as part of business planning and performance evaluation.

Employees' responsibilities

- Identify and manage environmental risks associated with work activities to minimise their impact on the environment.
- Be proactive in putting forward suggestions for alternative or improved methods of contributing to environmental sustainability.
- Use the City's bicycles for short journeys around Busselton.
- If using Council vehicles, drive conservatively.

Environmental purchasing guidelines

- Research the environmental impacts of products purchased and give preference to environmentally-friendly products where possible.
- Choose products with less packaging.
- Choose products with recyclable or reusable packaging.
- Re-use plastic bags and all types of containers if possible.
- Buy quality goods that will last.
- Buy recycled goods that have already saved resources and raw materials, and help reduce the overall quantity of waste.

Owner Unit	Green Taskforce
Originator	Sharon Woodford-Jones
Procedure Approved By	
Date Created	December 2012
Date Reviewed	
Review Frequency	Annually
Related Documents	Environmental Policy
	Environmental Strategy
	Energy Action Plan


City of Busselton
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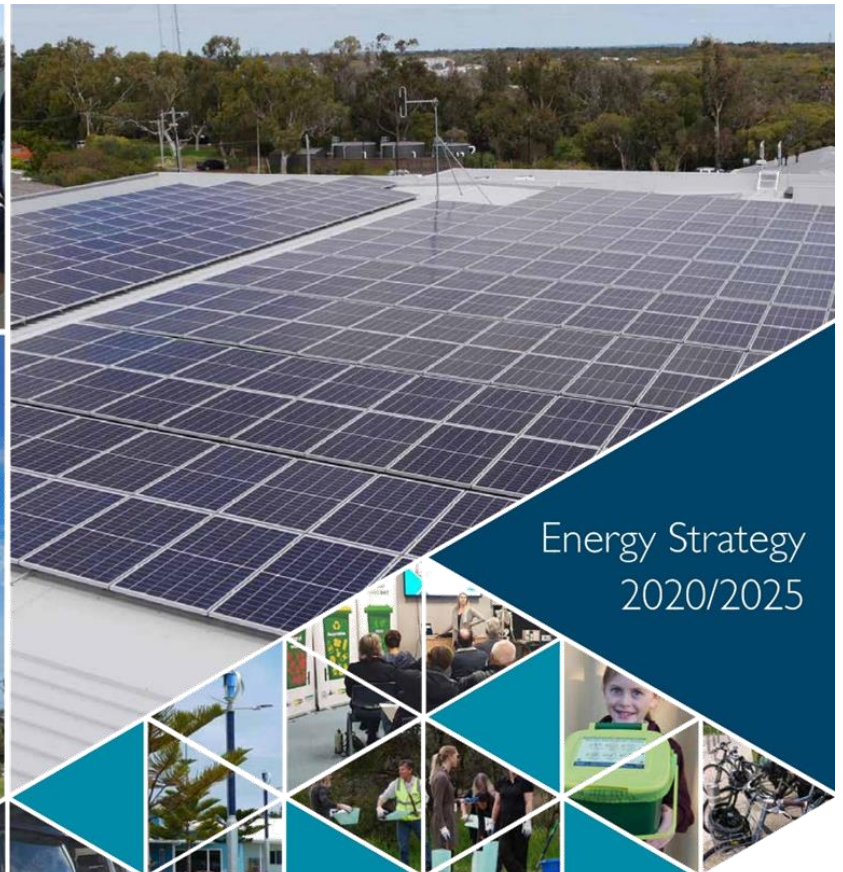
Past and Current Energy Initiatives
(Energy Action Plans)

- Annual monitoring and reporting of the City's energy use, cost and carbon emissions.
- Completion of energy audits for the City 5 largest facilities and implementation of a wide range of recommendations to improve energy efficiency.
- Set up of the City's Green Taskforce to oversee a whole of organisation staff behaviour change program.
- Installation of a geothermal system at the Geographe Leisure Centre.
- Purchase of a bike fleet for use by City staff.
- Installation of solar hot water systems at the Busselton Jetty Park and Winderlup Court units (Aged person homes).
- Upgrade of all lighting to LED at the Geographe Leisure Centre.
- Installation of more energy efficient public lighting, including LED, solar and wind powered on the Busselton and Dunsborough foreshores, public boat ramps and Busselton Jetty.
- Provision of teleconferencing capabilities to reduce car-based travel for meetings.
- Installation of 100kW solar system on the new City of Busselton Administration Building.









Energy Strategy 2020/2025

City of Busselton
Geographe Bay

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City of Busselton
Geographe Bay

Energy Profile

Electricity
$825,612 3,416,864 kWh

Streetlights
5000+ $838,872

Solar Panels
3343 KW 391, 864 kWh
11% Total electricity use

Gas
$21,443 613,521 MJ

117 Cars
$236,884 369,139 L

89 Trucks and Major Plants
$714,816 187,335 L

Annual Sustainability Reserve
$100,000

Vision

Minimised energy costs and greenhouse gas emissions, through using energy as efficiently as possible and optimising our approach to generation and use of renewable energy, and to maximise returns to ratepayers through becoming a net energy generator.

Targets

To generate 100% of the City of Busselton electricity needs from renewable sources by 2030.

To reduce City of Busselton corporate carbon emissions per capita to 50% on 2017/18 levels by 2030.

Develop efficiency targets for fleet and plant by 2025.

Scope

- Stationary use (electricity and gas)
- Street lighting
- Waste (restricted to landfill gas emissions and waste-related energy generation)
- Fleet and plant

Focus Areas

- Monitoring and Reporting
- Efficiency upgrades to facilities
- Leased sites
- Design/Procurement for new facilities
- Public lighting
- Rooftop solar
- Mid-scale solar
- Waste
- Fleet and Plant
- Behaviour and organisational change



Key Proposed Strategic Actions

1. An integrated energy monitoring and reporting system, which allows us to dynamically and proactively manage energy use from the City's facilities, public lighting and water pumping and renewable energy generation including solar energy across the organisation.
2. 208kW of solar PV Systems, including 100kW at the Geographe Leisure Centre, 40kW at the Naturaliste Community Centre, 40kW at the Busselton Library and 28kW at the Depot and installation of batteries when financially viable.
3. A mid-scale solar farm at Lot 27 Rendezvous Road, to allow the City to reach its 100% renewables target.
4. Strategic energy efficiency upgrades at large facilities as recommended by the Energy Opportunities Analysis and Prioritisation report (Yeoman 2018).
5. A Design for New Buildings Policy, which specifies minimum energy efficiency and renewable energy generations for all new City's facilities.
6. LED upgrades of high priority City-owned streetlighting, sporting facilities and Public Open Space.
7. Investigations into multiple resources recovery systems through the South West Regional Waste Group.
8. Move towards more more electrically operated fleet, plant and equipment as technologies mature and the price of energy storage decreases, starting with the purchase of a plug-in hybrid electric vehicle (EV).
9. Viability assessments of alternative fuel sources to power the City's fleet, plant and equipment.
10. A watching brief of new and innovative technologies including microgrids, virtual net metering and peer to peer energy trading.

Appendix

Appendix A: The Partnership Action Pledge

Participating councils who join the partnership will have 6 months to select 5 key actions from the options below.

Renewable Energy

1. Use strategic and statutory planning processes to promote renewable energy – both at the residential, commercial and larger scale.
2. Provide council resources to educate and support the uptake of renewable energy, such as by hiring an internal renewable energy support officer or establishing an independent body (such as the Moreland and Yarra Energy Foundations).
3. Install renewable energy (solar PV and battery storage) on council buildings for example childcare facilities, libraries, street lighting, recreation centres, sporting grounds, and council offices.
4. Support community facilities accessing renewable energy through incentives, support or grants.
5. Power council operations by renewables, directly (with solar PV or wind), or by purchasing Greenpower (from electricity retailers). Set targets to increase the level of renewable power for council operations over time.
6. Encourage local businesses and residents to take up solar PV, battery storage and solar hot water heating. This can be done through providing incentives (such as solar bulk buy schemes or flexible payment options) or streamlining approvals processes (such as removing planning and heritage barriers to solar PV).

7. Support community energy projects (with location and planning support) so that residents (such as renters) can band together and invest in community renewable energy projects.

8. Opening up unused council managed land for renewable energy, for example land fills, and road reserves.

9. Facilitate large energy users collectively tendering and purchasing renewable energy at a low cost.

10. Set minimum renewable energy benchmarks for new developments, for example Denman Prospect, ACT requires every new house to install a minimum solar PV system.

11. Electrify public transport systems (for example buses operated by council) and fleet vehicles and power these by 100% renewable energy.

12. Lobby electricity providers and state government to address barriers to renewable energy take up at the local level (whether these be planning, technical, economic or policy related).

Energy Efficiency

1. Set minimum energy efficiency benchmarks for all planning applications.

2. Adopt best practice energy efficiency measures across all council buildings, and support community facilities to adopt these measures.

3. Public lighting can use a large proportion of a city's energy budget - roll out energy efficient lighting (particularly street lighting) across the municipality.

4. Provide incentives (for example rate reductions) for best practice developments such as streamlined planning processes, and support for retrofitting energy efficiency measures for existing buildings.

5. Incentivise the deployment of energy efficient heating and cooling technologies.

Transport

1. Ensure Council fleet purchases meet strict greenhouse gas emissions requirements and support the uptake of electric vehicles.
2. Provide fast-charging infrastructure throughout the city at key locations for electric vehicles.
3. Encourage sustainable transport use (public transport, walking and cycling) through Council transport planning and design. Substantial savings in transport energy use can be achieved by designing more compact cities with access to high quality public and active transport services and facilities.
4. Ensure that new developments are designed to maximize public and active transport use, and are designed to support electric vehicle uptake.
5. Providing for adequate cycle lanes (both space and connectivity) in road design and supporting cyclists through providing parking, and end-of-ride facilities (covered, secure bike storage, showers, bicycle maintenance and incentives).
6. Reduce or remove minimum car parking requirements for new housing and commercial developments where suitable public transport alternatives exist.
7. Lobby state and federal governments for improvements to planning legislation to promote sustainable transport options, and increased investment in and provision of public transport services.
8. Consider disincentives for driving high emitting vehicles such as congestion pricing, or a tiered payment system for residential car parking permits where high emitting vehicles pay more.

Work Together and Influence

1. Set city-level renewable energy or emissions reduction targets and sustainable energy policies to provide a common goal and shared expectations for local residents and businesses.

2. Lobby state and federal government to address barriers to the take up of renewable energy, energy efficiency and/or sustainable transport, and to support increased ambition. For example working to lobby on the Smart Energy Communities policy.

3. Set up meetings and attend events, such as the Community Energy Congress or Ready for 100 Summit, where like-minded cities can address common concerns and learn from others' experience.

4. Implement an education and behavior change program to influence the behavior of council officers, local residents and businesses within the municipality to drive the shift to renewable energy, energy efficiency and sustainable transport.

5. For communities reliant on a local coal industry, local government can support the transition away from fossil fuels, by lobbying for state and federal support for a just transition for workers, families and the community and encouraging local economic development and opportunities based on a low carbon economy.

6. Ensure that the practices of local government contractors and financing such as banking, insurance, and super are aligned with council goals relating to renewable energy, energy efficiency and sustainable transport. Set appropriate criteria for council procurement.

7. Promote knowledge sharing and strengthen the local community's capacity and skills in renewable energy, energy efficiency and sustainable transport.

Sources: IEA 2016; IRENA 2016

13.2 DRAFT DUNSBOROUGH LAKES STRUCTURE PLAN - LOT 9050 CLUBHOUSE DRIVE, DUNSBOROUGH LAKES - CONSIDERATION FOR FINAL APPROVAL

STRATEGIC GOAL	2. PLACE AND SPACES Vibrant, attractive, affordable
STRATEGIC OBJECTIVE	2.1 Planning strategies that foster the development of healthy neighbourhoods that meet our needs as we grow.
SUBJECT INDEX	Structure Plans
BUSINESS UNIT	Strategic Planning
REPORTING OFFICER	Principal Strategic Planner - Louise Koroveshi
AUTHORISING OFFICER	Director, Planning and Development Services - Paul Needham
NATURE OF DECISION	Legislative: to adopt legislative documents e.g. local laws, local planning schemes, local planning policies
VOTING REQUIREMENT	Simple Majority
ATTACHMENTS	Attachment A Endorsed Dunsborough Lakes Structure Plan Attachment B Location Plan Attachment C Proposed modifications relating to Lot 9050 Clubhouse Drive Attachment D Schedule of Submissions Attachment E Lot 9050 Clubhouse Drive & Lot 5000 Waterville Road Attachment F Schedule of Modifications

OFFICER RECOMMENDATION

That the Council:

1. **Pursuant to Schedule 2, Part 4 of the *Planning and Development (Local Planning Schemes) Regulations 2015*, adopts the draft Dunsborough Lakes Structure Plan for final approval subject to the changes included in the Schedule of Modifications at Attachment F.**
2. **Pursuant to Schedule 2, regulation 19 of the *Planning and Development (Local Planning Schemes) Regulations 2015*, resolves to endorse the Schedule of Submissions at Attachment D prepared in response to the public consultation undertaken in relation to this draft Structure Plan.**
3. **Pursuant to Schedule 2, regulation 20 of the *Planning and Development (Local Planning Schemes) Regulations 2015* requires that a report on the draft Structure Plan be provided to the Western Australian Planning Commission within the timeframe agreed with the Commission.**
4. **Pursuant to Schedule 2, regulations 22 and 23 of the *Planning and Development (Local Planning Schemes) Regulations 2015*, should the WAPC require modifications be made to the draft Structure Plan, these modifications are to be undertaken accordingly, on behalf of the Council, unless they are considered by officers to be likely to significantly affect the purpose and intent of the draft Structure Plan, in which case the matter shall be formally referred back to the Council for assessment and determination.**

EXECUTIVE SUMMARY

The Council is requested to consider adopting for final approval proposed modifications to the endorsed *Dunsborough Lakes Structure Plan* as it relates to Lot 9050 Clubhouse Drive, Dunsborough Lakes. The key modification proposed is changing the land use designation for the western portion of Lot 9050 from 'Tourism' to 'Residential R20/R40'.

Advertising of the draft Structure Plan resulted in six external agency and three public submissions. The public submissions included two objections and matters raised focussed on perceived loss of amenity, property devaluation and access arrangements.

Officers are recommending that the proposed *Dunsborough Lakes Structure Plan* be adopted for final approval, in accordance with recommended modifications, and referred to the WA Planning Commission for endorsement.

BACKGROUND

The proposal comprises modifications to the endorsed *Dunsborough Lakes Structure Plan* as it relates to Lot 9050 Clubhouse Drive, Dunsborough Lakes (Attachment A). Lot 9050, located in the northern part of the Dunsborough Lakes Estate, is 4.35ha and forms part of the Dunsborough Lakes Golf Course (Attachment B). Located within the subject land are the clubrooms, pro-shop, tavern, carpark, driving range and the 1st tee/fairway.

The subject land is zoned 'Special Use 24 (Dunsborough Lakes Development Area)' and is within Special Provision Area 42, pursuant to Local Planning Scheme 21. Land use designations are guided by the endorsed Structure Plan for Dunsborough Lakes and Lot 9050 is identified therein for 'Tourism' purposes.

The proposed modifications to the *Dunsborough Lakes Structure Plan* in relation to Lot 9050 are described below –

- Replacing 2.9ha of land allocated to 'Tourism' with Residential R20/R40.
- Amending the boundary of Local Development Plan 1 (LDP1) to only include the land designated 'Tourism' in order to facilitate an integrated planning outcome with adjoining tourism land within Lot 5000 Waterville Road. The amount of land allocated for 'Tourism' purposes within the Dunsborough Lakes Structure Plan area resulting from proposed modifications would be reduced from approximately 4.7ha to 1.8ha.
- Introducing two new conditions to Part One of the Structure Plan report that provide for a residential density plan to be prepared at subdivision stage and matters to be addressed by a local development plan for LDP 1 (maintenance of access arrangements and development to provide a suitable interface with adjoining residential land, the golf course and Clubhouse Drive).
- Updating the development and POS summary tables on the Structure Plan to reflect land use and area changes.

The proposed modifications to Lot 9050 are illustrated at Attachment C. Due to the modifications proposed to the Structure Plan, the 1st tee/fairway of the golf course will require reconfiguration and this is also reflected on the draft Structure Plan.

Technical Assessments

The Structure Plan proposal is supported by the following technical assessments:

1. Engineering and Servicing Review – Pippin Civil Engineering
2. Economic Tourism Study – Urbis
3. Local Water Management Strategy - Calibre

The main findings of the technical assessments are summarised below under appropriate subheadings.

Engineering and Servicing Review
The report provides details regarding hydrology/groundwater, geotechnical/ASS, roads, stormwater management, earthworks and services (i.e. reticulated water, sewer and power). The report concludes that there are no identified constraints to the servicing and use of the land for the uses proposed.

Economic Tourism Study
The Economic Tourism Study assessed the potential for the development of short stay accommodation within Lot 9050 Clubhouse Drive. The main findings of the study are summarised below.

The South West is a popular tourism destination, however the location of the subject land may not be ideal for the development of short stay accommodation, with contributing factors cited as distance from retail and/or beach amenities and competition from existing tourism accommodation providers within Dunsborough itself (including holiday homes).

A review of tourism trends found that golf tourism may be negatively affected by declining levels of golf membership across Western Australia and golf visitors (persons playing golf while on holiday).

A current and forecast oversupply of short stay accommodation rooms is identified, with average occupancy rates considered unlikely to increase to a level that would encourage investment in new tourist accommodation. Long term prospects may improve and the proposed reduced site area for tourism purposes could still accommodate a sizable development.

Local Water Management Strategy
A Local Water Management Strategy (LWMS) was previously prepared for the whole of the undeveloped portions of Dunsborough Lakes as part of an overall review of the endorsed Dunsborough Lakes Structure Plan undertaken in 2012. The LWMS has been progressively updated to reflect various modifications to the Structure Plan that have occurred since 2012.

The treatment and attenuation of minor storm events (1:1yr) is proposed to be achieved with on-site retention within individual lots, bio-retention areas through a combination of rain gardens and drainage swales/basins and infiltration areas within road reserves. A portion of any 1:5yr storm event could also be detained within the 1:1yr infrastructure. Overflow from 1:5yr and 1:100yr events is proposed to be piped to the constructed lake system within the golf course and eventually discharged into Toby Inlet.

OFFICER COMMENT

The rationale for the proposal is to facilitate an application to the WA Planning Commission for a super lot subdivision of Lot 9050 Clubhouse Drive, Dunsborough Lakes into two lots. The creation of the additional lot for future residential subdivision and development would provide the Dunsborough Lakes Golf Club with an opportunity to sell the land and thereby secure funds to assist with the future economic sustainability of the club, and upgrade the existing club facilities on the remaining tourist component. The proposal is important for the financial planning of the Club, and would also benefit the community by helping to retain a viable and sustainable golf club and golf course (which, in itself, is somewhat of an entry statement into the Dunsborough townsite).

The proposed Residential R20/R40 component would enable additional land within the Dunsborough Lakes Structure Plan area to be developed for residential purposes in close proximity to the Dunsborough Town Centre and community facilities, consistent with the relevant strategic planning framework.

Information provided in support of the proposal identifies a forecast oversupply of tourism accommodation in Dunsborough and this, combined with other factors (competition from holiday homes/Airbnb and financial constraints imposed by lending institutes for tourism investment) would suggest that a reduction in the amount of land allocated for tourism purposes should be supported.

Whilst there is a proposed reduction in the amount of land allocated for tourism, there remains the opportunity for tourism-related land uses to be developed within Lot 9050 and in a coordinated manner with the adjoining tourism land within Lot 5000 Waterville Road. Should longer-term prospects improve, the land area allocated for tourism purposes could accommodate a sizable development.

Statutory Environment

The key components of the statutory environment for the proposal are set out in the *City of Busselton Local Planning Scheme No. 21* and the *Planning and Development (Local Planning Schemes) Regulations 2015*. Each is discussed below under appropriate subheadings.

City of Busselton Local Planning Scheme No. 21

The proposal is considered to be generally consistent with the objectives and policies of the Residential zone under LPS21 in that it is providing the opportunity for a diversity of housing stock, efficient use of land and is in a location that is well serviced and environmentally suitable.

Planning and Development (Local Planning Schemes) Regulations 2015

The Regulations came into operational effect on 19 October 2015 and introduced 'deemed provisions' for the preparation, advertising and approval of structure plans. The deemed provisions are adopted into LPS21 and define the process for receiving and assessing proposed structure plans and/or modifications to same. Local governments are to have 'due regard' to approved structure plans when making decisions relating to subdivision and development.

Relevant Plans and Policies

The key plans and policies most relevant to the proposal include: *State Planning Policy 3 – Urban Growth and Settlement (2006)*; *State Planning Policy 3.7 – Planning in Bushfire Prone Areas (2015)*; *Liveable Neighbourhoods (2009/draft 2015); the City of Busselton Draft Local Planning Strategy (2016)*; and the *Dunsborough Lakes Structure Plan (2019)*. Each is discussed under appropriate subheadings.

State Planning Policy 3 – Urban Growth and Settlement (2006)

The overall intent of SPP3 is to facilitate a sustainable pattern of urban development. A key element in achieving this is the promotion of a sustainable and liveable neighbourhood form which reduces energy, water and travel demand while ensuring safe and convenient access to employment and services, and providing housing choice and affordability. The proposal is not viewed as undermining these principles.

State Planning Policy 3.7 – Planning in Bushfire Prone Areas (2015)

SPP3.7 provides the foundation for land use planning to address bushfire risk management in Western Australia. It is used to inform and guide decision-makers, referral agencies and landowners /proponents to help achieve acceptable bushfire protection outcomes. It applies to all higher order strategic planning documents, strategic planning proposals, subdivision and development applications located in bushfire prone areas.

The subject land is not within a designated bushfire prone area and SPP3.7 does not apply.

Liveable Neighbourhoods (2009/draft 2015)
Liveable Neighbourhoods (LN) is an adopted operational policy of the WAPC to guide structure planning and subdivision of new and large infill urban areas. The relevant provisions of Liveable Neighbourhoods (2015) which is a 'seriously entertained' draft policy and, as advised by the Department of Planning, Lands and Heritage, should be referred to in order to provide guidance for the assessment and determination of this proposal.

The implementation of applicable elements and the fulfilment of the overall principles of LN would ensure that the development of Dunsborough Lakes occurs in an appropriate manner. Whilst the proposal is strategic in nature (further assessment of finer planning details would occur at Local Development Plan and/or subdivision stage), the land use outcomes proposed are not inconsistent with LN principles.

City of Busselton Draft Local Planning Strategy (2016)
The *City of Busselton Draft Local Planning Strategy* (LPS) sets out the long-term planning direction for the City and provides an overarching, strategic rationale for decisions related to the planning and development of the District. The draft LPS establishes an urban growth area framework that identifies 'current' (land that is already zoned and where development is progressing), 'medium-term' (not currently zoned or subject to structure planning) and 'long-term' (also not currently zoned or subject to structure planning) locations for growth, and for each of the identified medium/long term future growth areas, describes the key issues to be addressed through comprehensive structure planning and rezoning.

The subject land is identified as a 'current urban growth area' and assessment of the Structure Plan proposal has had due regard to the objectives and recommendations of the draft LPS.

Dunsborough Lakes Structure Plan (2019)
The *Dunsborough Lakes Structure Plan* demonstrates how land will be developed and provides guidance for matters such as: allocation of land uses; residential densities; road networks; public open space; provision of community facilities; and the requirement for Local Development Plans for specific development cells. The proposed modifications relating to Lot 9050 Clubhouse Drive will not materially affect the purpose and intent of the Structure Plan.

Financial Implications

There are no financial implications associated with the Officer Recommendation.

Stakeholder Consultation

The draft Structure Plan was advertised for 28 days ending 30 October 2019 and nine submissions were received (six external agency and three public submissions). A Schedule of Submissions is provided at Attachment D. Two public submissions objected to the draft Structure Plan and whilst the third public submission supported the proposal, matters of concern were raised. The matters raised in the public submissions are summarised below –

1. Loss of amenity (peace, views, expectation that the golf course would remain as the adjacent land use, loss of property value).
2. Access arrangements and potential impacts if Cabot Close is extended.
3. Future earthworks and retaining (fill) relative to the adjoining subdivision.
4. Drainage and the capacity of the existing stormwater management network to manage additional flows generated by future residential development.

With respect to item 1, it appears that there is an evident misunderstanding that the land adjacent to the Cabot Close properties would remain as part of the golf course and was effectively public open space (POS). This was not the case when the residential subdivision of Cabot Close was developed and subsequently sold, as the current Tourism zoning of the land came into effect in 2011. Furthermore, and importantly, development under the current tourism zoning could be at a higher density and greater impact than what could be possible if the current proposal is ultimately supported.

The Dunsborough Lakes golf course is a private recreation facility and not POS. The existing district open space/playing fields (that are in close proximity to Cabot Close) and local parks within Dunsborough Lakes estate that actually constitute POS have been ceded and created as a direct result of residential subdivision.

In residential areas, 10% of the gross subdivisible area must ordinarily be provided free of cost and vested in the Crown by the subdivider. In determining the gross subdivisible area, land uses such as government school sites, major regional roads, municipal sites, private recreation facilities and any other non-residential sites, are deducted. The POS contribution within the Dunsborough Lakes estate (including the current residential proposal) is 32.8 hectares or 19.8%. The current proposal does not trigger a requirement for additional POS, however that would not prevent further POS being voluntarily provided as part of future subdivision of the land for residential purposes.

With respect to item 2, there are a number of points to consider in relation to the matter of access generally (Attachment E) -

i. Lot 9050 has legal road frontage to both Clubhouse Drive and Cabot Close, but currently has functional vehicle access to Waterville Road through the eastern part of Lot 5000 (via a legal agreement between the Golf Club and the owner of Lot 5000).
ii. Subdivision of Lot 9050 (to separate proposed Residential and existing Tourism zonings) would retain both legal road frontage and functional vehicle access for the tourism portion, but the residential portion would only have legal road frontage to Cabot Close.
iii. The WA Planning Commission recently granted conditional subdivision approval for Lot 5000 (WAPC ref: 158368). The subdivision plan includes a single 15m wide road reserve connecting the tourism portion of Lot 9050 with Waterville Road. The plan does not provide future road connectivity with the proposed residential portion of Lot 9050, but does include a condition requiring that the proposed 15m road reserve provides vehicular access to the Golf Club carpark prior to closure of the current access subject to a legal access agreement.
iv. There is no certainty that the subdivision of Lot 5000 will occur in accordance with the current approval, nor about when the subdivision approval might be implemented (approvals are valid for four years and may be implemented or renewed or modified, or may simply lapse and require a new application).
v. It is likely that, should the proposed structure plan modification be supported by the WAPC, as well as a prospective subsequent super lot subdivision application, the residential portion of Lot 9050 will be sold, but again there is no certainty on what any future landowner aspirations might be in terms of residential subdivision design and timing of development.
vi. Orderly and proper planning would suggest that, despite the inherent uncertainties outlined above, options to potentially facilitate legible access arrangements for Lot 9050 and Lot 5000 should be retained where possible.

Local Development Plans (LDP) may be prepared if the local government considers one is required for the purposes of proper and orderly planning (Regulation 47) and must set out details of arrangements to be made for vehicles to access the area covered by an LDP (Regulation 48).

The endorsed Dunsborough Lakes Structure Plan identifies a number of LDP areas where future detailed guidance is required and 'LDP 1' applies to the tourism zoned land. The intent of 'LDP 1' is to facilitate and coordinate the orderly and proper planning of future tourism development across the eastern parts of Lots 9050 and 5000.

The current proposal includes a new requirement to be included in Part One, section 5 of the Structure Plan report to ensure, amongst other things, that vehicle access to the golf club from Waterville Road is maintained through Lot 5000. Officers are recommending that this requirement is modified to also address vehicle access to the residential portion of Lot 9050 (refer to Attachment F – Schedule of Modifications).

Officers are also recommending including in Part One, section 5 of the Structure Plan report, a new requirement for a LDP over the residential portion of Lot 9050, to read as follows –

"27. Prior to subdivision, a Local Development Plan is required for the residential portion of Lot 9050 and shall be required to address specific design requirements to ensure:

a. suitable and legible vehicular and pedestrian access arrangements with adjoining residential and tourism zoned land; and

b. a suitable interface (including consideration of earthworks, fill, retaining and landscaping) relative to adjoining residential and tourism zoned land and the golf course."

With respect to item 3 and 4 raised in the public submissions received, these are normally subdivisional matters, however the above modification would require their consideration prior to subdivision to better inform subdivision design and development outcomes. Regulation 50 of the *Planning and Development (Local Planning Schemes) Regulations* requires local development plans to be advertised, so there would also be further opportunity for consultation.

With respect to item 4 in particular, the Department of Water and Environmental Regulation has advised that stormwater management can be satisfactorily addressed at subsequent planning stages.

Risk Assessment

An assessment of the potential implications of implementing the Officer Recommendation has been undertaken using the City's risk management framework, with risks assessed taking into account any controls already in place. No such risks have been identified.

Options

As an alternative to the proposed recommendation the Council could:

1. To seek further information from the proponent before making a decision.
2. To decline the adoption of the proposed Structure Plan for reasons to be identified.

Officer assessment has not revealed any substantive issue or reasonable grounds that would support any of the above options.

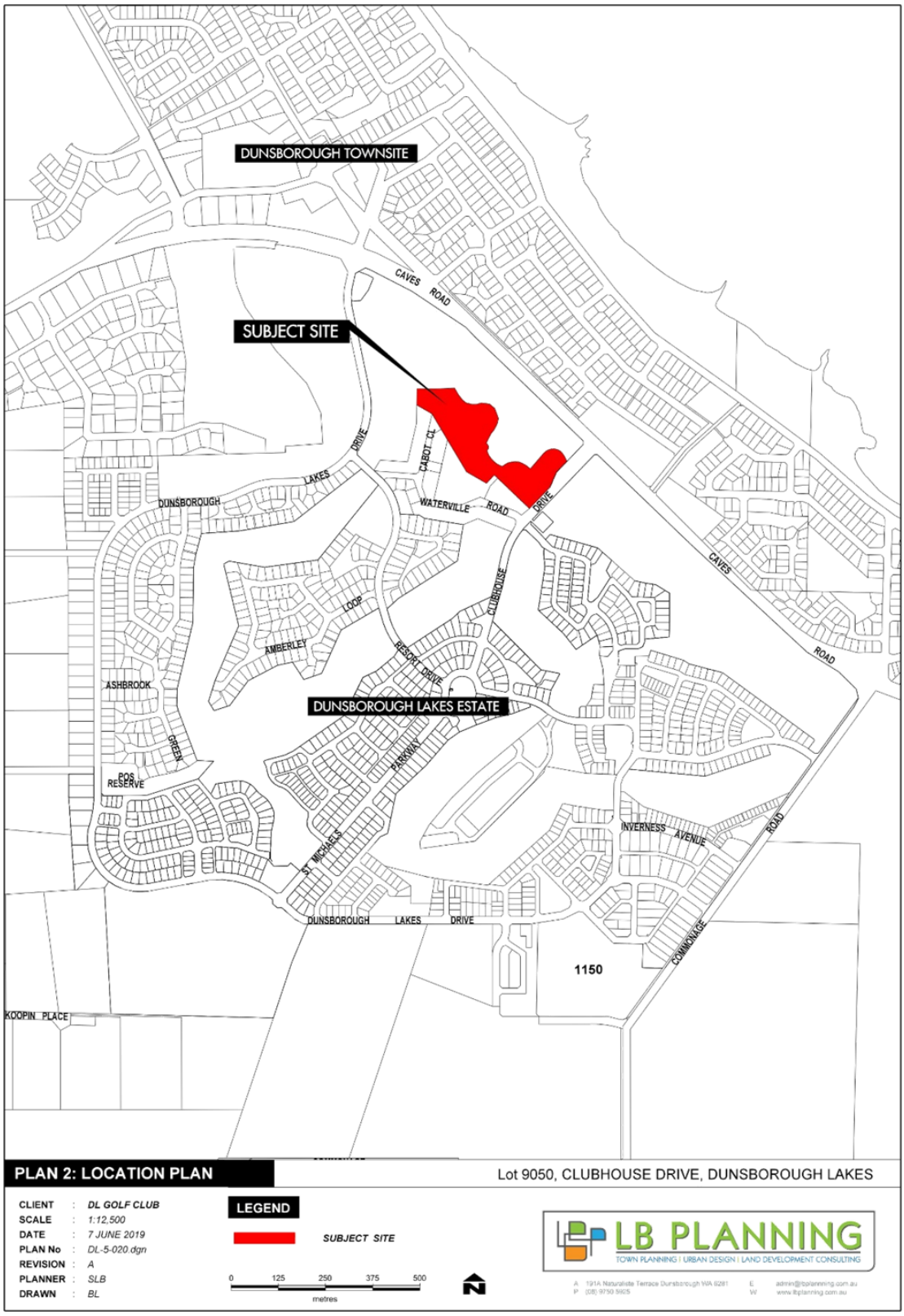
CONCLUSION

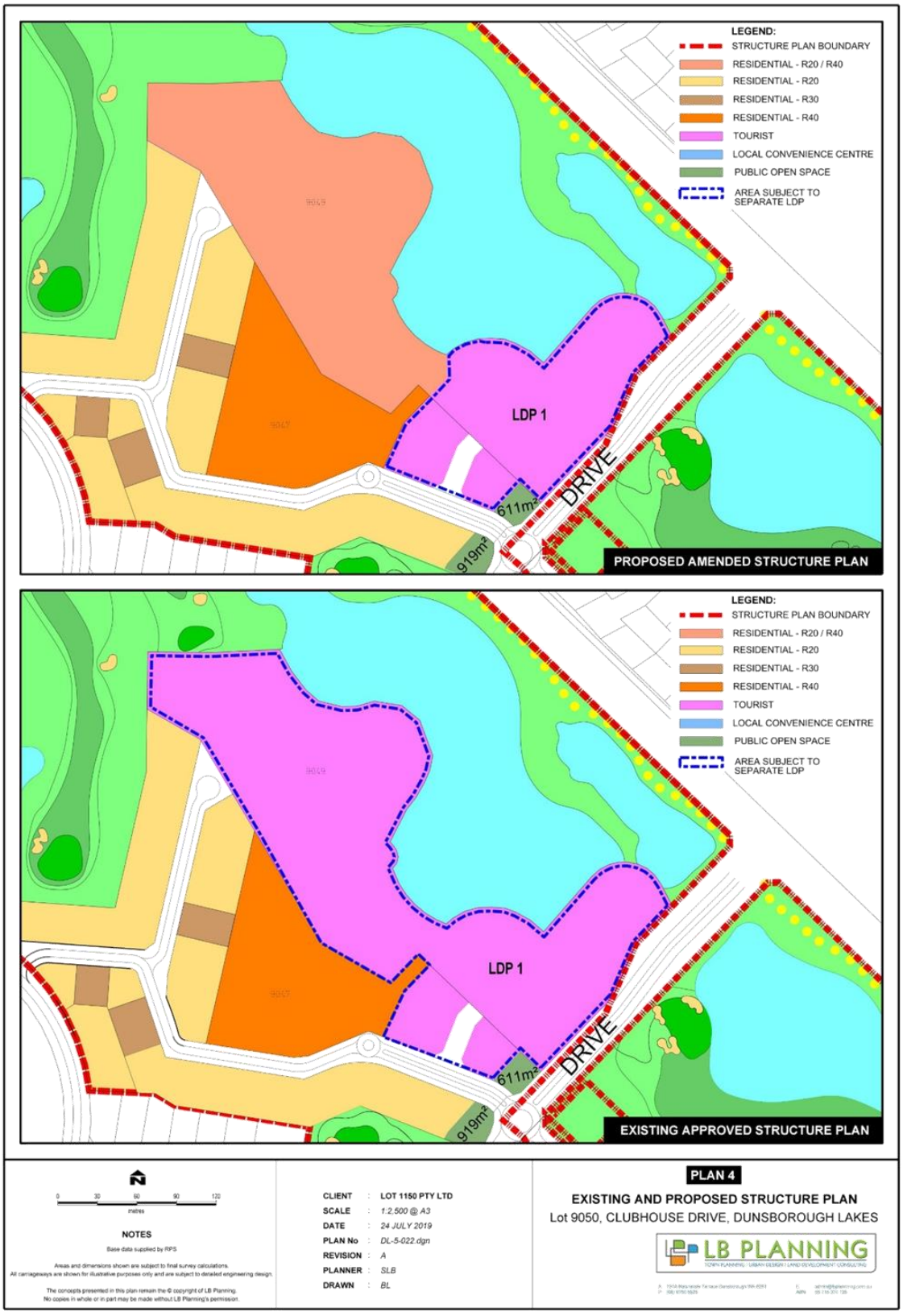
Officers are of the view that, generally, the information provided and the proposed Dunsborough Lakes Structure Plan itself are suitable for final approval in accordance with the changes set out in the Schedule of Modifications provided at Attachment F and referral to the WAPC for endorsement.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

Implementation of the Officer Recommendation will occur within one month of the date of the decision date.


DEVELOPMENT SUMMARY
Total Area
Residential 88.81 ha
R5 1.60 ha
R10 1.59 ha
R12.5 2.78 ha
R20 60.89 ha
R30 16.59 ha
R40 4.38 ha
Aged Care 1.03 ha
Commercial 12.08 ha
Restricted Business and Office 7.25 ha
Local Convenience Centre 0.14 ha
Mixed Use —
Tourist Site 4.69 ha
Open Space 32.89 ha
Local Parks 29.51 ha
Landscape Buffer 3.38 ha
Education 3.50 ha
Primary School (x1) 3.50 ha
P.O.S. SUMMARY
Total Area Total %
Total Structure Plan Area 263.12 ha
Deductions
Primary School 3.00 ha
Golf Course / Lakes 81.38 ha
Restricted Business and Office 7.25 ha
Tourist Site 4.69 ha
Landscape Buffer 3.38 ha
Total Deductions 100.20 ha
Gross Subdivisible Area 162.92 ha
P.O.S. Supplied 29.51 ha 11.2%
Unrestricted POS 9.0%
Restricted POS 2.1%
NOTE:
AREAS / LOT YIELD CALCULATIONS PROVIDED IN TABLES ABOVE ARE ESTIMATES ONLY AND REMAIN SUBJECT TO DETAILED DESIGN AND SURVEY AT THE SUBDIVISION STAGE AND OUTCOME OF DETAILED LOCAL AREA PLANNING. LANDSCAPE BUFFER MAY BE INCLUDED WITHIN PRIVATE LAND HOLDINGS AND BE REDUCED AT THE DEVELOPMENT APPROVAL STAGE.
CAVES ROAD
DUNSBOROUGH LAKES DRIVE
CLUBHOUSE DRIVE
RESORT DRIVE
AMBERLEY LOOP
ASHBROOK GREEN
POS RESERVE
ST. MICHAELS PARKWAY
INVERNESS AVENUE
COMMONAGE ROAD
KOOPIN PLACE
GENOLI ROAD
MEWETT
LDP 1
LDP 2
LDP 3
LDP 4
LDP 6
LEGEND:
STRUCTURE PLAN BOUNDARY
RESIDENTIAL - R5
RESIDENTIAL - R10
RESIDENTIAL - R12.5
RESIDENTIAL - R20
RESIDENTIAL - R30
RESIDENTIAL - R40
PRIMARY SCHOOL SITE
AGED CARE SITE
RESTRICTED BUSINESS AND OFFICE
TOURIST
PUBLIC OPEN SPACE
PEDESTRIAN LINK
LANDSCAPE BUFFER
AREA SUBJECT TO SEPARATE LDP
EXISTING LOT BOUNDARIES
EMERGENCY FIRE ACCESS WAY
VEGETATION BUFFER
PAW
PLAN REF: 132985-4-001M
DATE: 13 August 2019
CLIENT: DAWS & SONS PTY LTD
DRAWN BY: JLS
CHECKED BY: LM
DUNSBOROUGH LAKES
STRUCTURE PLAN
OVERALL
URBAN DESIGN
rps


DUNSBOROUGH TOWNSITE
SUBJECT SITE
CAVES ROAD
DUNSBOROUGH LAKES DRIVE
CABOT CL
WATERVILLE ROAD
CLUBHOUSE DRIVE
DUNSBOROUGH LAKES DRIVE
LOOP
AMBERLEY
RESORT DRIVE
ASHBROOK
GREEN
POS RESERVE
DUNSBOROUGH LAKES ESTATE
PARKWAY
ST MICHAELS
INVERNESS AVENUE
COMMONAGE ROAD
1150
KOOPIN PLACE
PLAN 2: LOCATION PLAN
Lot 9050, CLUBHOUSE DRIVE, DUNSBOROUGH LAKES
CLIENT : DL GOLF CLUB
SCALE : 1:12,500
DATE : 7 JUNE 2019
PLAN No : DL-5-020.dgn
REVISION : A
PLANNER : SLB
DRAWN : BL
LEGEND
SUBJECT SITE
0 125 250 375 500
metres
LB PLANNING
TOWN PLANNING | URBAN DESIGN | LAND DEVELOPMENT CONSULTING


LEGEND:
STRUCTURE PLAN BOUNDARY
RESIDENTIAL - R20 / R40
RESIDENTIAL - R20
RESIDENTIAL - R30
RESIDENTIAL - R40
TOURIST
LOCAL CONVENIENCE CENTRE
PUBLIC OPEN SPACE
AREA SUBJECT TO SEPARATE LDP
LDP 1
611m²
919m²
DRIVE
PROPOSED AMENDED STRUCTURE PLAN
LEGEND:
STRUCTURE PLAN BOUNDARY
RESIDENTIAL - R20 / R40
RESIDENTIAL - R20
RESIDENTIAL - R30
RESIDENTIAL - R40
TOURIST
LOCAL CONVENIENCE CENTRE
PUBLIC OPEN SPACE
AREA SUBJECT TO SEPARATE LDP
LDP 1
611m²
919m²
DRIVE
EXISTING APPROVED STRUCTURE PLAN
0 30 60 90 120
metres
NOTES
Base data supplied by RPS
Areas and dimensions shown are subject to final survey calculations.
All carriageways are shown for illustrative purposes only and are subject to detailed engineering design.
The concepts presented in this plan remain the © copyright of LB Planning.
No copies in whole or in part may be made without LB Planning's permission.
CLIENT : LOT 1150 PTY LTD
SCALE : 1:2,500 @ A3
DATE : 24 JULY 2019
PLAN No : DL-5-022.dgn
REVISION : A
PLANNER : SLB
DRAWN : BL
PLAN 4
EXISTING AND PROPOSED STRUCTURE PLAN
Lot 9050, CLUBHOUSE DRIVE, DUNSBOROUGH LAKES
LB PLANNING

Schedule of Submissions DP19/0005
PROPOSAL: Draft Structure Plan – LOT 9050 Clubhouse Drive, Dunsborough Lakes
SUBMISSIONS CLOSE: 30 October 2019
OFFICER: Louise Koroveshi

No	NAME & ADDRESS	NATURE OF SUBMISSION	STAFF COMMENT	STAFF RECOMMENDATION
Government agency submissions				
1.	Department of Planning, Lands and Heritage Henry Thomason Henry.Thomason@dplh.wa.gov.au	The proposal does not affect the heritage values of any Aboriginal Sites or Places.	Noted.	That the submission be noted.
2.	Department of Water and Environmental Regulation Krish Seewraj krish.seewraj@dwer.wa.gov.au	The Department has identified that there is potential for impacts on environment and water resource values and/or management. These have been identified in the Structure Plan report and are proposed to be addressed and mitigated at subsequent planning stages. The Department therefore does not object to the proposal and has no comments to make.	Noted.	That the submission be noted.
3.	Water Corporation PO Box 100 Leederville WA 6007	The Water Corporation's adopted wastewater catchment planning has not made allowance for wastewater flows to be received from the subject land. Further information has been sought from the proponent's consulting engineer on estimated wastewater flow so that the Corporation can determine if the site can be serviced and what upgrades, if any, the developer will need to undertake to the sewerage network to support servicing of the full development of the site. The future development of the land can be provided with water services by extensions to the water mains of adequate size from the surrounding network at the subdivision stage.	The Water Corporation has subsequently received advice from the proponent's engineering consultant that a lot yield of approximately 40 is anticipated. The Water Corporation advises that the resulting additional flows into the receiving sewer would be acceptable. Should the lot yield be higher the Water Corporation will provide advice to the proponent and/or developer of network upgrades that may be necessary.	That the submission be noted.

Schedule of Submissions DP19/0005
PROPOSAL: Draft Structure Plan – LOT 9050 Clubhouse Drive, Dunsborough Lakes
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4.	Telstra Locked Bag 3820 Brisbane QLD 4001	Advice provided on Telstra assets in the subject area and standard procedures to follow at subdivision stage.	Noted.	That the submission be noted.
5.	Department of Health PO Box 8172 Perth Business Centre WA 6849	Comments provided – Future development should be connected to scheme water and reticulated sewerage. The subject land is in an area that may be prone to mosquito prevalence. Management of mosquito breeding potential should be considered and addressed.	Existing urban development within Dunsborough Lakes is connected to reticulated services and this will apply to new stages of subdivision. The issue of mosquito management is addressed at subdivision approval stage of the planning process.	That the submission be noted.
6.	Department of Education 151 Royal Street East Perth WA 6004	The Department has assessed the proposal against the WAPC Development Control Policy DC2.4 – School Sites which sets out a general requirement of one 4ha public primary school site (3.5ha where co-located with public open space) per residential catchment of 1,500 – 1,800 dwellings. The draft structure plan report estimates a dwelling yield of 2,000 upon completion of the Dunsborough Lakes estate. It is also noted that the *Leeuwin Naturaliste Sub-Regional Strategy* (LNSRS) identifies a Dunsborough Planning Investigation Area to the southeast and future residential development would increase the dwelling yield within the Dunsborough Lakes primary school's catchment area. The Department's support for the proposal will be subject to the Dunsborough Lakes primary school site being increased to 4ha. Should additional residential land be identified through the Dunsborough Planning Investigation Area, the Department will undertake a holistic review of the Dunsborough Lakes Structure Plan	The Department's position is noted, however planning for educational needs for Dunsborough Lakes and Dunsborough generally should be considered in a strategic planning context. The *Leeuwin Naturaliste Sub-Regional Strategy* directs requirements for the preparation of a Townsite Strategy for Dunsborough with concurrent consideration of townsite expansion via the designation of a planning investigation area (PIA) to the south/southeast of Dunsborough Lakes. Both planning processes are being led by the WAPC/DPLH and detailed assessments for the PIA have commenced (the outcomes of which are to inform the Dunsborough Townsite Strategy). The Townsite Strategy is to assess and plan for a range of matters including, but not limited to, forecast population growth and community needs, including educational needs. Through this process additional primary school site(s), and quite possibly a high school site, are likely to be	That the submission be noted.

Schedule of Submissions DP19/0005
PROPOSAL: Draft Structure Plan – LOT 9050 Clubhouse Drive, Dunsborough Lakes
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		and the primary school's catchment area and a further public primary school site may be required.	identified and planned for, in consultation with the DoE. In this context, there should not be sole reliance on the current primary school site to meet the educational needs of Dunsborough Lakes, once fully developed. It is also noted that there are two private primary schools in Dunsborough in addition to the existing Dunsborough public primary school. Not all primary aged children within Dunsborough Lakes will necessarily attend a public school. Delivery of the Dunsborough Lakes primary school has not been a priority of the DoE for a number of years and it is understood that this has been due to competing priorities and budget allocations. In the meantime, urban development in the vicinity of the primary school site has advanced to the point where physically increasing the size of the site to 4 hectares is not a realistic option. The DoE has advised that the funding and timing of the construction of the Dunsborough Lakes primary school is still unknown, as this would occur when the subject school is officially announced by the Minister of Education. This typically occurs two years in advance. Given this scenario, it is likely that the Dunsborough Townsite Strategy and Dunsborough Planning Investigation Area planning processes will be well advanced or completed before the primary school is actually built.	
Public submissions				
1.	M van Rensburg 19 Cabot Close Dunsborough WA 6281	Adjoining landowner/resident. Matters raised – i. Loss of amenity – our property has uninterrupted views north and east across the golf course 1st tee, vegetation	The substantive issue arising from public submissions 1 and 2 (below) appears that adjoining residents in Cabot Close were of the understanding that the land between their properties/the end of	That the submission be noted and a modifications to the draft Structure Plan be recommended (refer to

Schedule of Submissions DP19/0005
PROPOSAL: Draft Structure Plan – LOT 9050 Clubhouse Drive, Dunsborough Lakes
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		and open spaces which will be lost with residential development. ii. When the land was purchased the sales advice was that the adjoining land (Lot 9050) would remain as a golf course. iii. Loss of property value (we paid a premium price for this lot due to its location and aspect over the golf course). iv. Information requested on whether Cabot Close would be extended, provision of open space/vegetation directly north of our property, timing of adjacent development and further consultation.	Cabot Close would remain golf course and was effectively public open space. That was not the case when the residential subdivision of Cabot Close was developed and subsequently sold, as the current tourism zoning of Lot 9050 has been identified on the Dunsborough Lakes Structure Plan since 2011. Furthermore, development under the current tourism zoning could be at a higher density and have a greater impact than what could be possible if the current proposal is ultimately supported. It is incumbent on any prospective landowner to undertake reasonable due diligence in relation to any property, including with the local government in regard to any adjoining/nearby implications of current zoning and/or future land use. Perceived loss of property value is not a valid or reasonable planning argument. Should the recommended modification to the draft Structure Plan be supported by the WAPC, further consultation on access arrangements could occur through the advertising of a Local Development Plan. The amount of public open space currently provided throughout Dunsborough Lakes estate, with the inclusion of the current proposal, does not attract the requirement for a further contribution (Liveable Neighbourhoods requires a 10% public	Attachment F – Schedule of Modifications).

Schedule of Submissions DP19/0005
PROPOSAL: Draft Structure Plan – LOT 9050 Clubhouse Drive, Dunsborough Lakes
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OFFICER: Louise Koroveshi

			open space contribution and Dunsborough Lakes estate currently provides 19.8%). The potential timing of adjacent development is unknown.	
2.	V Bennett 2172 Pfeiffer Road Manypeaks WA 6328	Adjoining landowner. Matters raised – i. Loss of amenity – I purchased my property for the views to the north and east, tranquillity and outlook over the golf course, lakes, vegetation and fairway 1. These elements will be lost with residential development. ii. I also purchased the lot because of its location at the end of a cul-de-sac for low traffic volumes, noise and emissions so I do not want Cabot Close to become a through road. iii. When the land was purchased I was not made aware that future changes to the golf course land use could happen. iv. Loss of property value – I paid a premium price for this lot due to its location and aspect over the golf course.	As per comments in response to public submission 1.	That the submission be noted and a modifications to the draft Structure Plan be recommended (refer to Attachment F – Schedule of Modifications).
3.	RPS Group on behalf of Urban Quarter Lot 5000 Waterville Drive Dunsborough WA 6281	Adjoining landowner. Submission relates to the interface between the existing residential areas within the structure plan area and the proposed additional residential areas. The general intent of the structure plan modification is supported as it noted that Tourism use at this location has limited viability and that it is appropriate for alternative residential land uses to occur.	Should the recommended modification to the draft Structure Plan be supported by the WAPC, further consideration would be given to access arrangements and the interface with existing residential areas. The contention that adjoining residential areas were designed on the basis that the golf course would be retained in this location is not the case as the current Tourism zoning of Lot 9050 came into effect in 2011.	That the submission be noted and modifications to the draft Structure Plan be recommended (refer to Attachment F – Schedule of Modifications).

Schedule of Submissions DP19/0005
PROPOSAL: Draft Structure Plan – LOT 9050 Clubhouse Drive, Dunsborough Lakes
SUBMISSIONS CLOSE: 30 October 2019
OFFICER: Louise Koroveshi

		Specific matters of concern raised – i. Access – no detail has been provided regarding the future configuration or access arrangements for the proposed residential area. Three possible access points are discussed but no information or assessment of their suitability or design implications have been provided (especially for Cabot Close residents). ii. Details on the extent of earth and retaining works along the interface of adjacent residential areas have not been provided. The adjoining residential areas have been designed on the basis of overlooking the golf course, with aspect and privacy considerations in the design of the subdivision to establish an appropriate interface with this open space. iii. The Local Water Management Strategy has not been updated to confirm that the current drainage network could accommodated increased flows that would result from future residential development.	The Department of Water and Environmental Regulation (government agency submission 2) states that stormwater management can be adequately addressed at subsequent planning stages.	



City of Busselton Geographe Bay	Disclaimer: Every effort has been made to make the information displayed here as accurate as possible. This process is ongoing and the information is therefore ever changing and cannot be disseminated as accurate. Care must be taken not to use this information as correct or legally binding. To verify information contact the City of Busselton office.	LOT 9050 CLUBHOUSE DRIVE & LOT 5000 WATERVILLE ROAD, DUNSBOROUGH LAKES	26/11/2019 1:3033 @ A4L	N

ATTACHMENT F – SCHEDULE OF MODIFICATIONS
DRAFT DUNSBOROUGH LAKES STRUCTURE PLAN
DP19/0005

No.	MODIFICATION	REASONS
1.	Modify the proposed Structure Plan to identify the requirement for a Local Development Plan over the 'Residential R20/R40' portion of Lot 9050, to be known as 'LDP 5'.	To clearly identify the area on the Structure Plan that is to have a Local Development Plan prepared in the interests of orderly and proper planning.
2.	Amend Part One, section 5 of the Structure Plan report to include two new requirements, as follows – '26. If a Local Development Plan for LDP 1 is required by the City of Busselton, it shall be applied as a condition of development and/or subdivision approval and shall address specific design requirements to ensure appropriate vehicle access arrangements to the golf club and residential portion of Lot 9050 and that all future development provides a suitable interface with adjoining residential land, the golf course and Clubhouse Drive. 27. Prior to subdivision to facilitate residential development, a Local Development Plan for LDP 5 is required to address specific design requirements to ensure: a. suitable and legible vehicular and pedestrian access arrangements with adjoining residential and tourism zoned land; and b. a suitable interface (including consideration of earthworks, fill, retaining and landscaping) relative to adjoining residential and tourism zoned land and the golf course.'	To include a suitable description of the Local Development Plans within the Structure Plan report and the matters they will need to address for the purposes of orderly and proper planning, especially legible vehicle access arrangements.
3.	Update Part 2 of the Structure Plan report to reflect the changes described in modifications 1 and 2.	The report should include an explanation for these modifications.

14. ENGINEERING AND WORK SERVICES REPORT

14.1 RFT 23-19 LOU WESTON COURTS CONSTRUCTION & CIVIL WORKS

STRATEGIC GOAL	2. PLACE AND SPACES Vibrant, attractive, affordable
STRATEGIC OBJECTIVE	2.2 Attractive parks and open spaces that create opportunities for people to come together, socialise and enjoy a range of activities.
SUBJECT INDEX	Tenders
BUSINESS UNIT	Major Projects and Facilities
REPORTING OFFICER	Manager Major Projects and Facilities - Eden Shepherd
AUTHORISING OFFICER	Director, Engineering and Works Services - Oliver Darby
NATURE OF DECISION	Executive: substantial direction setting, including adopting strategies, plans and policies (excluding local planning policies), tenders, setting and amending budgets, funding, donations and sponsorships, reviewing committee recommendations
VOTING REQUIREMENT	Absolute Majority
ATTACHMENTS	Attachment A Published Under Separate Cover Confidential RFT23-19 Eval and Reccommendation FINAL 4687397

OFFICER RECOMMENDATION

That the Council:

1. **Pursuant to RFT23-19 Lou Weston Courts Construction & Civil Works, endorse the tender from BCP Contractors Pty Ltd for $657,691.79 (exclusive of GST) as the preferred tenderer.**
2. **Delegate power and authority to the Chief Executive Officer to:**

    a) **Negotiate and agree with the Preferred Tenderer variations in accordance with Regulations 20 and 21A of the *Local Government (Functions and General) Regulations 1996* subject to such variations not to exceed the overall project budget;**

    b) **Negotiate and agree with the Preferred Tenderer the final terms and conditions of the respective contracts (including rates/contract prices); and**

3. **Subject to resolutions 2(a) and 2(b), enter into contracts with the Preferred Tenderer for supply of the relevant goods and services.**

EXECUTIVE SUMMARY

The City's objectives with this Request For Tender RFT23-19 Lou Weston Courts Construction & Civil Works facility upgrade is to replace the existing courts with twelve (12) new mixed-use outdoor courts.

The Scope of Works can be summarised as:

- Demolition of existing courts;
- Construction of new courts;
- Supply and installation of courts lighting;
- Installation of City supplied court posts; and
- Associated Civil and Electrical works

BACKGROUND

Community and sporting groups have utilised Lou Weston Oval, located at Lot 4539 King Street Busselton for many years. Lou Weston Oval is a three (3) hectare public reserve that is utilised for recreational purposes year round, featuring an active playing field, nine (9) netball courts with limited sports lighting, a club building, a small change room, and a toilet facility.

In summer, the active playing fields are utilised by the sport of tee-ball, and in winter by Junior Australian Rules Football, Auskick and Netball.

Basketball has been identified as a future user of the existing netball courts by upgrading and adding 3 additional courts to the existing 9, making six of the 12 courts dual purpose. Little Athletics has been identified as a future user group in summer as there is no Little Athletics club in Busselton. In addition the Busselton Runners Club is interested in making the oval their base and the cycling club is seeking a storage area.

In 2013 the City of Busselton Council adopted the Active Open Space Planning Recommendations to guide the future planning of active open space facilities within the district. This followed 18 months of consultation, needs assessments, a review of the City Leisure Services Plan and a demographic analysis of individual population precincts across the City.

The facilities were assessed as either Local, District or Regional and the recommendations and designations across the region are detailed within the Active Open Space Planning 2013 document.

It was endorsed as part of these recommendations that Lou Weston Oval be designated as a local level facility for active open space sports such as diamond sports (Tee ball) and the club based sport of Netball, and as a future facility for Baseball, and provision be made for local level facilities for junior Australian Rules Football. Since that report and following recent consultation, the identified sports are netball, basketball, junior football and tee ball with the possibility of Little Athletics. The junior football clubs have expressed a need to relocate to Bovell Oval in the future pending the outcome of a strategic recreation strategy which is to commence in September/October 2018.

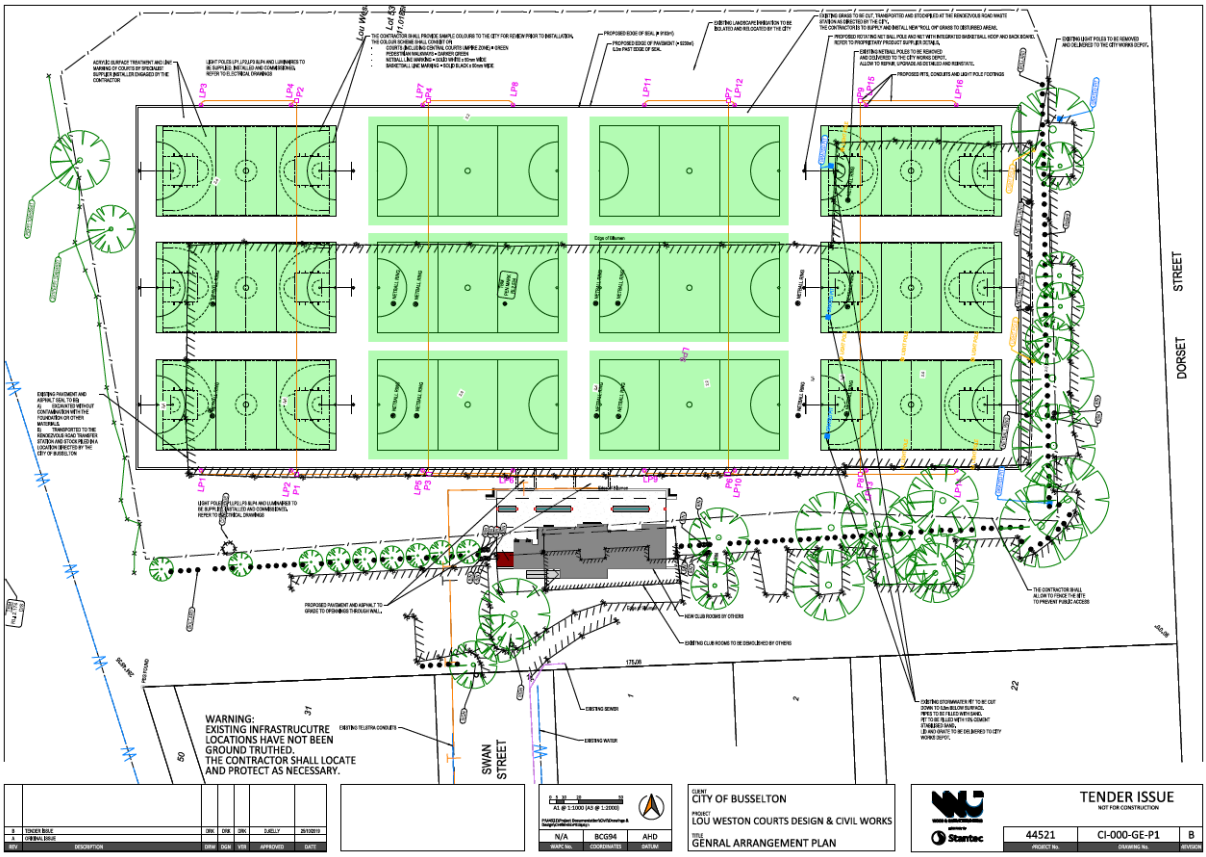
The key facility development strategies for Lou Weston Oval Included:

1. That ageing infrastructure at Lou Weston Oval is replaced by considering shared club facilities and rationalisation of ablution facilities including:

    - Additional storage;
    - Rationalisation of club rooms, change rooms and toilets at the reserve;
    - Shelter / viewing area for spectators;
    - Installation of sports lighting at the active playing fields and courts.

A Needs Assessment has been reviewed for Lou Weston Oval with the preferred outcome being an upgrade to the existing netball courts from 9 courts to 12 courts (to allow for future growth) and to dual purpose six of these courts with basketball. In addition, replacement of the existing netball pavilion is to be undertaken to include additional storage, male and female change rooms/toilets, change/toilet facilities for disabled and an increased verandah/viewing area.

The new facility will be capable of providing training and/or competition facilities for proposed regular users such as the Busselton Tee Ball Association, Country Junior Football Club, Wanderers Junior Football Club, Local Auskick Centre, Busselton Netball Association and Busselton Amateur Basketball Association. It will also provide a facility for Little Athletics.



OFFICER COMMENT

RFT23-19 Lou Weston Courts Construction & Civil Works was issued as a Public Tender on Saturday 26th October 2019 and closed Tuesday 12th November 2019. The invitation to tender was advertised in the West Australian, on the City's TenderLink procurement platform. The City received four compliant Tender Responses from the following contractors:

- BCP Contractors Pty Ltd
- JAK Civil Pty Ltd
- Leeuwin Civil Pty Ltd
- West Coast Profilers

The City received two non-compliant Tender Responses from the following contractors;

- ERG Electronics Pty Ltd
- Road Contractors Pty Ltd

Assessment Process

In accordance with the City's procurement practices and procedures tender assessments were carried out by a tender evaluation panel comprising City officers and an independent evaluation panel member with relevant skills and experience. The tender assessment process included:

- Assessing tenders received against relevant compliance criteria. The compliance criteria were not point scored. Each submission was assessed on a *Yes/No* basis as to whether each criterion was satisfactorily met. All tenders were deemed compliant.

- Assessing tenders against the following qualitative criteria:

Criteria	Weighting
Relevant Experience	25%
Local benefit	5%
Respondent's Capacity and Resources	10%
Demonstrated Understanding	20%
Price	40%

A scoring and weighting system was used to assess the tenders against these qualitative criteria.

The extent to which a tender demonstrated greater satisfaction of each of the qualitative criteria resulted in a greater score. The tendered prices were then assessed together with the weighted qualitative criteria and the tenders scored and ranked to determine the most advantageous outcome to the City, based on principles of best value for money. That is, although price was a consideration, the tender containing the lowest price will not necessarily be accepted, nor will the tender ranked the highest on the qualitative criteria.

Summary of Assessment Outcomes

The outcome of the evaluation panel's assessment was as follows:

Rank	Company	Summary
1.	BCP Contractors Pty Ltd	Very well structured submission in line with requirements and recommended key submission points. Submission specifically addresses the requirements under the RFT for construction of sporting facility and associated civil works. Opportunities for community engagement throughout the project highlighted, which promotes openness ownership and this will likely be to the benefit of the local community.
2.	Leeuwin Civil Pty Ltd	Information is well structured and basically in line with the requirements and recommended key submission points. However, submission addresses only the basic relevant experience requirements under the RFT by referring to only one sporting facility project. Did only partially address the specific requirements of the RFT criteria.
3.	WCP Civil Pty Ltd	Only partially addresses the specific requirements of the RFT criteria. Provided experience road works, drainage & pathway pavement no listed court base work.
4.	J.A.K Civil Pty Ltd	Poorly structured submission. Not in the recommended format. Not all information points addressed. Submission is generic and barely addresses the requirements under the RFT.

Statutory Environment

The contract value is greater than $500,000, therefore, in accordance with section 5.43(b) of the *Local Government Act 1995* (the Act), read with Delegation 3J, the tender must be accepted by the Council and will require a report to the Council.

In terms of section 3.57 of the Act, a local government is required to invite tenders before it enters into a contract of a prescribed kind under which another person is to supply goods and service. Part 4 of the *Local Government (Functions and General) Regulations 1996*:

- requires that tenders be publicly invited for such contracts where the estimated cost of providing the required goods and/or service exceeds $150,000; and
- under Regulations 11, 14, 18, 20 and 21A provides the statutory framework for inviting and assessing tenders and awarding contracts pursuant to this process.

With regard to RFT23-19, City officers have complied with abovementioned legislative requirements. The officer recommendation supports the general function of a local government under the *Local Government Act 1995* to provide for the good government of persons in its district.

Relevant Plans and Policies

The City's purchasing policies and its occupational health and safety, asset management and engineering technical standards and specifications were all relevant to RFT23-19, and have been adhered to in the process of requesting and evaluating tenders.

Financial Implications

The project/procurement for the Lois Hannay Pavilion Construction and Lou Weston Courts and Civil Works Construction will be funded as follows:

Infrastructure Development Reserve	$363,400
Community Facilities City District	$1,000,000
Government Grants CSRFF	$400,000
Busselton Netball Club contribution	$120,000
Total	**$1,883,400**

BCP Contractors Pty Ltd who is recommended for award of the contract has submitted a lump sum Tender price within the City's approved budget funding.

Stakeholder Consultation

RFT23-19 was advertised in the West Australian newspaper 26th October 2019 and the City of Busselton tenders website (TenderLink) on 25th October 2019. The closing time and date for lodgement of a response was 2.00pm (AWST) on Tuesday 12 November 2019. Officers have undertaken reference checks of the preferred tenderer.

Risk Assessment

An assessment of the potential implications of implementing the Officer's recommendation has been undertaken using the City's risk assessment framework, with the intention being to identify risks which, following implementation of controls, are identified as medium or greater. There are no such risks identified, with the preferred tenderer assessed as being capable of delivering the services to a suitable service level and in line with the agreed cleaning schedule.

Options

The Council may consider the following alternate options:

1) To award the Tender to an alternative tenderer/s. In the view of the Officers this could result in the Tender being awarded to a Tenderer that is not most advantageous to the City.

2) To not award the Tender. This would mean going back out to tender, resulting in significant delays to the contract award and potential significant delays to the delivery of the Lou Weston Courts.

For the reasons provided in this report, the abovementioned options are not recommended.

CONCLUSION

It is recommended that Council endorse the outcomes of the City's tender evaluation panel's assessment in relation to tender RFT23-19 Lou Weston Courts Construction & Civil Works which recommends BCP Contractors Pty Ltd as the most advantageous to the City.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

The selection of the preferred tenderer can be made immediately after the Council has endorsed the Officer's recommendation. Subject to successful negotiation in accordance with the officer recommendation.

14.2 RFT 24-19 LOU WESTON PAVILION CONSTRUCTION

STRATEGIC GOAL	1. COMMUNITY: Welcoming, friendly, healthy
STRATEGIC OBJECTIVE	1.4 Community services and programs that support people of all ages and backgrounds.
SUBJECT INDEX	Tenders
BUSINESS UNIT	Major Projects and Facilities
REPORTING OFFICER	Manager Major Projects and Facilities - Eden Shepherd
AUTHORISING OFFICER	Director, Engineering and Works Services - Oliver Darby
NATURE OF DECISION	Executive: substantial direction setting, including adopting strategies, plans and policies (excluding local planning policies), tenders, setting and amending budgets, funding, donations and sponsorships, reviewing committee recommendations
VOTING REQUIREMENT	Absolute Majority
ATTACHMENTS	Attachment A Published Under Separate Cover Confidential RFT24-19 Evaluation & Recommendation Report Attachment B Published Under Separate Cover Confidential Evaluation Score Sheet & Consensus Sheet

OFFICER RECOMMENDATION

That the Council:

1. **Pursuant to RFT24-19 Lou Weston Pavilion Construction, endorse the tender from Innovest Construction Pty Ltd for $ 809,241.85 (exclusive of GST) as the preferred tenderer.**

2. **In respect to RFT24-19, delegate power and authority to the Chief Executive Officer to:**

    a) **Negotiate and agree with the Preferred Tenderer variations in accordance with Regulations 20 and 21A of the Local Government (Functions and General) Regulations 1996 subject to such variations not to exceed the overall project budget;**

    b) **Negotiate and agree with the Preferred Tenderer the final terms and conditions of the respective contracts (including rates/contract prices); and**

    c) **Subject to resolutions 2(a) and 2(b), enter into contracts with the Preferred Tenderer for supply of the relevant goods and services.**

EXECUTIVE SUMMARY

The City's objective with this Request for Tender is to engage a suitably experiences Contractor for the following works at Lou Weston Oval, Dorsett Street, West Busselton:

- Demolition of existing Lois Hannay Pavilion.
- Construction of the new Lois Hannay Pavilion.
- Supply of temporary power to the Temporary Netball Office during the construction period.

BACKGROUND

Community and sporting groups have utilised Lou Weston Oval, located at Lot 4539 King Street Busselton for many years. Lou Weston Oval is a three (3) hectare public reserve that is utilised for recreational purposes year round, featuring an active playing field, nine (9) netball courts with limited sports lighting, a club building, a small change room, and a toilet facility.

In summer, the active playing fields are utilised by the sport of tee-ball, and in winter by Junior Australian Rules Football, Auskick and Netball.

In 2013 the City of Busselton Council adopted the Active Open Space Planning Recommendations to guide the future planning of active open space facilities within the district. This followed 18 months of consultation, needs assessments, a review of the City Leisure Services Plan and a demographic analysis of individual population precincts across the City.

The facilities were assessed as either Local, District or Regional and the recommendations and designations across the region are detailed within the Active Open Space Planning 2013 document.

It was endorsed as part of these recommendations that Lou Weston Oval be designated as a local level facility for active open space sports such as diamond sports (Tee ball) and the club based sport of Netball, and as a future facility for Baseball, and provision be made for local level facilities for junior Australian Rules Football. Since that report and following recent consultation, the identified sports are netball, basketball, junior football and tee ball with the possibility of Little Athletics. The junior football clubs have expressed a need to relocate to Bovell Oval in the future pending the outcome of a strategic recreation strategy which is to commence in September/October 2018.

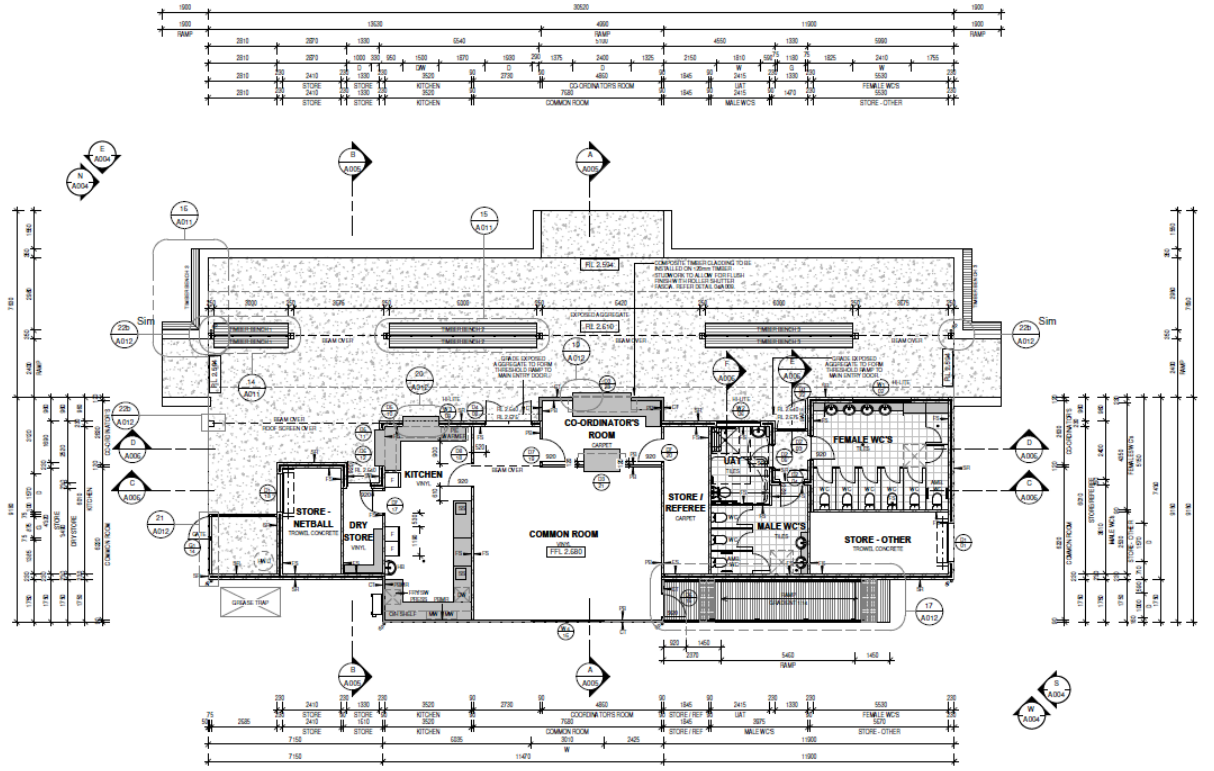
The key facility development strategies for Lou Weston Oval Included:

1. That ageing infrastructure at Lou Weston Oval is replaced by considering shared club facilities and rationalisation of ablution facilities including:

- Additional storage;
- Rationalisation of club rooms, change rooms and toilets at the reserve;
- Shelter / viewing area for spectators;
- Installation of sports lighting at the active playing fields and courts.

A Needs Assessment has been reviewed for Lou Weston Oval with the preferred outcome being an upgrade to the existing netball courts from 9 courts to 12 courts (to allow for future growth) and to dual purpose six of these courts with basketball. In addition, replacement of the existing netball pavilion is to be undertaken to include additional storage, male and female change rooms/toilets, change/toilet facilities for disabled and an increased verandah/viewing area.

The new facility will be capable of providing training and/or competition facilities for proposed regular users such as the Busselton Tee Ball Association, Country Junior Football Club, Wanderers Junior Football Club, Local Auskick Centre, Busselton Netball Association and Busselton Amateur Basketball Association. It will also provide a facility for Little Athletics.



Floor plan Lou Weston Pavilion

OFFICER COMMENT

RFT24-19 Lou Weston Pavilion Construction was issued as a Public Tender on Saturday 2nd November 2019 and closed Tuesday 26th November 2019. The invitation to tender was advertised in the West Australian, on the City's TenderLink procurement platform. The City received eight compliant Tender Responses from the following contractors:

- Big Ben Builders Pty Ltd
- CEM Alliance Pty Ltd
- Challis Builders
- Civilcon Constructions PL
- Devlyn Australia Pty Ltd
- Hacer Pty Ltd T/A Smith Constructions WA
- Innovest Construction
- ProLiving Pty Ltd

Assessment Process

In accordance with the City's procurement practices and procedures tender assessments were carried out by a tender evaluation panel comprising City officers and an independent evaluation panel member with relevant skills and experience. The tender assessment process included:

- Assessing tenders received against relevant compliance criteria. The compliance criteria were not point scored. Each submission was assessed on a *Yes/No* basis as to whether each criterion was satisfactorily met. All tenders were deemed compliant.

- Assessing tenders against the following qualitative criteria:

Criteria	Weighting
Relevant Experience	25%
Local benefit	5%
Respondent's Capacity and Resources	10%
Demonstrated Understanding	20%
Price	40%

A scoring and weighting system was used to assess the tenders against these qualitative criteria.

The extent to which a tender demonstrated greater satisfaction of each of the qualitative criteria resulted in a greater score. The tendered prices were then assessed together with the weighted qualitative criteria and the tenders scored and ranked to determine the most advantageous outcome to the City, based on principles of best value for money. That is, although price was a consideration, the tender containing the lowest price will not necessarily be accepted, nor will the tender ranked the highest on the qualitative criteria.

Summary of Assessment Outcomes

The outcome of the evaluation panel's assessment was as follows:

Rank	Company	Summary
1.	Innovest Construction	Recent delivery of sports pavilions demonstrated in submission including with a local stakeholder group. Over 50% of subcontractors local, Sponsorship of the local football club among others. References that projected 98% of project value will be spent within Busselton and the South West region indicating strong local benefit. Extensive resources available. Good knowledge of project requirements and local context. Experience working in Busselton Foreshore during peak season.
2.	Devlyn Australia Pty Ltd	Recent delivery of sports pavilions demonstrated in submission, sufficient resources available. Comprehensive, logical program and sound methodology.
3.	Hacer Pty Ltd T/A Smith Constructions WA	Delivery of sporting facilities demonstrated in submission, sufficient resources available, detailed program and sound statement of works delivery.
4.	Civilcon Constructions PL	Recent delivery of sports pavilions demonstrated in submission, sufficient resources available, however insufficient detail around demonstrated understanding of project requirements.
5.	Big Ben Builders Pty Ltd	No specific sporting facilities experience. Sound understanding of project requirements, however no program provided.

6.	Challis Builders	No experience of building pavilions, mainly smaller projects listed in submission. Program only provided, no further written detail around demonstrated understanding of project requirements.
7.	ProLiving Pty Ltd	Delivery of the YCAB demonstrates the ability to work in a highly public forum. However this is the only example of a recent commercial project. Insufficient detail provided in submission.
8.	CEM Alliance Pty Ltd	No structural or demolition projects mentioned in submission, insufficient respondent's resources detail provided. Limited information provided to indicate detailed understanding of project requirements

Statutory Environment

The contract value is greater than $500,000, therefore, in accordance with section 5.43(b) of the *Local Government Act 1995* (the Act), read with Delegation 3J, the tender must be accepted by the Council and will require a report to the Council.

In terms of section 3.57 of the Act, a local government is required to invite tenders before it enters into a contract of a prescribed kind under which another person is to supply goods and service. Part 4 of the *Local Government (Functions and General) Regulations 1996*:

- requires that tenders be publicly invited for such contracts where the estimated cost of providing the required goods and/or service exceeds $150,000; and
- under Regulations 11, 14, 18, 20 and 21A provides the statutory framework for inviting and assessing tenders and awarding contracts pursuant to this process.

With regard to RFT24-19, City officers have complied with abovementioned legislative requirements. The officer recommendation supports the general function of a local government under the *Local Government Act 1995* to provide for the good government of persons in its district.

Relevant Plans and Policies

The City's purchasing policies and its occupational health and safety, asset management and engineering technical standards and specifications were all relevant to RFT24-19, and have been adhered to in the process of requesting and evaluating tenders.

Financial Implications

The project/procurement for the Lois Hannay Pavilion Construction and Lou Weston Courts and Civil Works Construction will be funded as follows:

Infrastructure Development Reserve	$363,400
Community Facilities City District	$1,000,000
Government Grants CSRFF	$400,000
Busselton Netball Club contribution	$120,000
Total	**$1,883,400**

Innovest Construction who is recommended for award of the contract has submitted a lump sum Tender price within the City's approved budget funding.

Stakeholder Consultation

RFT24-19 was advertised in the West Australian newspaper on Saturday 2nd November 2019 and the City of Busselton tenders website (TenderLink) on Saturday 2nd November 2019. The closing time and date for lodgement of a response was 2.00pm (AWST) on Tuesday 26th November 2019.

Risk Assessment

An assessment of the potential implications of implementing the Officer's recommendation has been undertaken using the City's risk assessment framework, with the intention being to identify risks which, following implementation of controls, are identified as medium or greater. There are no such risks identified, with the preferred tenderer assessed as being capable of delivering the services to a suitable service level and in line with the agreed cleaning schedule.

Options

The Council may consider the following alternate options:

1) To award the Tender to an alternative tenderer/s. In the view of the Officers this could result in the Tender being awarded to a Tenderer that is not most advantageous to the City.

2) To not award the Tender. This would mean going back out to tender, resulting in significant delays to the contract award and potential significant delays to the delivery of the Lois Hannay Pavilion.

For the reasons provided in this report, the abovementioned options are not recommended.

CONCLUSION

It is recommended that Council endorse the outcomes of the City's tender evaluation panel's assessment in relation to tender RFT24-19 Lou Weston Pavilion Construction which recommends Innovest Construction as the most advantageous to the City.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

The selection of the preferred tenderer can be made immediately after the Council has endorsed the Officer's recommendation. Subject to successful negotiation in accordance with the officer recommendation.

15. COMMUNITY AND COMMERCIAL SERVICES REPORT

15.1 BUSSELTON JETTY VILLAGE PROPOSAL

STRATEGIC GOAL	4. ECONOMY Diverse, resilient, prosperous
STRATEGIC OBJECTIVE	4.3 Events and unique tourism experiences that attract visitors and investment.
SUBJECT INDEX	Busselton Jetty
BUSINESS UNIT	Community and Commercial Services
REPORTING OFFICER	Director, Community and Commercial Services - Naomi Searle Property Management Coordinator - Sharon Woodford-Jones Legal Services Coordinator - Cobus Botha
AUTHORISING OFFICER	Director, Community and Commercial Services - Naomi Searle
NATURE OF DECISION	Quasi-Judicial: to determine an application/matter that directly affects a person's right and interests e.g. development applications, applications for other permits/licences, leases and other decisions that may be appealable to the State Admin Tribunal.
VOTING REQUIREMENT	Absolute Majority
ATTACHMENTS	Attachment A Proposed Licence Area - Jetty Village Attachment B Published Under Separate Cover Confidential: Project P&L - Jetty Village

OFFICER RECOMMENDATION

That the Council resolves to:

SIMPLE MAJORITY

1. **Support the proposed Busselton Jetty Village project as outlined in this report ("Village Project");**
2. **Endorse the Village Project licence fee payable by Buselton Jetty Inc. ("BJI") as follows:**

   2020/2021 - $15,000

   2021/2022 - $25,000

   2022/2023 - $30,000

   2023/2024 - $35,000

   2024/2025 financial year (and thereafter, on every fifth anniversary of the term) to be reviewed and adjusted for the next 5 year period, based on BJI's actual net income from Village operations at the time;
3. **Formalise BJI use of the Busselton Jetty for the Village Project by way of a licence agreement on terms and conditions as outlined in this report;**
4. **In order to give effect to resolutions (1) – (3) above, authorise the Chief Executive Officer to:**

   a. **negotiate and enter into a licence agreement with BJI for delivery and operation of the Village Project subject to the approval of the Minister for Lands and the Department of Transport;**

   b. **amend the Busselton Jetty licence agreement between the City of Busselton and BJI to reflect the licence fee arrangement as outlined in the report**

5. Authorise the CEO to request and accept a revision to Management Order L223936 from the Minister for Planning, Lands and Heritage in respect to Reserve 46715 as follows:

a) delete the words "…*other than the Main Jetty Area*,…";

b) replace the Reserve Purpose with "*Recreation, Tourism, Heritage, Education and Marine Research and for purposes ancillary or beneficial to that designated purpose only";* and

c) such other changes as may be necessary or appropriate to allow current and future use of the Busselton Jetty and Reserve 46715 for the purposes specified in resolution 5(b) above.

ABSOLUTE MAJORITY

6. Contribute $100,000 (exclusive of GST) towards the cost of construction of buildings and structures that form part of the Village Project and endorse the requested budget amendment as outlined below:

Cost Code	Description	Current Budget $	Change $	Resulting Proposed Amended Budget $
Reserves				
110-9103	**Transfer from Jetty Maintenance Reserve**	**(2,982,095)**	**(75,000)**	**(3,057,095)**
Expenditure				
500-11160-3640-0000	**Donations & Contributions – Busselton Jetty Management Agreement**	**25,000**	**75,000**	**100,000**
TOTALS		**(2,957,095)**	**0**	**(2,957,095)**

EXECUTIVE SUMMARY

In 2016 Busselton Jetty Inc (BJI) commissioned a feasibility study to identify revenue generating opportunities with the objective of ensuring the organisation's long term sustainability and to maximise revenue raising to preserve and maintain the Busselton Jetty. Through this study a two-staged development was identified that would value-add to the visitor experience and increase revenue streams; stage one being the Busselton Jetty Village project (the subject of this report), stage two being a new underwater discovery centre (future project).

Following the securing of Federal Government funding for the Busselton Jetty Village project, BJI has progressed detailed designs and requested an allocation of $100,000 from the City of Busselton towards the estimated $1.8M project. Through ongoing briefings to Council, in-principle support was provided for the project resulting in the development of a draft terms and conditions of a proposed licence agreement to enable the project to proceed; as outlined in this report.

BACKGROUND

BJI, formerly known as "BJECA" (the Busselton Jetty Environment and Conservation Association Incorporated), is a Busselton based voluntary incorporated association with, among other things, the following objectives:

- Raising funds to protect and preserve the Busselton Jetty and the environment around it; and
- Being resourceful, financially viable and economically sustainable to ensure it meets its obligation to provide funds for the preservation and maintenance of the Busselton Jetty.

BJI has for many years been raising funds and actively worked towards restoration of the Busselton Jetty. In 2008 the City obtained grant funding of $24 million from the South West Development Commission (**SWDC**) for purposes of refurbishing the Busselton Jetty. The grant agreement between the City and SWDC required the City, among other things, to:

- Enter into a performance based operator agreement with BJI in respect of "*Jetty related activities*" for a "*renewable 5 year term*"; and
- Establish a "*Jetty maintenance account*" and contribute to that account a minimum of $650,000 per year from "*operating revenues associated with jetty-related activities*".

In accordance with the SWDC grant agreement:

- The City established the Jetty Maintenance Reserve Account (established and administered under Section 6.11 of the Local Government Act) for the purposes of maintenance and repair of the Busselton Jetty; and
- The City and BJI entered on 30 October 2009 into a licence agreement (**Busselton Jetty Licence**) in terms of which BJI was granted the right to conduct certain commercial activities at/on the Busselton Jetty in consideration for payment of an annual licence fee, and also assumed certain maintenance obligations (**Licenced Activities**).

The Licenced Activities include collecting entrance fees (from persons entering the Busselton Jetty from its land side) and operating the Busselton Jetty train, the underwater observatory (located near the northern end of the Busselton Jetty) (**UWO**) and the Interpretive Centre (**IC**) – that is the ticket office/retail outlet at the jetty entrance. The Licenced Activities constitute BJI's main business and is BJI's main source of revenue.

In 2016, following a review of the Busselton Jetty Licence, the City and BJI agreed to extend the term of the BJI Jetty Licence for a further 42 years (the initial term now expiring 2038 with BJI having an option to extend the initial term for 3 further terms of 7 years each). As part of this review the Busselton Jetty Licence was also amended to redefine the way the licence fee payable by BJI, is calculated. Further detail about the licence fee is provided in the Financial Implications section of this report.

The Busselton Jetty is a highly successful tourist attraction. The UWO is the main attraction on the Busselton Jetty, with tours for visiting the UWO (most of which include a trip on the Busselton Jetty train) generating the most income. Despite increasing operating hours of the UWO during peak seasons, visitors are turned away from UWO tours due to building's size constraints.

A feasibility study commissioned by BJI in 2016 found that it is imperative to implement new income generating activities at and on the Busselton Jetty in order to ensure its financial sustainability over the long term. Through this feasibility study the Busselton Jetty Village concept evolved (**Village Project**). The proposed Village Project forms part of a two-stage development proposed by BJI, with the second stage being a proposed Australian Underwater Discovery Centre (**AUDC**). The AUDC project, currently in its planning stage, proposes a new UWO as a key strategy for increasing revenue from Busselton Jetty operations.

This project will comprise construction of a new state of the art underwater observatory with a larger footprint than the existing UWO. BJI has indicated that funding of a significant portion of the AUDC project costs has been from the Federal government and that further progression is currently subject to a State Government funding proposal. On 26 June 2019 Council expressed conditional in-principle support for BJI's AUDC proposal (C1906/118).

The primary objective of the Village Project is to expand current Busselton Jetty facilities to improve visitor experiences at the end of the Busselton Jetty by providing a "Village" precinct offering a range of facilities that will complement the existing UWO, Busselton Jetty Train and, in time the proposed AUDC. BJI indicated that, in general, their aim with the Village Project is to:

- Create a world-class facility at the end of the iconic Busselton Jetty, offering a unique destination experience to the local community and people visiting Busselton, the South West region and Western Australia;
- Increase visitation to the Busselton Jetty;
- Construct and operate a multi-use facility that is both functional and economically sustainable, with visitor comfort and safety incorporated into design; and
- Enhance and complement existing BJI operations and pursue alternative revenue-generating opportunities.

In August 2019 BJI provided the City with a *Busselton Jetty Village Project Management Plan*, with detailed information about the Village Project which can be summarised as follows:

- The "Village" will be located at the end of the Busselton Jetty, immediately north of the UWO;
- The proposal is for construction and use of the following "Village" buildings/structures:
  - "Food and beverage pod" to be used as a retail food and beverage outlet (approximately 63m^2)
  - Public toilets (approximately 30m^2)
  - "Interpretive Zone" to be used as a multi-purpose space providing multi-sensory and interactive marine scientific activities for school children and visitors (approximately 42m^2); and
  - "Staff/volunteer pod" to be used for administration and storage purposes (approximately 18m^2) with an adjacent "service yard" for bin and general storage (approximately 55m^2).
- All of these buildings/structures are to be covered by a single high gable ended roof, intended to match the 'pitch' of the existing UWO roof structures and simultaneously creating a greater volume internally and providing a greater sense of space;
- By having the "Village" area covered, the proposed development will provide better protection from the extremities of the elements through provision of shelter from the sun, heat, wind and rain; and
- The building design is intended sit in harmony with the existing Busselton Jetty buildings (UWO and IC), taking cues from the materials, colour palette and form. It is also designed to complement and accommodate the proposed future Australian Underwater Discovery Centre.

Officers have updated Councillors about the Village Project since February 2019 through various Council briefing sessions, with Councillors indicating their in-principle support for the Village Project. As part of this, Council was briefed on a request of BJI for the following:

- City to contribute $100,000 towards new ablution facilities
- In lieu of the current licence fee payable under the Busselton Jetty licence agreement (as outlined in the Financial Implications section of this report), a fixed $10,000 annual payment to be transferred to a new "special purpose fund" that will fund the future Australian Underwater Discovery Centre project.

Further to this, BJI has now confirmed that funding for the project has been secured (see the Financial Implications section of this report) and detailed designs have been prepared. As such, BJI and City officers have negotiated draft terms and conditions of a proposed licence agreement. This report is now presented to Council for consideration and formal endorsement of this project.

OFFICER COMMENT

BJI has approached the City with a proposal to develop and operate the Busselton Jetty Village at the northern end of the Busselton Jetty. In support of their proposal BJI has provided the City with a range of documentation detailing the Village Project, including:

- Business Case - Village Project March 2019
- Busselton Jetty Village Project Management Plan August 2019
- Busselton Jetty Village Construction Communication Plan
- SMC Busselton Jetty 80% Design Report 07-10-2019 Combined
- Busselton Jetty Village Consultation Information
- SMC Marine for overall design and construction management of the Village Project;
- WML Engineering for structural design of all buildings and structures;
- Engineering Technology Consultants for electrical and telecommunications design and installations; and
- TJ Peach and Associates for hydraulic and mechanical design work.

The information provided by BJI indicates sufficient justification for the Village Project and also indicates that BJI has the capacity and resources to successfully deliver the project.

The Busselton Jetty is constructed on Reserve 46715, which is Crown land reserved under section 41 of the Land Administration Act for the purpose of "Recreation, Tourism and Heritage". Care, control and management of this reserve has been vested in the City on conditions set out in Management Order L223936 (Management Order). Due to the current (restrictive) wording of certain conditions in the Management Order the City has limited power to grant a lease or licence over Busselton Jetty – this issue is further discussed in the Statutory Framework section of this report. An amendment of the Management Order has been sought and recently approved at officer level by the Department of Planning Lands and Heritage (DPLH), the agency responsible for administration of the Land Administration Act.

In providing in-principle approval referred to above, the DPLH advised that any tenure arrangement that will restrict public access to the Busselton Jetty or any part thereof (e.g a lease), will not be approved. The City has always endorsed this principle – the Busselton Jetty is considered to be a community asset and access to the whole of the Busselton Jetty should, subject to certain security and public-safety requirements, at all times be available to the public at large. It is recommended therefore that BJI's tensure and use of the Busselton Jetty for the Village Project is formalised by way of a "stand-alone" licence agreement.

City officers have negotiated the essential terms of a proposed licence agreement with BJI, which are now presented to Council for consideration and approval:

- Licensed activities
  Undertaking and completing construction of the buildings and other structures comprising the "village", operating a retail food and beverage outlet, undertaking marine interpretive/educational activities within the licenced area, use of the designated building for office and administration purposes, provision of public facilities such as ablutions, showers, storage lockers and other amenities ancillary to the licenced activities and, with the City's prior approval, use of the licenced area as a multi- purpose function and events facility.

- Licensed area
  The section of the Busselton Jetty (approximately 150 metres) to the north of the UWO, the location and layout (conceptually) is shown on the plan attached to this report.

- Licence non-exclusive
  The licence is non-exclusive and will not create in or confer or grant BJI any tenancy, estate or interest in the Busselton Jetty or Reserve 46715, other than a contractual right for BJI to use the designated licenced area for the licenced activities. In addition the licence will be granted subject to any other rights or interests which exist or which may be created in respect of the Busselton Jetty or Reserve 46715. This means that the City will not be precluded from permitting in future any further activities at/on the Busselton Jetty (e,g activities such as berthing for cruise ships, sporting events, filming and activities for educational purposes).

- Approvals required
  The licence is granted subject to BJI and the City obtaining all approvals and consent required for the Village Project. These include ministerial consent in accordance with the Land Administration Act, approval from Department of Transport as required under the Jetties Act and development approval in accordance with the City's local planning scheme.

- Structural integrity
  BJI must obtain City approval of the design and structural integrity of the proposed buildings and other structures to be constructed. BJI will also be required to demonstrate that the proposal will not impact on the structural integrity of the Busselton Jetty.

- Term
  BJI's project Management Plan indicates "a design life of all structural elements of 25 years". However the term of the current licence agreement is for a 21 years, plus three further 7 year options. The first option is due in April 2038, it is therefore recommended that the minimum term be aligned to this, with any further term to be approved by the City and the Minister for Lands, subject however to the term not exceeding the term of the existing Busselton Jetty Licence.

- Licence fee
  The proposed licence fee payable by BJI to the City is discussed in the Financial Implications section of this report.

- Public access
  BJI must ensure that the licenced activities do not restrict public access to the licenced area or any other section of the Busselton Jetty. However BJI will be allowed to determine in its sole discretion the "Village" trading hours, BJI may reserve the right of admission to all buildings and, as is currently the case with the UWO and Interpretive Centre, may for security and safety purposes lock up and adequately secure all buildings and other structures within the "Village" precinct.

- Construction works and licenced activities will be at BJI cost and risk.
  Subject to the City's contribution towards the Village Project (as outlined in the Financial Implications of this report), BJI will be responsible to undertake all construction works and operate all licenced activities at its cost and risk. This includes ongoing maintenance of all buildings and other structures.

- Construction clauses
  As BJI will be constructing buildings and other structures on Crown land, the licence agreement will include a number of terms and conditions detailing BJI's obligations and liabilities during the construction phase of the Village Project.

- Performance bond
  To better secure BJI's obligations during the construction phase of the project, City officers initially proposed that BJI provide the City with a performance bond. BJI pointed out that the City's risk in this regard should mostly be covered by the fact that the majority of the buildings/structures will be fabricated off-site and, in addition, that BJI's builder will be required to provide a bond or retention money to secure its due performance under the construction contract between BJI and the builder. It is considered that these measures sufficiently mitigate the City's relevant risk and it is therefore recommended that the City waives this requirement.

- Insurances
  BJI will be required to effect and maintain at its cost adequate building, public liability and workers compensation insurance.

- General conditions
  The proposed licence agreement will include "general" conditions similar to those contained in the existing Busselton Jetty Licence, e.g BJI's obligation in relation to keeping of accounts, determination of key performance indicators and BJI's compliance with those KPIs. No additions or alterations to the Busselton Jetty will be allowed without the City's prior approval and terms and conditions dealing with default, damage to or destruction of the Village and Busselton Jetty, licence fee abatement in such events, holding over and surrender and reinstatement of the licenced area upon termination of the licence agreement will also be included.

It is considered that a licence agreement based on the above terms and conditions is the most effective way of providing BJI with a formal operating framework encompassing the legal and commercial arrangement between the City and BJI in relation to the Village Project.

Statutory Environment

Land Administration Act 1997 (WA) (**LAA**)
The Busselton Jetty is constructed on Reserve 46715, which is Crown land reserved under section 41 of the LAA for the purpose of "Recreation, Tourism and Heritage". Pursuant to section 46 of the LAA the Minister for Lands may by order vest care, control and management of a reserve for its designated purpose with a person (including a local government).

Care, control and management of Reserve 46715 has been vested in the City on conditions set out in the Management Order. Pursuant to condition 3.1 of the Management Order the City has the power to grant, subject to obtaining the Minster's prior approval, "a lease, sublease or licence over any part of the Reserve, other than the Main Jetty Area". This restriction ("other than the Main Jetty Area") does not align with use of the Busselton Jetty for the licenced activities as approved under the existing Busselton Jetty Licence, and may also prevent the City from granting BJI the proposed licence for the Village Project.

This issue has been flagged with Department of Planning, Lands and Heritage and the City's request to amend the Management Order to provide the City with the power to grant licences over any part of the Busselton Jetty has been approved at officer level. The approval is accompanied by a direction that the provisions of the proposed licence agreement with BJI must not impede the ability of the public at large to access and enjoy the Busselton Jetty. The amendment to the Management Order will contain conditions to that effect, which City officers consider are reflected in the provisions of the proposed licence agreement.

Under the Management Order the City may, subject to the other conditions of the Management Order, grant a lease or licence for a term that is not to exceed in total 49 years and which may comprise an initial term of not more than 25 years, with an option to renew for a further term not exceeding 24 years. It is expected that these conditions will remain the same in the proposed amendment Management Order.

In terms of section 18 of the LAA a management body must obtain prior Ministerial approval for any lease or licence granted by that management body in respect of Crown land. This means that the City must obtain prior Ministerial approval for any lease or licence granted by the City in respect of the Busselton Jetty or Reserve. This statutory requirement will be reflected in the amended management order and the proposed licence with BJI.

Jetties Act 1926 (WA) (**Jetties Act**)
The Busselton Jetty is managed and operated under a jetty licence granted to the City by Department of Transport under the Section 7 of the Jetties Act. In terms of this licence the City:

- May only use the Busselton Jetty for the use permitted under this licence (which includes operation of the existing UWO);
- May appoint a person or entity to undertake its management obligations (or some of them) in respect to the Busselton Jetty;
- Must maintain the Busselton Jetty in accordance with a pre-approved maintenance plan;
- Must not, and must not permit, any structural changes or additions to the Busselton Jetty without the Department's prior approval; and
- When seeking approval for structural changes or additions, must submit detailed plans of and reasons for the proposed changes and a maintenance plan for ongoing maintenance of any new structural addition.

The Department of Transport has in-principle approved the Village Project and proposed that the City impose a number of conditions on BJI, aimed at protecting the structural integrity of the Busselton Jetty. These conditions will be dealt with in the proposed licence agreement and the development approval process.

Local Government Act 1995 (WA) (**LGA**)
Section 3.58 of the LGA regulates the disposal of property by a local government (including "*the whole or any part of the interest of a local government in property*") whether by sale, lease or other means. In terms of section 3.58 a local government is required to give local public notice when disposing of "property", unless the "property" is disposed of by way of a public tender or public auction. However under regulation 30 (2)(b) of the *Local Government (Functions & General) Regulations 1996* disposition of local government property to charitable or benevolent organisations is excluded from the requirements under section 3.58. Therefore, to the extent that the proposed licence agreement between the City and BJI could be considered "disposal" of local government "property" as contemplated under section 3.58 of the LGA, the exemption under regulation 30 (2)(b) will apply.

In terms of section 9.49B of the LGA a person acting under the authority of a local government may make, vary or discharge a contract in the name of or on behalf of the local government in the same manner as if that contract was made, varied or discharged by a natural person. It is recommended that the Council authorises the Chief Executive Officer pursuant to section 9.49B of the LGA to negotiate and enter into a licence agreement with BJI for delivery of the Village Project on the terms and conditions as outlined in this report.

Relevant Plans and Policies

The Village Project is consistent with the contents of the Busselton Foreshore Master Plan, where activation of the Busselton foreshore is identified as a key priority.

The City's Corporate Business Plan identifies key City led or funded priority actions and projects over the ensuing four years. This project was initially identified as a medium-long term project and as such is not contained within the City's current Corporate Business Plan.

Financial Implications

Note all amounts mentioned in this report are exclusive of GST.

Construction costs
BJI indicated that sufficient funding has been secured to allow them to progress with implementation of the Village Project and provided the following indicative costing information:

- The estimated project costs total $1.8M, including fit out and "interpretation" costs;
- $1.7M of funding has been secured from Lottery West, State and Federal grant funding, and BJI funds; and
- BJI have requested the City contribute $100,000 towards the construction of new ablution facilities.

Due to the increasing number of visitors to the UWO and more broadly the Jetty itself, the current ablution facilities located at the end of the Jetty have become inadequate. Regardless of whether the Village Project proceeds, the Jetty would greatly benefit from additional ablution facilities.

As a result, it is recommended that the City contributes $100,000 towards the Village Project for this purpose and that this be funded from the Busselton Jetty Reserve. $25,000 has already been included in the 2019/20 budget, therefore a further $75,000 is required to be funded from the Busselton Jetty Reserve.

Licence fee

The licence fee payable by BJI pursuant to the existing Busselton Jetty Licence (that is for collecting entrance fees and operating the Busselton Jetty train, the UWO and the Interpretive Centre) is based on a percentage of BJI's "Gross Revenue" and payable in bi-annual instalments into the Jetty Maintenance Reserve Account. In addition to this licence fee, rent income from commercial sites/operations at the Busselton Foreshore (including the existing Busselton foreshore cafes, the new microbrewery and the proposed hotel development) is paid into the Jetty Maintenance Reserve Account to contribute towards the costs of maintaining the Busselton Jetty. Currently the annual maintenance costs of the Busselton Jetty (as budgeted for in the Busselton Jetty Long Term Maintenance Plan) exceed the City's income from above-mentioned income streams.

BJI proposed an annual licence fee of $10,000 for the proposed Village licence, subject to yearly CPI review/indexation. In support of this proposal BJI submitted that they intend to extend the operating hours of the UWO and Jetty train to support and add value to the Village Project, which should increase BJI's revenue and, consequently, increase licence fees payable to the City under the existing Busselton Jetty Licence by an estimated $65,000 per year (and potentially $85,000 per year should they be able to operate a second train).

Financial projections provided by BJI for the Village Project (see confidential attachment) indicate that the following net surpluses are expected (note these numbers have been adjusted to exclude "special items" such as contributions towards a "Special Purpose Fund" that will assist in funding the future Australian Underwater Discovery Centre project):

2020/2021 - $34,926

2021/2022 - $53,691

2022/2023 - $64,928

2023/2024 - $77,169

One of the State Government and the City's main objectives with allowing commercial/income generating operations at the Busselton foreshore and the Busselton Jetty, is to generate funds for the ongoing maintenance of the Busselton Jetty. As income from these sources is currently insufficient to cover the annual maintenance costs, it is recommended that a licence fee for the Village Project of approximately 50% (rounded down) of BJI's projected income, would be fair and equitable. Therefore City officers recommend the following licence fee structure:

- A fixed licence fee payable annually in arrears (i.e by 30 June of each year)
- Licence fee for first four years:

  2020/2021 - $15,000

  2021/2022 - $25,000

  2022/2023 - $30,000

  2023/2024 - $35,000
- In the fifth year, that is the 2024/2025 financial year (and thereafter, on every fifth anniversary of the term) the licence fee will be reviewed and adjusted for the next 5 year period, based on BJI's actual net income from Village operations at the time.

The approach above should strike a balance between the City's expectation of relieving the burden on its ratepayers as far as jetty maintenance costs are concerned, and BJI's objectives of generating additional funds for future ventures aimed at maximising use of the Busselton Jetty.

Stakeholder Consultation

To date BJI has taken a number of actions to inform, engage and consult with stakeholders in relation to the Village Project (including the public at large). These actions can be summarised as follows:

- Simon McArthur & Associates - public consultation 2017
  In 2017, a detailed feasibility study was completed by Simon McArthur & Associates. The study considered a variety of potential uses for/at the Busselton Jetty and involved surveying more than 3,000 visitors to the Busselton foreshore and engaging a range of stakeholders for their views on what they consider to be optimal tourism products/offerings. More than 200 ideas were identified, with the "Village" concept featuring as one of the most feasible options, along with the Australian Underwater Discovery Centre project.

- BJI Customer surveys 2015/16, 2016/17, 2017/18 & 2018/19
  Every year BJI distribute approximately 2,500 visitor surveys, requesting 'open ended' feedback. Over the past 4 years the majority of feedback focussed on the need for more 'end of Jetty activities' and included suggestions such as:
  - Longer stop at the end of the Jetty
  - Café/ restaurant at the end
  - Cool drinks at the end of the Jetty
  - Snorkelling at the end of the Jetty
  - Fish and chips available at the end of the Jetty
  - Shaded, sheltered seating at the end of the Jetty
  - More activities at the end of the Jetty

- At BJI's request the City published an article about the Village Project and provided a link to a survey in the City's Bay-to Bay publication circulated 31 October 2019. BJI indicated that they have received 327 responses of which more than 85% were in support. The following key comments were received:

  - *"The ability for even further interaction with the ocean for all users. Plus I'm sure being so innovative it will encourage even more people to visit this wonderful icon of Busselton & the South West."*
  - *"Everything that has been raised so far. Especially that it will be protected from the weather - keep the tourist dollars coming in all through the year!"*
  - *"It will entice visitors, support events, and also be a fun area for locals together."*
  - *"It still has the iconic look whilst being fresh and inclusive. I would be excited to visit and happy to share the experience with our overseas visitors."*
  - *"The design concept is well thought out and I particularly like that visitors will be protected from the weather. I think this will increase the tourist numbers and also the designated swimming area"*
  - *"Eateries and improved facilities at the end of the jetty making it more pleasant to stay longer at the end of the jetty"*
  - *"The environmental aspects. Understanding and preserving our ocean environments and particularly educating the younger generations is so very important."*
  - *"Enables visitors and locals to have longer experiences not just walk to the end and back."*
  - *"Absolutely nothing bloody eye sore"*
  - *"It will not work, 5 months a year it will need to be closed."*
  - *"Nothing, it needs to be redefined as it takes away from the beautiful jetty. I'd urge you to use an architect, not draftsman with experience and not losing site of the foundation of why people visit the setting with minimal impact"*
  - *"I think it's silly to have something that big.... I would personally just upgrade the structure that's already out there to include food..."*

- *"As we the rate payers get slugged for yet another shire de Barkle the whole infer structural needs to be upgraded and is not well thought out for all the locals and retirees and kids who love to fish the jetty"*
- *"I believe putting more buildings and encouraging more people, holding events, etc at the end of the jetty will increase pollution of the ocean, having a bar, and weddings/events is just ludicrous. Increasing the number of people at the end of the jetty is not a positive step. If someone gets injured have you thought about how the St John Ambulance service are going to rescue them???? Busselton is overloaded with alcohol outlets and we have a burgeoning problem with intoxicated drinkers and domestic violence, not to mention our hospital and ambo staff having to deal with it firsthand."*
- *"It's a waste you already have 3 places to eat and a 4th going up.... why do people need another one? The whole idea is to get people out there for fun then come back to the shore for food.... there are way too many places to eat already, we should be helping the people whom are there already."*

- Stakeholder engagement
  Heritage Council WA, State and Federal parliamentarians, regional, State and Federal tourism organisations/agencies, Minderoo Foundation and South West Development Commission.

- State Government stakeholder engagement

Risk Assessment

An assessment of the potential implications of implementing the officer recommendation has been undertaken using the City's risk management framework, with risks assessed taking into account any controls already in place.

The following risk has been identified:

New Jetty Village infrastructure compromises structure integrity of Busselton Jetty			
Risk Category	**Risk Consequence**	**Likelihood of Consequence**	**Risk Level**
Public Safety / Health	Catastophic	Rare	High

A structural assessment report was commissioned by the City to a third party engineer who will certify the design to ensure it complies with the structural engineering requirements of the Busselton Jetty. Should the final design not meet the engineering requirements, the City will not provide final approval of the project.

Options

As an alternative to the proposed Officer Recommendation the Council could:

- Resolve not to approve the Village Project; or

- Amend the draft terms and conditions of the proposed licence agreement.

For the reasons outlined in this report these options are not recommended.

CONCLUSION

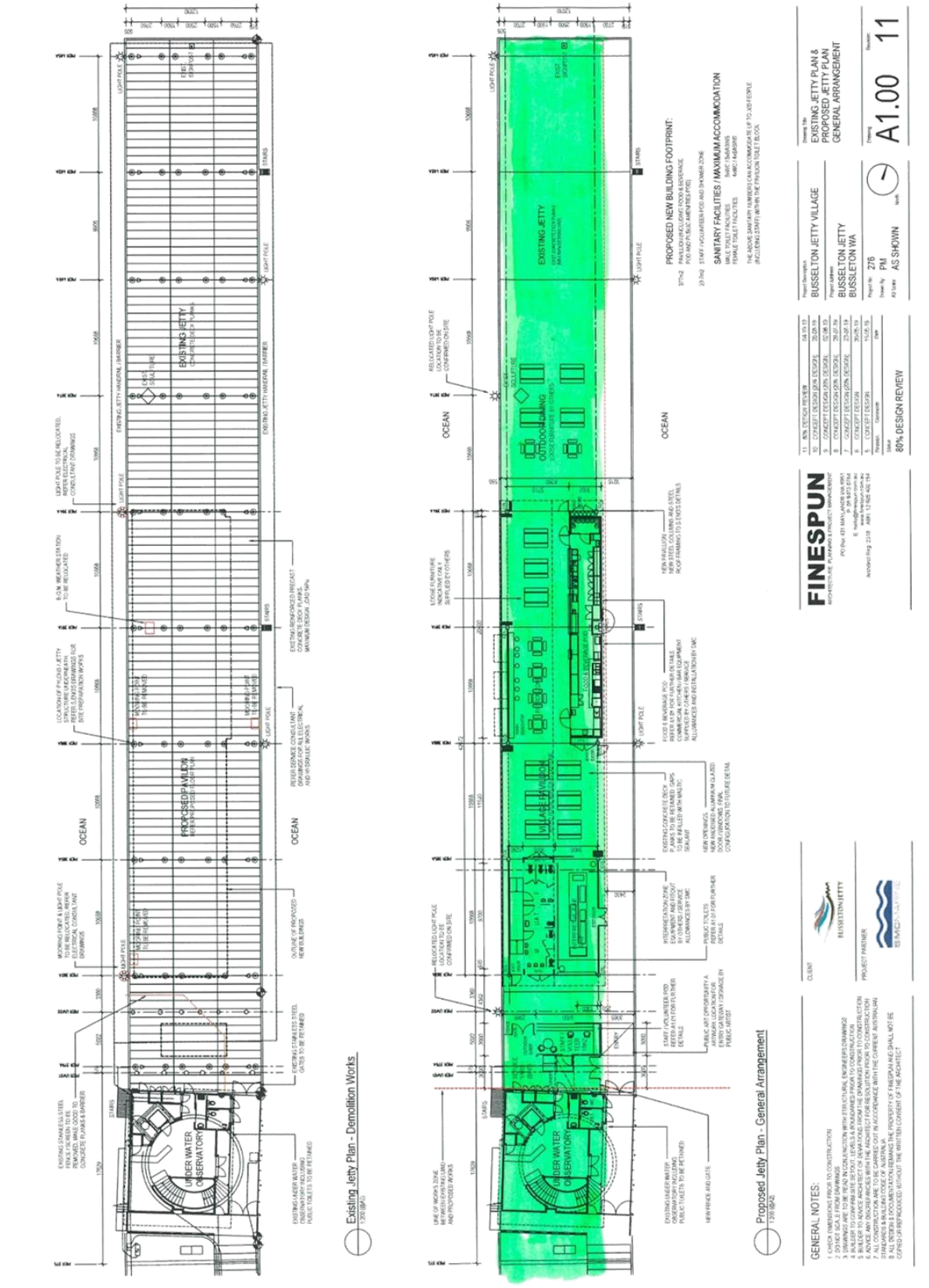
The City considers the Village Project mutually beneficial to the State of WA, BJI, the City and the public at large. It is considered that the Village Project will facilitate regional tourism and should increase revenue from Busselton Jetty operations (which should contribute towards funding jetty maintenance costs). The Village Project is also expected to encourage higher visitation by the public at large to the Busselton Jetty.

The proposed licence agreement is considered to be the most effective way of providing BJI an operating platform and formalising the legal arrangements and commitments between the City and BJI in relation to the Village Project.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

Should Council resolve to adopt the officer recommendation the next steps for delivering the Village Project are as follows (note the timelines are indicative only as some of these actions are outside the City's control):

- City officers and BJI to finalise negotiations and prepare a draft licence agreement based on the terms and conditions outlined in this report – December 2019
- Department of Planning, Lands and Heritage to provide the City with an amended Management Order – January 2020
- The City to submit the draft licence agreement for Ministerial approval under Section 18 of the LAA – January 2020
- The City and BJI to execute the licence agreement upon receipt of Ministerial approval – January 2020
- BJI to commence fabrication/ construction – February 2020
- Indicative construction completion date – October 2020.


Existing Jetty Plan - Demolition Works
Proposed Jetty Plan - General Arrangement
EXISTING JETTY
PROPOSED PAVILION
UNDER WATER OBSERVATORY
OCEAN
PROPOSED NEW BUILDING FOOTPRINT:
SANITARY FACILITIES / MAXIMUM ACCOMMODATION
FINESPUN
BUSSELTON JETTY VILLAGE
BUSSELTON JETTY
BUSSELTON WA
EXISTING JETTY PLAN & PROPOSED JETTY PLAN GENERAL ARRANGEMENT
A1.00
11
80% DESIGN REVIEW
GENERAL NOTES:

15.2 COMMUNITY BIDS 2019/2020 ROUND 2 ALLOCATIONS

STRATEGIC GOAL	1. COMMUNITY: Welcoming, friendly, healthy
STRATEGIC OBJECTIVE	1.4 Community services and programs that support people of all ages and backgrounds.
SUBJECT INDEX	Donations, Contributions and Subsidies
BUSINESS UNIT	Community Services
REPORTING OFFICER	Community Development Officer - Naomi Davey
AUTHORISING OFFICER	Director, Community and Commercial Services - Naomi Searle
NATURE OF DECISION	Executive: substantial direction setting, including adopting strategies, plans and policies (excluding local planning policies), tenders, setting and amending budgets, funding, donations and sponsorships, reviewing committee recommendations
VOTING REQUIREMENT	Simple Majority
ATTACHMENTS	Nil

OFFICER RECOMMENDATION

That the Council:

1. Endorses the following funding allocations for round two of the 2019/20 Community Bids funding program as outlined in the table below:

	APPLICANT	PROJECT TITLE	ALLOCATION	SPECIAL CONDITIONS
1	Busselton Hospice	Community Outreach Program	$5,000	One off funding to establish the program
2	Dunsborough Coast and Land Care	Dugulup Brook Restoration	$4,995	
3	Naturaliste Family Playgroup	Nature Play Rejuvenation	$4,000	
4	Rotary Club of Busselton Geographe Bay	Busselton City and Heritage augmented reality tour	$5,000	
5	Undalup Association	Waljin Garden	$3,574	
6	Yallingup Board Riders Club	PA System	$1,250	The PA system to be made available to other groups
7	Dunsborough Bay Yacht Club	Learn to Sail – Pacer Sails	$8,000	Note: Plus $1000 from Round 1 (19/20) funding to purchase of sails as per recommendation 2 below

8	**Dunsborough Football Club**	**John Edwards Pavilion Change room Upgrades**	**$10,000**	
9	**Busselton Repertory Club**	**Weld Theatre electrical upgrade**	**$22,080**	
10	**Busselton Netball Association**	**Netball Goal posts, pads and fence**	**$8,500**	
		Total	**$72,399**	

2. Agrees to the Dunsborough Bay Yacht Club using the remaining $1,000 allocated from round one of the 2019/2020 Community Bids program to purchase sails for the learn to sail program.

EXECUTIVE SUMMARY

Each year the City of Busselton provides financial assistance to community groups and not-for profit organisations through the Community Bids funding program. This assistance is provided for specific activities or projects proposed to be undertaken by that group or organisations within the forthcoming financial year.

This report provides a summary of the outcomes from a Councillor workshop on 13 November 2019, and seeks formal endorsement of the Community Bid submissions to be funded in the second round of the 2019/20 financial year.

BACKGROUND

In March 2011, the Council resolved (C1103/097) to allocate funding to the Community Bids program as follows:

1. *Council allocate a total of 0.5% of estimated rates to be levied to Major Project Assistance Grants to be determined as part of the Community Bids assessment process advertised in the first quarter of each year.*

2. *Allocate a total of $50,000 to Minor Project Assistance Grants to be determined twice each year, once as part of the Community Bids process, and once again in September each year.*

3. *Increases the maximum amount of Minor Project Assistance Grants from $3,000 to $5,000 for any one project.*

Applications for the second round of Community Bids funding for the 2019/20 financial year opened in October 2019 and a total of thirteen (13) applications were received, including seven (7) minor bid applications requesting a total of $27,267 in funding and six (6) major bid applications requesting $91,230.

Applications were assessed by an officer working group, in accordance with Community Bids guidelines, and recommendations were discussed with Councillors at a workshop held on 13 November 2019. The outcomes of the workshop form the basis of the officer recommendations in this report.

OFFICER COMMENT

Applications were assessed using the following criteria:

- Does the project, program or activity meet the Community Bids criteria?
- Has the applicant outlined why the projects, programs or activities are needed by the community?
- Is there an expectation or risk to the community if the project, program or activity does not proceed?
- Did the organisation or group state the level of cash or in kind contribution they will make to the project, program or activity?
- Has the applicant demonstrated attempts at seeking funding from other sources?
- Has the applicant been successful in previous community bids applications and what was the funded amount?
- Does the project align with the City of Busselton's Strategic Community Plan?

Officers presented the applications to Councillors at a workshop on 13 November 2019, where the following recommendations were made:

	APPLICANT	PROJECT TITLE	REQUEST	RECOMMENDATION	SPECIAL CONDITIONS
MINOR APPLICATION					
1	Busselton Hospice	Community Outreach Program	$5,000	$5,000	On off funding to establish the program
2	Dunsborough Coast and Land Care	Dugulup Brook Restoration	$4,995	$4,995	
3	Dementia Support Network of WA	Dementia Education Workshops	$3,448	$0	
4	Naturaliste Family Playgroup	Nature Play Rejuvenation	$4,000	$4,000	
5	Rotary Club of Busselton Geographe Bay	Busselton City and Heritage augmented reality tour	$5,000	$5,000	
6	Undalup Association	Waljin Garden	$3,574	$3,574	
7	Yallingup Board Riders Club	PA System	$1,250	$1,250	The PA system to be made available to other groups
		Total	$27,267	$23,819	

	APPLICANT	PROJECT TITLE	REQUEST	RECOMMENDATION	SPECIAL CONDITIONS
MAJOR APPLICATION					
1	Busselton Chamber of Commerce	Capes Connect Business Hub	$30,000	$0	
2	Dunsborough Bay Yacht Club	Learn to Sail – Pacer Sails	$9,000	$8,000	Note: Council approve change of purpose of $1000 from Round 1 19/20 funding to purchase of sails.
3	Dunsborough Football Club	John Edwards Pavilion Change room Upgrades	$10,000	$10,000	
4	Busselton Repertory Club	Weld Theatre electrical upgrade	$22,080	$22,080	
5	Busselton Netball Association	Netball Goal posts, pads and fence	$8,500	$8,500	
6	Busselton Senior Citizens Centre	Program equipment	$11,650	$0	
		Total	$91,230	$48,580	

*Dunsborough Bay Yacht Club have $1000 remaining from round 1 of the 2019/20 Community Bids and seek Council's approval to change the purpose of the original allocation to purchase sails for the learn to sail program.

Statutory Environment

The officer recommendation supports the general function of a local government under the *Local Government Act 1995* to provide for the good government of persons in its district.

Relevant Plans and Policies

The Community Bids funding program is an opportunity for community based organisations to seek assistance to implement initiatives that benefit the wider community and is a program contained within the City of Busselton Corporate Business Plan 2018-2022.

Financial Implications

Based on the current funding model, the total funds available for allocation for round two (2) of the 2019/20 Community Bids program is $72,399. The proposed funding allocations for minor and major projects detailed in the officer recommendation totals $72,399.

Stakeholder Consultation

The Community Bids funding program was advertised in the Council for the Community page on 25 September 2019, 2 October 2019 and 9 October 2019, and on the City of Busselton website. Recognised community groups and sporting clubs in the City of Busselton were also notified of the Community Bids process via email.

Risk Assessment

An assessment of the potential implications of implementing the officer recommendation has been undertaken using the City's risk management framework, with risks assessed taking into account any controls already in place. No risks of a medium or greater level have been identified.

Options

Council may wish to consider different levels of funding proposed for all or some of the Community Bids applications.

CONCLUSION

The Community Bids funding program is constantly evolving and aims to meet community needs, with funding available to further priority goals and objectives identified in the City of Busselton Strategic Community Plan 2017.

It is recommended that Council adopts the funding allocations as outlined in the officer recommendation.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

All Community Bid applicants will be individually advised in writing of the outcome of the Council decision within 21 days. Successful applications will be required to sign a grant agreement with the City and meet any specific conditions of funding. City officers will continue discussions with applicants regarding other grant funding opportunities.

15.3 BUSSELTON MARGARET RIVER AIRPORT BUDGET AMENDMENT REQUEST

STRATEGIC GOAL	5. TRANSPORT Smart, connective and accessible
STRATEGIC OBJECTIVE	5.1 Public transport services that meet the needs of the community.
SUBJECT INDEX	Busselton Margaret River Airport
BUSINESS UNIT	Community and Commercial Services
REPORTING OFFICER	Director, Community and Commercial Services - Naomi Searle
AUTHORISING OFFICER	Director, Community and Commercial Services - Naomi Searle
NATURE OF DECISION	Executive: substantial direction setting, including adopting strategies, plans and policies (excluding local planning policies), tenders, setting and amending budgets, funding, donations and sponsorships, reviewing committee recommendations
VOTING REQUIREMENT	Absolute Majority
ATTACHMENTS	Nil

OFFICER RECOMMENDATION

That the Council endorse the requested budget amendment outlined below resulting in a $0 effect on the City's net current position:

Cost Code	Description	Current Amended Budget	Change	Resulting Proposed Amended Budget
Expenses				
345-C6099-3260	**Airport Development – Project Expenses Consultancy**	**700,000**	**(113,850)**	**586,150**
345-11156-7723-0000	**Plant & Equipment**	**0**	**113,850**	**113,850**
Totals		**700,000**	**0**	**700,000**

EXECUTIVE SUMMARY

Jetstar Airways Pty Ltd (**Jetstar**) have advised of certain ground handling equipment required to facilitate the upcoming interstate flights. These items are generally provided by the airline, ground handling provider and/or the airport operator. To ensure services commence by the contracted date, it is recommended the City procures items that are unable to be provided by the airline or ground handling agent.

BACKGROUND

The City has entered into an agreement to provide aviation services (aircraft movement and passenger processing facilities and services) to Jetstar for three weekly Busselton-Melbourne flights. The first Jetstar service is scheduled to arrive on 25 March 2020 and will utilise Airbus A320 aircraft.

Jetstar has advised of specific ground servicing equipment required to facilitate these services. Some items the City owns, some can be provided by Jetstar and some will be acquired by the Margaret River Busselton Tourism Association (**MRBTA**) as the proposed ground handling agent for Jetstar. However there are a few items that remain outstanding and need to be procured.

OFFICER COMMENT

It is recommended the City procures a tug, belt loader, four baggage carts and waste and water carts. These items can be used to service other aircraft and airlines and as such are viewed as an asset to the ongoing airport operations. It is proposed that these items will be leased to MRBTA as the ground handling agent who will be responsible for scheduled maintenance, however ownership will remain with the City.

These items have long lead times, however the City has sourced a provider who can ensure delivery meets the City's critical timeframes. This requires an order to be placed immediately and as such requires a budget amendment to facilitate this.

Statutory Environment

Section 6.8 of the *Local Government Act 1995* refers to expenditure from the municipal fund that is not included in the annual budget. In the context of this report, where no budget allocation exists, expenditure is not to be incurred until such time as it is authorised in advance, by an absolute majority decision of the Council.

Relevant Plans and Policies

The officer recommendation aligns to the following adopted plan:

Busselton Margaret River Regional Airport Master Plan (2016 – 2036) which outlines the vision for the airport.

Financial Implications

The estimated cost of the equipment including freight is $113,850. This can be funded through savings made in the *airport development – project expenses consultancy* budget funded by the State Government, however, will require a budget amendment.

Stakeholder Consultation

Consultation has been undertaken with Jetstar and MRBTA who have advised of equipment that will be supplied. The City has indicated that it may be willing to procure equipment that will add value to the ongoing airport operations.

Risk Assessment

An assessment of the potential implications of implementing the officer recommendation has been undertaken using the City's risk management framework, with risks assessed taking into account any controls already in place. No risk of a medium or greater level have been identified.

Options

As an alternative to the proposed recommendation the Council could:

1. Not agree to the budget amendment. This however may put Jetstar's service in jeopardy as the equipment is needed for Jetstar services commencing in March 2020.

CONCLUSION

The provision of ground handling equipment is required to enable air services to operate from the airport. Jetstar have advised of their requirements, the majority of which will be provided by the airline and MRBTA as Jetstar's proposed ground handling agent. However there are items that remain outstanding and it is recommended the City procures by them as they are considered assets for the ongoing airport operations as they are able to service a range of aircraft. As a result of long delivery lead times, the City has limited time to procure these items in order to meet the contracted commencement date of 25 March 2020. It is therefore critical that the City orders the equipment immediately.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

Officers will a raise purchase order immediately following Council's endorsement of the recommendation.

16. FINANCE AND CORPORATE SERVICES REPORT

16.1 PROPOSED LEASE DUNSBOROUGH AND DISTRICTS PROGRESS ASSOCIATION INC.

STRATEGIC GOAL	6. LEADERSHIP Visionary, collaborative, accountable
STRATEGIC OBJECTIVE	6.4 Assets are well maintained and responsibly managed.
SUBJECT INDEX	Agreements and Contracts
BUSINESS UNIT	Corporate Services
REPORTING OFFICER	Property Coordinator - Ann Strang
AUTHORISING OFFICER	Director Finance and Corporate Services - Tony Nottle
NATURE OF DECISION	Executive: substantial direction setting, including adopting strategies, plans and policies (excluding local planning policies), tenders, setting and amending budgets, funding, donations and sponsorships, reviewing committee recommendations
VOTING REQUIREMENT	Simple Majority
ATTACHMENTS	Attachment A Plan Lot 183 and Lot 300 Dunsborough Hall Site

OFFICER RECOMMENDATION

That the Council:

1. **Authorises the CEO to enter into a lease with the Dunsborough and Districts Progress Association Incorporated for a portion of Lot 183, Reserve 23854, shown outlined in black bold on Attachment A being the Hall and Store rooms, subject to the following;**

   (a) The term of the lease to be 5 years commencing 1 January 2020, with a further 5 year option;

   (b) The rent to commence at $225.00 inclusive of GST per annum and increased by $5.00 on each anniversary;

   (c) The lease will be consistent with the City's standard community and sporting group lease altered to reflect the obligation of the City to maintain the structural integrity of the Dunsborough Hall that forms part of the lease;

   (d) The permitted use will allow the tenant to hire the premises to other community groups and not for profit groups, with the tenants to ensure that their insurance covers such use;

   (e) The inclusion of a licence for non-exclusive use of the shared use areas shown hatched on the Attachment A; and

   (f) All the costs of the preparation of the lease are to be met by the Tenant.

EXECUTIVE SUMMARY

The Dunsborough Hall (Hall) is located on Lot 183, H44 Gifford Road, Dunsborough. The Dunsborough and Districts Progress Association Incorporated (DDPA) have managed the bookings of the Hall for many years without any formal arrangement. The purpose of this report is to seek Council's endorsement to enter into a lease with the DDPA to formalise their use and management of the Hall. This report also addresses the use of the store rooms, ablutions, car parking, decking and access ways on the land and the adjoining land.

BACKGROUND

The Hall was constructed in the late 1950's and is located on a portion of Lot 183, Reserve 23854 which is crown land vested with the City for the purpose of 'Hall Site'. Lot 183, abuts Lot 300, being Part Reserve 34894 which is crown land vested with the City for the purpose of "Recreation". The driveway and car parking for the Hall is located on a portion of Lot 300.

The City has the power to lease or licence any part of both Reserves for any term not exceeding 21 years, subject to the consent of the Minister for Lands.

The DDPA became incorporated in 1989. They are a community, volunteer-run organisation that engage the community and provide a voice for the community. They have also actively managed the bookings of the Hall. The Hall is used by a number of community groups and for a varied number of events each year. The DDPA retain the income from these bookings. The income generated from the Hall hire supports funding of local events and projects run by the DDPA. There is currently no formal arrangement in place for the management of the Hall, thus no clear guidelines as to who is responsible for costs such as maintenance, insurance and outgoings.

Whilst the DDPA have contributed towards cleaning and minor maintenance, the City has been responsible for the majority of building works costs and outgoings. Based on asset management principles, community use factors and optimisation of Council's investment a report was presented to Council in late August 2012, recommending that the Council undertake capital works on the Hall and other associated infrastructure. The Council resolved (C1208/244) to allocate $288,000 from the Building Reserve Fund towards this. This report also identified further funds being allocated in later years. The works programme included new ablutions, structural repairs to the roof, connection to deep sewer and modification to disabled access.

In August 2014, a report was presented to Council in relation to the management of eight community halls within the District. Council resolved (C1408/214) to retain the Vasse Newtown and Yallingup Halls and enter into a lease with the groups managing them at the time. The Hall was not considered as part of this report as it was the subject of the earlier report to Council whereby it was resolved to undertake substantial building works. At that time the DDPA were not keen to enter into any formal agreements with the City until all works had been completed.

With the works mentioned above now completed, it is recommended that a formal arrangement is put in place for the management of the Hall. As with the resolution for both the Vasse Newtown and Yallingup Halls that the parties managing the halls be offered a lease, it is recommended that the City enter into a lease with the DDPA for the Hall and storage rooms, as shown outlined in black bold on Attachment A.

OFFICER COMMENT

As mentioned above, the DDPA do not currently have any formal tenure of the Hall, nor are there any clear guidelines in place in relation to the management of the Hall. The City currently exercises no control over the bookings and use of the Hall. Whilst there have been no known major incidences reported, this may not always be the case. By not having any formal agreement in place there is a liability risk for the City if an incident/accident occurred from such use.

The City appreciates the time and resources the DDPA commits to managing the bookings of the Hall, thus all funds generated from this have been retained by them. They also have the ability to utilise the Hall for their association activities as the need arises. The groups managing the bookings of the Vasse Newtown and Yallingup Hall were in the same situation and the Council resolved to enter into leases with these groups. The Vasse and Districts Community Centre entered into a lease in 2014, however, the Yallingup Committee relinquished the management of the Yallingup Hall with the bookings now being managed by the City.

The DDPA have resisted entering into a lease in the past as they were concerned with the ongoing obligations associated with this. After several years of negotiations they have now indicated that they will enter into a Lease, subject to the City being responsible for the structural components of the Hall.

It is proposed that exclusive use is granted to the DDPA over the Hall and the two storage rooms. It is recommended that the City enter into the standard community and sporting group lease agreement with the DDPA, however, given the age of the Hall and recent resolutions in relation to other District halls, it is recommended that the maintenance obligation in this lease is such that the City is responsible for any structural repairs of the Hall. The DDPA would be fully responsible for the upkeep of the storage rooms.

It is also proposed that the permitted use of the Hall will be for purposes consistent with the objectives of the DDPA's constitution. The lease will include provisions that require the DDPA to make the Hall available for short term hire by community and not for profit organisations. The use of the Hall will at all times be subject to any conditions or restrictions imposed by the City or the Minister for Lands to ensure use of the Hall is consistent with the designated Reserve purpose and compliant with the Management Orders.

The Dunsborough Art Society (DAS) exclusively use the building shown as the Adjoining Premises on Attachment A. The DDPA have had a long association with the DAS of sharing the access ways, parking and the ablution facilities, shown hatched on Attachment A. This has been on an informal arrangement between the two parties. The DAS lease includes a non-exclusive licence over these shared use areas. It is proposed that this is included in the DDPA lease. The licence will be conditional on the DDPA in conjunction with the DAS to clean, maintain and contribute towards the outgoings for these areas.

The proposed term of the lease is five (5) years plus an option for a further five (5) years. This is consistent with leases granted to community groups in similar situations and provides flexibility for the DDPA to either continue to manage the Hall or terminate their agreement at the end of first term should the management of the Hall become too onerous.

Statutory Environment

When disposing of property whether by sale, lease or other means, a Local Government is bound by the requirement of section 3.58 of the *Local Government Act* which requires giving local public notice when disposing of property. There are exemptions to this process under Regulation 30(2)(b)(i) and (ii) of the *Local Government (Functions & General) Regulations* which states "disposal of land to incorporated bodies with objects of benevolent, cultural, educational or similar nature and the member of which are not enlisted to receive any pecuniary profit from the body's transactions, are exempt from the advertising and tender requirements of section 3.58 of the Local Government Act". The constitution of the Dunsborough and Districts Progress Association Incorporated (DDPA) is such that this exemption applies.

The land on which the Hall is located is within Reserve 23854, Lot 183, Deposited Plan 180618, Volume LR3138, Folio 718, being Crown Land vested with the City for the purpose of Hall Site. The land on which the driveway is located is within Part Reserve 34894, Lot 300, Deposited Plan 53040, Volume LR3139, Folio 596, being Crown Land vested with the City for the purpose of Recreation. Both parcels of land are vested in the City under Management Orders which currently confer power to lease or licence for periods up to 21 years, subject to the consent of the Minister for Lands.

Under Section 18(2) of the *Land Administration Act 1997*, approval of the Minister for Lands is required for a lease on a Crown Reserve. Additionally the lease is to be lodged with Landgate in accordance with the *Transfer of Land Act 1893* (TLA).

Relevant Plans and Policies

The recommendation to enter into a lease with the DDPA is generally consistent with the principles of the Leases of City Land and Buildings Policy, adopted by Council on the 27 July 2016.

Leases to not for profit, community and sporting groups will generally require the tenant to meet the full cost of maintenance and repair of the buildings and facilities leased as well as the costs of utilities and insurance. Due to the nature of the management structure and the age of the Hall it is proposed that the City would maintain the structural integrity of the Hall, however the DDPA will be fully responsible for the maintenance of the store rooms.

Financial Implications

The rent applied to community and sporting groups leasing City owned or managed land is currently $225.00 per annum increased by $5.00 on each anniversary (all amounts are inclusive of GST). It is proposed that this annual rent be charged to the DDPA.

The standard community lease terms include requirements for the tenants to pay outgoings including services and insurance as well as meet the cost of maintenance and repair of the buildings, including structural repairs. As mentioned previously, it is proposed that the City retain responsibility for the structural integrity of the Hall throughout the term of the lease.

Although there is no agreement in place, the DDPA have undertaken minor repairs and contributed towards electricity and water. With a lease in place the DDPA will be responsible for other outgoings such as sewer rates and building insurance. The DDPA are aware of the current costs associated with this.

Stakeholder Consultation

Over the past eight years, City Officers have attended a number of committee meetings with both the DDPA and DAS to discuss the proposed leases in particular the need to formalise both parties use of the shared use areas and the DDPA's management of the Hall.

DDPA continued to express their concerns with regards to having to fund the general maintenance and outgoings obligations should they enter into a lease. Whilst their preference initially was to retain the status quo, they have since agreed to enter into a lease, conditional on the City retaining responsibility for the structural maintenance.

Risk Assessment

An assessment of the potential implications of implementing the officer recommendation has been undertaken using the City's risk management framework, with risks assessed taking into account any controls already in place. No risks of a medium or greater level have been identified.

Options

As an alternative to the proposed recommendation the Council could:

1. resolve to enter into a shorter or longer term lease not exceeding 21 years. However given the age of the Hall a longer term is not recommenced as a review of the condition of the Hall would be recommended in 10 years.
2. resolve to enter into a lease that renders the DDPA responsible for the structural repairs of the Hall.

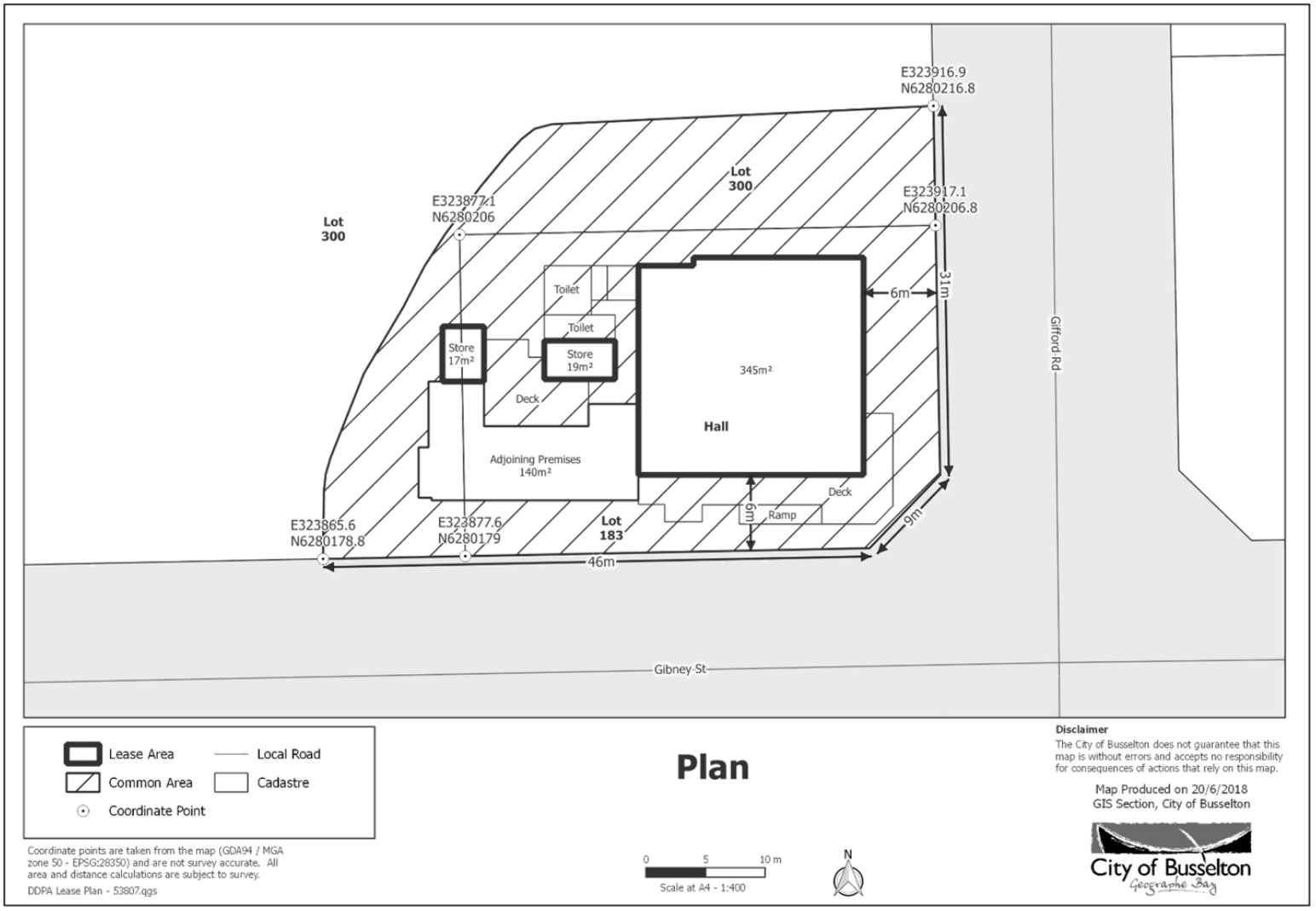
CONCLUSION

The granting of a lease to the DDPA is in keeping with the leasehold arrangements the City have with the Vasse District and Community Centre over the Vasse Newtown Hall. The lease will formalise and document the responsibility for management and maintenance of the Hall, store rooms and shared use areas.

It is therefore recommended that Council enter into the proposed leases on the terms and conditions detailed in the Officer Recommendation.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

It is anticipated that the Lease will be forwarded to the Minister for Lands for approval following the resolution of Council. It is anticipated that the Lease will be fully executed by the 1 January 2020.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Lot
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Gibney St
Lease Area
Local Road
Common Area
Cadastre
Coordinate Point
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DDPA Lease Plan - 53807.qgs
Plan
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Disclaimer
The City of Busselton does not guarantee that this map is without errors and accepts no responsibility for consequences of actions that rely on this map.
Map Produced on 20/6/2018
GIS Section, City of Busselton
City of Busselton

17. CHIEF EXECUTIVE OFFICERS REPORT

17.1 COUNCILLORS' INFORMATION BULLETIN

STRATEGIC GOAL	6. LEADERSHIP Visionary, collaborative, accountable
STRATEGIC OBJECTIVE	6.1 Governance systems, process and practices are responsible, ethical and transparent.
SUBJECT INDEX	Councillors' Information Bulletin
BUSINESS UNIT	Executive Services
REPORTING OFFICER	Reporting Officers - Various
AUTHORISING OFFICER	Chief Executive Officer - Mike Archer
NATURE OF DECISION	Noting: the item does not require a decision of Council and is simply for information purposes and noting
VOTING REQUIREMENT	Simple Majority
ATTACHMENTS	Attachment A Current SAT Reviews

OFFICER RECOMMENDATION

That the items from the Councillors' Information Bulletin be noted:

17.1.1 State Administrative Tribunal Reviews

17.1.2 South West Zone WALGA Meeting 22 November 2019

EXECUTIVE SUMMARY

This report provides an overview of a range of information that is considered appropriate to be formally presented to the Council for its receipt and noting. The information is provided in order to ensure that each Councillor, and the Council, is being kept fully informed, while also acknowledging that these are matters that will also be of interest to the community.

Any matter that is raised in this report as a result of incoming correspondence is to be dealt with as normal business correspondence, but is presented in this bulletin for the information of the Council and the community.

INFORMATION BULLETIN

17.1.1 State Administrative Tribunal Reviews

Information is provided at attachment A.

17.1.2 South West Zone WALGA Meeting 22 November 2019

Key points raised at the South West Zone WALGA meeting held in Manjimup:

- That Cr. Dean from Nannup was elected as President and Cr. Bennett was elected as Deputy;
- That a working group will be appointed by the President to produce an options paper to the next Zone meeting for the consideration of the zone secretary replacement;
- The issue of Financial Ratio's was raised within the State Council Agenda. An alternate motion was put that states:

That WALGA advocate for a complete review of Government Financial Management Regulations in consultation with the Auditor General's office, with consideration of:

- *Bands of local government to reflect the diversity of local government operations across the state.*
- *Calculation methods including inclusions and exclusions of grant funding and expenditure*
- *Fluctuations from year to year*

Meeting minutes are accessible via the Councillor hub under the WALGA meetings tab.

As at 22 November 2019

APPLICATION (Name, No. and City File Reference)	PROPERTY	DATE COMMENCED	DECISION BEING REVIEWED	RESPONSIBLE OFFICER	STAGE COMPLETED	NEXT ACTION AND DATE OF ACTION AS PER SAT ORDERS	DATE COMPLETED / CLOSED
CITY OF BUSSELTON							
Johnson v City of Busselton	4822 Bussell Highway, Busselton	October 2019	Review of a decision to give a direction under s.214.	Martyn Cavanagh / Lee Reddell	• Directions hearing on the 8 November 2019 against the decision of the City to give a direction under s.214. • The matter was adjourned to a further directions hearing on 29 November 2009 in order to determine whether the application is misconceived or lacking in substance pursuant to s.47 of the *State Administrative Tribunal Act 2004*	Directions Hearing 29 November 2019	
Bishop v City of Busselton	545 Gale Road, Kaloorup	November 2019	Review of a decision to give a direction under s.214	Martyn Cavanagh / Joanna Wilson	• Directions hearing on the 29 November 2019 against the decision of the City to give a direction under s.214	Directions Hearing 29 November 2019	
JOINT DEVELOPMENT ASSESSMENT PANEL							
NIL							
WESTERN AUSTRALIAN PLANNING COMMISSION							
NIL							

18. MOTIONS OF WHICH PREVIOUS NOTICE HAS BEEN GIVEN

18.1 PROPOSAL TO INSTALL FOUNTAINS IN THE LOWER VASSE RIVER

MOTION (Absolute Majority Required)

That the Council resolve:

1. **To install four (4) 1.5kw lake management units (water fountains) including lights, in the Vasse River; and the units be generally positioned one (1) west of the Causeway Bridge, and three (3) between the Causeway Bridge and the old railway bridge;**
2. **That the lake management units remain operational unless it is deemed unsafe for the units to remain on due to an algal outbreak;**
3. **That the works be funded by amending the City's 2019/2020 budget by adding the new project 'Airflow Filters Vasse River' (account 545-11403-7723-0000) for the amount of up to $70,000, to be funded from the Busselton Area Drainage & Waterways Improvement Reserve.**

Councillor Paul Carter has given notice that at the Council meeting on 11 December 2019, he will move the above motion.

REASONS

Many members of the community, including myself, believe that the reinstallation of water fountains (lake management units) in the Vasse River will contribute to improving the water quality and amenity of our river.

While a lot of work has been undertaken in recent years as part of the Vasse Taskforce to improving water quality across our catchments, beneficial outcomes for the lower Vasse River are not evident. Annual trials have been costly, the outcomes temporary, and we still have seasonal issues with the Vasse River at the entry statement to town that remain a key concern of many in the community, and the community wants to see some action.

On the 22nd May 2019 Council adopted the final Waterway Management Plans for the Lower Vasse River and Toby Inlet. I supported the adoption of the Lower Vasse River Waterway Management Plan (LVRWMP) (**Attachment A**) having confirmed with City officers that it did not on exclude within the management actions the installation of these type of units. I believe that the installation of these units are relatively inexpensive compared to the alternatives proposed, and if we are going to implement the more ambitious elements of plan such as "Living Streams" which have significant unbudgeted capital financial implications, these types of units could easily be repurposed.

The use of Lake Management Units has been demonstrated in many cases to improve water quality by circulating and cooling the water and improving the oxygenation of the water body. While I acknowledge that according to the LVRWMP oxygen levels are not depleted in the Lower Vasse River, circulation and cooling of the water will be beneficial. **Attachment B** shows an example of the benefits of installing these types of units that occurred from a temporary installation in Carlton Gardens Melbourne that subsequently became a permanent addition.

Included at **Attachment C** is an example of the type of unit that I am proposing. They are self-contained, can be anchored to the riverbed or bank, are easily installed and removed, and can be installed in water as shallow as 0.9 metres.

Based on estimates obtained by myself, the cost of 4 x 1.5kw units installed is approximately $55,000, plus annual operating and maintenance costs. It is proposed that funding for these will be from the Elected Members Contingency Account which has a current balance of $70,179 available.

While not a condition of the Notice of Motion, it may be beneficial to monitor the benefits or otherwise of the installations by installing curtains along the waterbody to determine their effectiveness.

Having raised this issue on many occasions at Council briefings, with City Officers, and through the Vasse Taskforce, I accept that there is some doubt as to the water quality outcome that will be achieved through installations of these types of units. However, best case is we increase visual amenity and reduce or delay the onset of algal blooms and the loss of amenity that is associated with that. Worst case is that we don't achieve the desired result, but have some water features that increase the visual amenity along the Vasse River at times of no algal blooms.

OFFICER COMMENT

In considering Cr Carter's Notice of Motion, there is a wide range of information that Council is asked to consider. That information relates to both the broader context of waterways management in the City, including particular information related to the Lower Vasse River itself, followed by a more specific response to the Notice of Motion.

Broader context

Especially during summer and autumn, when there are blue-green algal blooms in the water, the appearance and amenity of the Lower Vasse River is poor. Open space areas adjoining the River, and obviously the River itself, are not able to be used by the community in the ways that they once were; in substantial part because of those algal blooms and the generally poor water quality that is responsible for them. It is understood that in decades past, when water quality was better, and the character of Busselton and community values and expectations were different, the Lower Vasse River played a much more central role in community life and identity.

The Lower Vasse River is also an important part of the 'entry experience' for people accessing the Busselton City Centre and Foreshore from the south and east, especially as they cross the Causeway Bridge. The same will be true in future for those crossing the Lower Vasse River via the Eastern Link Bridge. The appearance of the water in summer and autumn especially detracts significantly from the attractiveness of that experience, especially for those walking and cycling, and more able to actually see the water itself.

Many in the community and the Council itself have been dissatisfied with the appearance of the River, and the usability of both the River and adjoining open space areas for many decades. There has also been a lot of work done to identify means of addressing those issues. Unfortunately, most of that work has been unsuccessful. That includes a series of 'in-situ treatment' trials undertaken over many years, using a wide range of different approaches. There have, however, been some small successes.

Those successes include more proactive management of the culvert which links the Lower Vasse River with the Upper Vasse and the Vasse Diversion Drain. For some years, that culvert had been left closed by the Water Corporation. The culvert is now more actively managed, to provide for greater water flow into the Lower Vasse River during winter.

As part of the Revitalising Geographe Waterways Programme ('RGW' - see more below), the Water Corporation is renewing and expanding the capacity of the culvert, which will provide more scope for active management of water flow from the Upper Vasse into the Lower Vasse. Whilst it certainly brings its own issues, the spread of Mexican Lily in parts of the River also appears to have had some beneficial impact on water quality.

Successes also include the planting of riparian vegetation along the banks of the River, improving amenity and ecology. Perhaps more significantly, trials have also included the placement of 'curtains' across the River last summer, the aim of which was to assess the potential impact on the formation and spread of algal blooms from separating the River into separate 'pools', within which water quality may be able to be more actively and successfully managed (note that curtains of this kind have been used as part of most recent treatment trials, as they allow for some degree of comparison between 'treated' and 'untreated' areas of the River).

The first aerial photo below, which is from March 2019, illustrates the effect, showing that algal blooms had not formed to anywhere near the same extent in upstream areas (noting that there were no treatments as such undertaken in the upstream area, it was merely separated from the downstream area, where algal blooms typically form initially, subsequently spreading upstream). The second aerial photo below is from March 2014, and shows a substantial algal bloom in the upstream area (and is the most recent photo of the area which is readily available, and which was from a year when there were no in-situ treatment trials underway). A second set of curtains was placed further upstream, and there was a similar, though less visually apparent, improvement in water quality on the upstream side of that second set of curtains.

This concept of separating the River into separate 'pools', which has been referred to as the 'Living Streams' idea, is returned to below. Put simply, though, it is the idea that if the areas of the River where blooms are most likely to form can be physically separated from other areas, then the transmission of blooms to those areas can be slowed or stopped, and the areas where blooms might still otherwise form can be more intensively managed (and treatment options that may not work or be economic at a larger scale may be more practicable).

March 2019



March 2014



The RGW Programme referred to above is guided by the Vasse Ministerial Taskforce, which is currently chaired by the Hon. Dr Sally Talbot MLC, having been previously chaired by the Hon. Libby Mettam MLA, and initially by the Hon. Mia Davies MLA (as the then Minister for Water). The Taskforce consists of representatives of the City, the Shire of Capel, GeoCatch, SW Catchments Council, Water Corporation (and, initially, Busselton Water too), and Departments of Water & Environment (DWER), Biodiversity, Conservation & Attractions (DBCA), Primary Industries and Regional Development (DPIRD) and Planning, Lands & Heritage (DPLH).

In the approximately five years since the Taskforce was formed, it is fair to say that the relationship between the City and key agencies, most notably the Water Corporation and what is now DWER, has moved from an often adversarial and not always productive one, to a relationship of genuine partnership. There has also been a significant investment in and improved scientific understanding of the waterways, as well as significant improvements in the management of the Vasse Estuary Channel, Vasse Diversion Drain and Toby Inlet.

The RGW Programme is in substantial part a consequence of the community's dissatisfaction with the state of the Lower Vasse River, and other inland waterways in the City. The RGW Programme is, to a significant degree, also the result of concerted and coordinated effort by the City itself. The following is a brief timeline setting out some of the key dates and actions leading up to the current time –

- **1990's/2000's:** Significant community concern about the state of the Lower Vasse River. Resulted in the 'Vasse River Clean-Up' programme and also the formation of GeoCatch in 1997. Condition of the River continued to deteriorate.
- **2004-2006:** Lower Vasse River fountain turned off during summer, before being turned off indefinitely, due to both health risks and maintenance/infrastructure issues.
- **March 2010:** Release of the final *Vasse-Wonnerup Water Quality Improvement Plan* (WQIP), which focused on management of nutrients coming off the catchment as the principal means of improving water quality in the waterways that flow into the Vasse-Wonnerup Estuary (of which the Lower Vasse River is one), rather than in-situ treatments. A key finding of the WQIP was that there were three independent sources, each of which could individually raise nutrients to a level where algal blooms would form during summer (i.e. nutrients from groundwater, nutrients from urban stormwater, and nutrients from runoff from agricultural areas in the upper catchment).
- **2010-2012:** A series of briefings to Council from State agencies and City officers on waterways related issues, especially the Lower Vasse River. Often resulted in frustration on all sides.
- **2012:** Lower Vasse River fountain infrastructure removed (although some residual infrastructure remains).
- **March 2012:** In response to a Notice of Motion from then Cr David Reid, the Council resolved to form a 'Lower Vasse River Taskforce' (consisting of Crs and City staff). Through the course of 2012, that Taskforce received briefings from City staff, relevant State agencies and community stakeholders. Towards the end of 2012, the Taskforce obtained the support of the broader Council to approach the State Government with a proposed path forward to address water quality issues in the Lower Vasse River and other waterways. To that end, the Taskforce met with the then Minister for Environment and Water, the Hon. Bill Marmion MLA, in December 2012.

- **April 2013:** One of a number of periodic fish kill events took place in the Vasse Estuary Channel, prompting a significant amount of community concern about the state of inland waterways in the City, and their management. That particular fish kill also prompted State Government interest.
- **August 2013:** Announcement by the then Minister for Water, the Hon. Terry Redman MLA, of an independent review into the management of the inland waterways in the Geographe Bay catchment. Professor Barry Hart of Monash University was subsequently appointed to undertake that review, and delivered his report, often referred to as the 'Hart Report', in March 2014. The Hart Report made a wide range of recommendations about how to improve the waterways and their management.
- **October 2014:** Announcement by the then Minister for Water, the Hon. Mia Davies MLA, of the formation of the Vasse Ministerial Taskforce, which would consist of senior representatives of relevant State Government agencies and local governments, and would be charged with implementing the Government's response to the Hart Report.
- **December 2015:** Vasse Ministerial Taskforce secured $7.15M of funds from Royalties-for-Regions, as well as approximately $7.65M of matching commitments from agencies, for projects to be undertaken over four years, and which collectively came to be known as the RGW Programme.
- **2015/16-2018/19:** Over 30 RGW projects completed. Highlights included – introduction of inter-agency fish kill prevention and clean-up protocols for the Vasse Estuary Channel, completion by the City of waterways management plans for Toby Inlet and Lower Vasse River, completion of operational plan for the Vasse-Wonnerup Estuary by DBCA, changes to the bar opening protocols for Toby Inlet, changes to culvert management for the Lower Vasse River/Vasse Diversion Drain, Vasse Diversion Drain enhancement works and opening of Vasse Diversion Drain bar during summer, dairy upgrade projects, extensive investment in science, including the 'reconnecting rivers' study, a series of in-situ treatment trials in the Lower Vasse River, and the future governance/funding project. RGW also included a very significant focus on community engagement.
- **May 2019:** $1.7M secured for 'RGW2', of which $170,000 was allocated for projects to be implemented by the City, specifically – sediment removal investigations for Toby Inlet, further design and investigations for the 'Living Stream' idea for the Lower Vasse River, and further work to identify and plan stormwater retrofit projects for water quality improvement. The Council also resolved to adopt final waterway management plans for Lower Vasse River and Toby Inlet.
- **Recent/current:** Key actions being pursued by the City are –
  - Scheduling of a Council briefing on the RGW governance/funding project – to be provided by senior Department of Water & Environmental Regulation ('DWER') staff;
  - Scheduling of a Council briefing on options and issues associated with the placement of fountains and other in-situ treatment options in the Lower Vasse River – to be delivered by technical staff from DWER and the Department of Health;
  - Issuing of a request for quote for further design and costing of Living Stream works;

- Issuing of a request for quote for a 'water circulation' trial to be undertaken in the Lower Vasse River during the 2019/20 summer/autumn period (note that this would consist of water circulation without use of a fountain or similar, so as to avoid risks associated with dispersion of blue-green algae) – the contract for this work is expected to be awarded in the first week of December, and implemented before the end of 2019 (see **Attachment D** for more information);
- Issuing of a request for quote for sediment investigations and removal options in Toby Inlet; and
- Opening of Toby Inlet sand bar on 1 November 2019 to facilitate water flushing.

Further information on RGW projects is available at https://rgw.dwer.wa.gov.au/.

Key actions relevant to consideration of this matter set out in the *Lower Vasse River Waterway Management Plan* are as follows –

5.1.1 Strategy LS1: Living streams approach

A living streams approach would see creation of diverse habitats including seasonally dry areas, river pools, channels, floodplain areas, riffle zones and islands (floating and grounded). In addition to outcomes for biodiversity in the river, these habitats would be designed to maximise potential benefits to water quality.

Management actions:

LS.3 Continue to develop Living Streams planning as a pathway for implementing ecological restoration and water quality improvement works, and assess community support for this approach.

LS.4 Incorporate the following principles into restoration planning as part of the Living Streams approach:

- *maximise shading;*
- *enhance substrate to provide more favourable sediment and depth conditions for anchorage and growth of beneficial aquatic plants;*
- *modify depth contours to support more in-stream vegetation, including emergent and submerged plants, to enhance nutrient uptake and cycling;*
- *provide greater surface area for benthic algal populations to develop as alternative primary producers to phytoplankton;*
- *reduce the size of open water areas to increase resilience to nutrient loading;*
- *enhance habitat for freshwater mussels to maximise their role in maintaining water quality;*
- *reduce residence time for algal growth through flow management.*

5.2.3 Strategy WQ3: Water treatment

Even when substantial reductions in nutrient loads are achieved, algal blooms often persist owing to ongoing internal nutrient supply. This strategy includes remediation approaches that address in-situ water quality, by treating water to reduce nutrient levels and algal blooms.

Management actions:

WQ3.4 Incorporate outcomes from the Water Quality Treatment Trials (2016-2018) into future management planning.

WQ3.5 Undertake seasonal water treatments in priority amenity area/s prior to algal bloom establishment, ensuring physical isolation to maximise effectiveness (dependent on outcomes Water Quality Treatment Trials, 2016-2018).

WQ3.6 Maintain research partnerships to identify and investigate new technologies to treat water in the future.

In response to submissions advocating or suggesting aeration or fountains, the final version of the Waterway Management Plan included the following discussion (which was not included in the draft Plan) -

4.3.2 Oxygenation and aeration

Oxygen is important for aquatic fauna and also influences nutrient availability. Low oxygen levels can be artificially increased by pumping oxygen gas into the water and by aeration. Both these methods will result in increased oxygen levels in the water, although oxygenation is more effective and aeration may increase nitrogen concentrations (due to nitrogen content of air). Increasing oxygen levels improves conditions for aquatic fauna and promotes aerobic biological processes, which can address odour issues.

Low oxygen conditions at the bottom of the water facilitate release of phosphorus from the sediments, which contributes to algal blooms (Boulton et al. 2014). This situation occurs when there is little mixing and the water column is stratified. In this situation, oxygenation, aeration or artificial circulation can reduce phosphorus release from sediments into the water.

The Lower Vasse River is not stratified, and has high oxygen levels throughout the water column during summer when the algal bloom is established. Algal blooms increase oxygen levels to above 100% during the day through photosynthesis. Although respiration at night consumes oxygen, it does not cause deoxygenation. The water is shallow enough to be mixed by the wind. Oxygenation and aeration of the water column would therefore not address nutrient problems in the Lower Vasse River when an algal bloom is established. The sediment is anoxic, but these methods do not oxygenate the sediments, and an attempt to do so would cause considerable resuspension of sediments.

Oxygenation was trialled in the Lower Vasse River during the summer of 1998-99 to determine the effectiveness of the process and water quality outcomes. There was no effect on the established algal bloom, although increased oxygen levels were observed and considered beneficial for aquatic fauna. Greater understanding of oxygen fluctuations prior to the onset of the algal bloom when oxygen levels would help assess potential advantages of oxygenation lower in the Lower Vasse River.

In addition to increasing oxygen levels, mixing of the water through aeration combined with sufficient circulation may influence algal growth by reducing the residence time. Phytoplankton thrive in the still conditions of the Lower Vasse River during summer. Movement of water within the system has potential to limit algal blooms by physical disturbance and reducing water temperatures (Cha et al. 2017). Artificial mixing is a common management practice in lake restoration, both to address stratification problems and to restrict growth by entraining phytoplankton in flow, and can restrict growth of scum-forming blue-green algae (Visser et al. 2016).

The fountain proposal

A fountain or fountains, in and of themselves, may enhance the amenity of the Lower Vasse River – simply because a fountain itself is an attractive thing.

Advice consistently provided to the City by DWER and many other scientists and technical experts, however, indicates that the nature of the water quality issues is such that algal blooms will not be ameliorated or prevented through use of a fountain or fountains in the River, and that includes consideration of the aeration, cooling and circulation benefits that fountains can provide. Fundamentally, that is understood to be because of the size of the water body (which is narrow, but long – in excess of 5.5 kilometres) and the extent of the water quality problems (i.e. in a smaller, less problematic waterway, fountains may assist in a meaningful way, but not in the Lower Vasse River, unless there were a lot of fountains).

Further, unless some more sophisticated way can be found to adequately manage the public health risk, then the fountains would most likely need to be switched off from December to May/June each year, which does seem to significantly negate any amenity benefit they may provide.

Given all of the information available, it is difficult for officers to support the Notice of Motion, noting the environmental and health considerations outlined above especially.

Nevertheless, should the Council be minded to resolve to install a fountain or fountains in the River, the City would need to consider a range of risk and project management matters before implementing such a resolution. The nature of Council Notices of Motion is such that it is often not possible to undertake complete risk assessment and project management before preparing the officer comment, but the following sets out and discusses some key considerations -

- **Budget:** The Notice of Motion correctly identified that a budget amendment would be required to implement the proposed action during the current financial year. There may also be alternative sources of funds, such as the 'Councillor Discretionary Fund', which has a budget for spend up to $70,000 this financial year, but no commitments at this stage. Maintenance costs would also need to be provided for, although they could probably be absorbed within existing budgets for the current financial year. City officers have also undertaken some investigations into costs of implementing the proposal, which are quite preliminary but do indicate the costs could be higher than Cr Carter has estimated.

- **Procurement:** The scale of the spend that would be involved means that the City's Purchasing Policy requires that multiple quotes be sought and obtained, and then assessed before a procurement decision could be made. Given the time of year, the effect of that is that works could probably not occur until an algal bloom had become established, by which time there would be little point in doing the works, as the fountain(s) could not be turned on until May/June (because of public health risks).

- **OHS:** It is unlikely that operational City staff would undertake the works, in particular during a period when there is an algal bloom present. There may be contractors willing to do so, but the City still has a duty of care for the health and safety of those contractors. Again, given the time of year, the effect of that is that works could possibly not occur until May/June.

- **Potential health impacts:** The City has advice from the State Department of Health (DoH) confirming that exposure to blue green algae can cause significant health problems, including neurodegenerative diseases. A copy of the DoH advice is **Attachment E**.

- **Insurance:** The City's insurers (LGIS) have advised that the City is not insured for the public liability or professional indemnity risks that may be associated with causing exposure to blue green algae. A copy of advice received from LGIS is **Attachment F** (under confidential cover).

- **Water quality monitoring:** Water quality sampling and testing during the summer is undertaken fortnightly by DWER upstream (Strelly Street bridge) and downstream (old rail bridge) of the area of the River where the fountains are proposed. It takes approximately 8-10 days for results to be returned. As such, if a bloom began to form soon after a sample was taken, it could be in excess of three weeks before it was revealed. As a result, decisions to turn off any fountains would need to be pre-emptive, probably on the basis of an agreed date (most likely a date in December), rather than being driven by monitoring.

- **Bathymetry/water depth:** Cr Carter has advised that the minimum water depth required for the particular (floating) fountain design proposed is 0.9 metres. Bathymetric surveys indicate that the depth of the water in some of the locations where fountains are proposed may be near that minimum depth during summer. If that is an issue it may be able to be overcome with an alternative fountain design, although alternative fountain designs may create other challenges.

- **Land tenure:** The Lower Vasse River water body is Unallocated Crown Land (UCL), over most of which Native Title has not been extinguished. As a result, the City's management powers and responsibilities are somewhat limited. In simple terms, the City does not 'own' the River, the State Government does. The City is therefore not responsible in a formal or legal sense for most risks associated with the River, unless the City chooses to undertake actions in the River (such as placement and operation of a fountain), at which point the City does then assume responsibility for those actions.

- **Native Title:** Officers have not had an opportunity to seek advice from DLPH on this particular matter, but on the basis of the officer understanding of the issues, Native Title may have been extinguished over the particular part of the River where there was previously a fountain, but not in other locations. The placement of floating fountains may not, however, in and of itself, require extinguishment of Native Title. Alternative fountain designs that required excavation or other works in the River, may, however, require Native Title issues to be resolved first. Note that as part of the RGW process, the City has indicated that, if and when the SW Native Title Settlement process has been completed, the City would accept a management order over the Lower Vasse River, and would then more formally be the 'water asset manager'.

- **Aboriginal Heritage:** The Lower Vasse River and nearby areas have important Aboriginal Heritage values. Any works involving excavation in or near the Lower Vasse River would likely create a need to obtain Aboriginal Heritage approvals (although a floating fountain, installed without any need for excavation probably does not).

- **Environmental approvals:** Officers have not had a chance to seek any specific advice from environmental agencies, but it is considered unlikely that floating fountains of the kind envisaged would trigger a need to obtain environmental approvals. Any alternative design which involved excavation, however, may.

If, notwithstanding the above, the Council was minded to support installation of a fountain or fountains, it would be preferable to work towards a trial during the 2020/21 summer period. The benefits of a trial at that time are principally that the initial financial commitment would be lower, steps could be taken to ensure that the impact of a fountain can be properly assessed, and it also provides time to undertake better project and risk management, and undertake installation works when algal blooms are not present. It is not, however, readily apparent that health risks could be adequately managed in any scenario, other than by switching fountains off from December through to May/June each year.

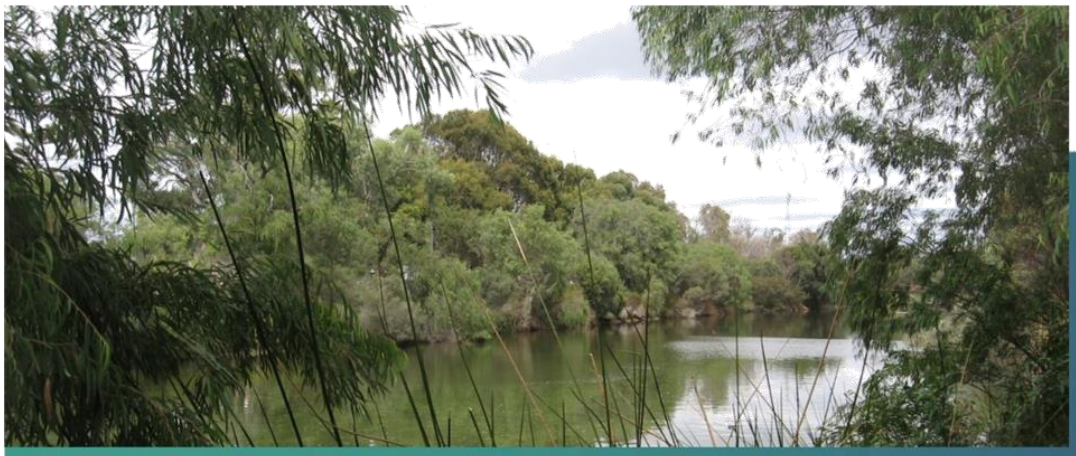
ATTACHMENTS

Attachment A	Lower Vasse River Water Management Plan
Attachment B	Carlton Gardens Melbourne Example
Attachment C	Airflo Example
Attachment D	Advice Regarding Water Circulation Trial
Attachment E	Department of Health Advice
Attachment F	Published Under Separate Cover Confidential Insurance Advice

Department of Water and Environmental Regulation
Department of Primary Industries and Regional Development
GOVERNMENT OF WESTERN AUSTRALIA

Lower Vasse River Waterway Management Plan

May 2019



City of Busselton
Geographe Bay

Revitalising Geographe Waterways

VASSE taskFORCE

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Acknowledgement of Wadandi people and country

The Vasse River has great spiritual, environmental, customary and social significance to the Wadandi Nyungar people. From its headwaters at Chapman Hill through to the Vasse-Wonnerup Wetlands, the Bilya (river) carries their songline. The Wadandi people are the traditional custodians of the Lower Vasse River, and this connection will be recognised in its future management.

All systems and beliefs have water as life, blood. We can't survive without fresh water: it's blood, life.

(Isaac Webb, 2018, cited in BGA 2018)

Executive Summary

Background

The Lower Vasse River is a reach of the Vasse River approximately 5.5km in length from the Vasse Diversion Drain to the weir structure at the Old Butter Factory. It flows through the centre of Busselton, about 250km south of Perth. This reach is greatly modified, with an estimated 90% of catchment flows diverted to Geographe Bay, and impoundment by the weir structure at its downstream end. The river is highly eutrophic, with severe algal blooms occurring each year during the warmer months.

Isolation in terms of flow; the conditions of extremely poor water quality experienced; and the high-profile location have led to the need for specific management of this area. This is the focus of this Water Management Plan. It was initiated though the Revitalising Geographe Waterways program, in response to community concerns about water quality issues in key water assets in the Geographe Bay Catchment. The Water Management Plan has been developed using a collaborative approach that has allowed for extensive consultation to work towards future management of the Lower Vasse River that aligns with community priorities, is well-understood and accepted, and has significant commitment to implementation by stakeholders.

Purpose and scope

The City of Busselton (the City) has developed this Waterway Management Plan (WMP) to guide future management strategies and actions that will work towards the vision for the Lower Vasse River:

> *The Lower Vasse River is an icon of Busselton, valued and enjoyed by the community, as a healthy waterway linking people and nature.*

The Plan includes a description of the characteristics and management issues for the Lower Vasse River, and provides objectives for the future. Through a review of available management options and consideration of stakeholder input, a comprehensive series of management strategies, each with specific actions, has been developed to guide works that will contribute to the objectives and overall vision for The Lower Vasse River.

Management focus areas

Management issues for the Lower Vasse River have been grouped into the following seven focus areas, with 16 associated management objectives, summarised here in order of importance as rated during community consultation. The table below provides management strategies and actions for each focus area.

1. Water Quality

Nutrients are a key driver of algal blooms, so ongoing load reduction actions are a fundamental part of management. However, it often takes a long time to achieve load reductions, and they may be counteracted by new developments and changes to land use. Algal blooms can also be addressed through interventions that limit nutrient availability or directly target algal blooms. They may also be managed by creating less favourable physical conditions for phytoplankton; or restoring ecosystem functions such as nutrient cycling and food web processes.

Objectives:

- Reduce nutrient contributions to the Lower Vasse River from all existing sources to improve water quality and reduce the frequency and severity of toxic algal blooms.
- Minimise any additional nutrients flowing into the Lower Vasse River from new developments and agricultural intensification.
- Utilise science and innovative technologies to improve water quality in the Lower Vasse River.

2. Ecology

Although degraded, the Lower Vasse River still provides habitat for native freshwater fish, frogs, turtles and invertebrates, and open water areas for waterbirds. The riparian vegetation contributes to aquatic habitats and also supports a range of terrestrial fauna and birds. The permanent fresh waters of Lower Vasse River provide a unique habitat in a landscape of seasonal wetlands and estuaries. There is significant scope to enhance ecological values through managing invasive species and restoring habitat.

Objectives:

- Protect and enhance native aquatic and terrestrial habitats in the Lower Vasse River and the foreshore reserve.
- Reduce the impact of threatening processes on the natural values of the Lower Vasse River and the foreshore reserve.
- Balance mitigation of fire risks with the protection of natural values of the Lower Vasse River foreshore reserve.

3. Water Flow

There have been substantial changes to the hydrology of the Lower Vasse River and its catchment through physical changes, diversion and impoundment. There is a strong perception in the community that increasing flows from the Vasse Diversion and removal of the Butter Factory weir boards will improve water quality and mobilise sediments. This approach is limited by flow regimes, flood risks and influence on nutrient loads; and a lack of defined management responsibilities for operation of flow control infrastructure.

Objective:

- Optimise water flow in the Lower Vasse River to balance improvement of water quality, protection of natural values and public amenity, while maintaining flood protection.

4. Sediments

The Lower Vasse River system has accumulated a layer of nutrient rich organic sediments, which contribute nutrients to the water column over summer, driving algal blooms. These sediments provide habitat for beneficial aquatic plants and benthic invertebrates. Sediments are therefore are a key consideration in addressing water quality problems in the Lower Vasse.

Objectives:

- Strategically manage accumulated sediments to protect the natural, cultural and social values of the Lower Vasse River.

5. Amenity, Recreation and Education

A number of trails and public open space areas adjoin the Lower Vasse and these are still regularly used by the community. Poor water quality has greatly reduced the opportunities for recreational activities in and around the river during the warmer months. Access and recreation was rated the highest and the focus area requiring change. There is significant potential for improving amenity and recreational and educational opportunities through enhancing ecology, improving facilities, addressing water quality problems, and developing information material.

Objectives:

- Improve visual amenity, public health and odours for residents and visitors to enjoy the Lower Vasse River.
- Facilitate recreational and educational opportunities, which are compatible with protection of the key values of the Lower Vasse River and enhance community stewardship.
- Enhance public access to the Lower Vasse River and within the foreshore reserve, with a focus on creating linkages to the town centre and surrounding areas while protecting the river's natural values.

6. Culture and Heritage

The river has historically been an iconic feature of the town and focal point for recreational and social events. There is a strong Aboriginal cultural connection to the river and a need for greater recognition of the role of Aboriginal people in future management.

Objective:

- Promote understanding of the Aboriginal and European history and culture of the Lower Vasse River.

7. Governance

The need for a designated manager of the Lower Vasse River was recognised by the independent review of waterways management, and also highlighted during community consultation. The lead role of the City in the future management of the Lower Vasse River will be recognised through endorsement and adoption of this WMP. This will task the City with responsibility for coordinating implementation, however key stakeholders and the community will have ongoing roles in many aspects of the WMP.

Objectives:

- Develop and maintain partnerships and a collaborative approach between key stakeholders and the community when managing the Lower Vasse River.
- Maximise opportunities for protection of the Lower Vasse River as part of future development proposals and changes in land uses.
- Manage the Lower Vasse River with consideration to other water assets, including the Vasse-Wonnerup Wetlands and Geographe Bay.
- Improve knowledge and understanding of key values and management issues of the Lower Vasse River to support adaptive management.

Living Streams

This WMP recommends further development of a Living Stream approach to future management of the Lower Vasse River. The term *Living Streams* describes an approach to managing urban stormwater that creates a complex ecosystem with outcomes for ecology, water quality, water conveyance and amenity. For the Lower Vasse River, this would involve altering the morphology to restore ecological processes and create physical conditions that provide greater resilience to high nutrient conditions. It may also facilitate intervention actions, such as water treatment and sediment removal, in specific areas of the river.

Implementation

The lead role of the City in the future management of the Lower Vasse River will be recognised through endorsement and adoption of this WMP. Other key stakeholders will continue to have important roles in many aspects of implementation, and there is an ongoing need for community reporting and feedback.

There are many management actions recommended in the WMP and currently there is no guaranteed funding mechanisms or timeline for implementation. A framework for implementation is provided that defines the roles and responsibilities of key stakeholders and a process for action planning, works, evaluation and reporting. This will allow ongoing prioritisation and implementation of actions in line with available funding, and building on new information from research, monitoring and outcomes as management progresses.

Implementation process for the Lower Vasse River Waterway Management Plan:



Management strategies and actions for the Lower Vasse River.

Strategies and actions are grouped for the Living Streams approach (LS) and each focus area: Water Quality (WQ); Ecology (E); Water Flow (WF); Sediments (S); Amenity; Recreation and Education (ARE); Culture and Heritage (CH); Governance (G).

Management Strategies	Management Actions
Living streams approach	LS.1 Continue to develop Living Streams planning as a pathway for implementing ecological restoration and water quality improvement works, and assess community support for this approach. LS.2 Incorporate the key principles into restoration planning as part of the Living Streams approach.
Protecting water quality from urban sources	WQ1.1 Quantify nutrient and pollutant exports from Busselton Light industrial area (LIA) to the Lower Vasse River to inform a case for deep sewerage. WQ1.2 Explore options to secure deep sewerage for the Busselton LIA in partnership with Water Corporation. WQ1.3 Assess opportunities for greater connection to existing sewerage infrastructure within the LVR catchment. If there a significant opportunity exists, investigate options and incentives to increase connectivity. WQ1.4 Planning decisions to include appropriate sewerage management requirements and best practice water management, through implementing the *Better Urban Water Management* framework. WQ1.5 Develop a prioritised program for stormwater upgrades to maximise nutrient reduction outcomes. WQ1.6 Support educational campaigns that aim to reduce nutrients in runoff through individual and community actions (e.g. Bay OK). WQ1.7 Support implementation of the Vasse-Wonnerup Wetlands and Geographe Bay Water Quality Improvement Plan (WQIP).
Reducing nutrient inputs from the rural catchment	WQ2.1 Support projects focussed on reducing nutrient exports from rural catchment of the LVR, as recommended in the Vasse-Wonnerup Wetlands and Geographe Bay WQIP (DoW 2010; noting future updates of this document): WQ2.2 Explore opportunities for enhanced nutrient assimilation in rural drains in the LVR catchment, particularly those in reserves.
Water treatment	WQ3.1 Incorporate outcomes from the Water Quality Treatment Trials (2016-2018) into future management planning. WQ3.2 Undertake seasonal water treatments in priority amenity area/s prior to algal bloom establishment, ensuring physical isolation to maximise effectiveness (dependent on outcomes Water Quality Treatment Trials, 2016-2018). WQ3.3 Maintain research partnerships to identify and investigate new technologies to treat water in the future.
Riparian vegetation management	E1.1 Develop and implement a revegetation program for City-managed foreshore reserves, considering recommended rehabilitation areas reported in Ecoedge (2017). E1.2 Continue to impose appropriate conditions on new developments adjacent to the Lower Vasse River that ensure future vesting and revegetation of foreshore reserves. E1.3 Include creation and improvement of habitat for birds and possums in planning riparian revegetation. E1.4 Update the Vasse River Action Plan in partnership with adjacent landholders, and extend this throughout the Lower Vasse River study area.

	E1.5	Minimise fire risks associated with foreshore reserves by: reducing growth of annual grassy weeds; and considering species type, height and planting density when planning revegetation.
Understanding and protecting waterbirds	E2.1	Undertake a survey of waterbirds of the Lower Vasse River and identify important habitat zones, with strong involvement from the community.
	E2.2	Protect identified important bird habitat zones through revegetation and weed control, recognising the current role of weeds as habitat.
	E2.3	Create additional habitat zones for birds by placing large woody debris emerging from the water.
	E2.4	Avoid identified important bird habitat zones when planning future infrastructure, and consider nesting season when planning works.
Controlling invasive species	E3.1	Prevent of further spread of Mexican waterlily through herbicide control and/or shading.
	E3.2	Undertake strategic control of Mexican waterlily to progressively reclaim areas of open water, while minimising adverse impacts and preventing a return to algal blooms in these areas.
	E3.3	Undertake regular feral fish eradication activities in partnership with Murdoch University.
	E3.4	Undertake targeted control of arum lily and Brazilian pepper trees throughout the Lower Vasse River study area.
Optimising flows	WF1.1	Increase flushing of the river by installing a second 900mm culvert at outflow point from Vasse Diversion Drain, in accordance with recommendations from the Reconnecting Rivers Report (DWER 2018).
	WF1.2	Monitor impacts of increasing flows into the Lower Vasse River.
	WF1.3	Undertake intensive monitoring water quality in the Vasse Diversion to support operational guidelines for managing the culvert.
	WF1.4	Develop operational guidelines for the Vasse Diversion culvert that defines responsibilities and provides formal guidance for manipulation of the valve to maximise water quality benefits and minimise risk of flooding.
	WF1.5	Review function of the Butter Factory weir boards to inform their future use and need for replacement.
	WF1.6	Investigate potential for increasing internal circulation in the system during summer to reduce residence time for phytoplankton.
Sediment Removal	S1.1	Undertake a small-scale sediment removal project, using geotextile bags for dewatering and disposal, to assess cost and logistics of this approach.
	S1.2	Determine feasibility of disposal options for future sediment removal: landfill, composting, soil conditioner.
	S1.3	Depending on outcomes of small scale removal, undertake staged removal of sediments in the Lower Vasse River as a component of Living Streams design.
Improving facilities and information	ARE1.1	Review existing facilities and develop a concept plan for strategic pathways and viewing points that connect people with the river.
	ARE1.2	Update the interpretive signage around the river to provide information on of the history, ecology, hydrology and management of the Lower Vasse River.
	ARE1.3	Develop online and printed resources with interesting and important information on ecology, water quality, history and management of the Lower Vasse River.
	ARE1.4	Establish bird watching areas and hides in appropriate places with informational material.
	ARE1.5	Encourage opportunities for citizen science to contribute to understanding and appreciation of the Lower Vasse River.
Public health management	ARE2.1	Continue monitoring phytoplankton species and densities to inform public health notifications.

	ARE2.2	Review algal bloom warning sign protocol and prepare a communication program to inform the community when harmful algal blooms occur.
	ARE2.3	Develop a policy for use of recreational watercrafts in the Lower Vasse River, including consideration of public health constraints.
Recognising Wadandi custodianship	CH1.1	In partnership with Wadandi people, include reference to traditional custodianship of the waterways and land in development of information resources.
	CH1.2	Manage future access in a way that avoids additional disturbance and considers protection of potential sites of significance – however Wadandi activities such as fishing, camping, the gathering of bush foods and family recreational and educational activities, should not be restricted by implementation of this plan.
	CH1.3	Seek to improve partnerships with the Wadandi community to increase their involvement in the management, protection and restoration of the Lower Vasse River.
	CH1.4	Consult further with Wadandi representatives in regards to specific works which result from this plan.
	CH1.5	Support programs that engage the Wadandi community in implementation of works associated with this plan.
Preserving historical values	CH2.1	Identify and ensure appropriate maintenance of sites of historical importance.
	CH2.2	Develop interpretive material to increase understanding of local history, and to promote, appreciate and access historical sites.
Collaborative and adaptive management	G1.1	The City to consider securing management orders over the waterway and adjacent public lands in Lower Vasse River study area, to facilitate implementation of this plan.
	G1.1	Establish a Management Advisory Group comprised of representatives from the City, Department of Water and Environmental Regulation, Department of Biodiversity, Conservation and Attractions, Water Corporation, GeoCatch, Wadandi representatives, and other community representatives.
	G1.2	Continue water quality monitoring in the Lower Vasse River.
	G1.3	Ensure adequate monitoring and reporting of outcomes from management actions, and feedback results into future management actions.
	G1.4	Maintain and develop partnerships with research organisations to improve knowledge and management of the Lower Vasse River.
Optimising planning tools	G2.1	Improve clarity of planning approval requirements for changes to land use and new developments in the agricultural sector (e.g. horticulture, dairies, feedlots).
	G2.2	Assess future development proposals and changes of land-use on adjoining lands with consideration of impacts on the Lower Vasse River.
	G2.3	Include 50m wide foreshore reserves as part of future development adjacent to the river.

1 Introduction

The City of Busselton (the City) has developed this Water Management Plan (WMP) to recommend management actions that will lead to improved water quality and ecological health for the Lower Vasse River. The vision for the Lower Vasse River, developed for this Water Management Plan in partnership with the community and stakeholders, is:

> *The Lower Vasse River is an icon of Busselton, valued and enjoyed by the community, as a healthy waterway linking people and nature.*

1.1 Background to this Waterway Management Plan

The Lower Vasse River is a high profile waterway in Busselton, flowing through the entrance to the town centre, and is a strong part of local history. It has extremely poor water quality as a result of increased nutrient loads form the catchment and changes to hydrology. Seasonal blooms of harmful phytoplankton are a major concern for the community and management. The river has been greatly modified from its original state and ecological health has declined, however it remains an important freshwater habitat supporting aquatic fauna and waterbirds.

This WMP is part of Revitalising Geographe Waterways (RGW), a $15 million program encompassing 30 projects to improve water quality and ecosystem health in key water assets. Within the RGW program, the City was given responsibility to prepare WMPs for the Lower Vasse River and Toby Inlet. The Department of Biodiversity, Conservation and attractions was given responsibility to develop an Operational Plan for the Vasse-Wonnerup Wetlands system.

The RGW program is one of five focus areas of the Vasse Geographe Strategy, a State Government initiative to address water quality in the Geographe Bay catchment (Figure 1). The program also includes three projects directly related to the Lower Vasse River WMP: the Reconnecting Rivers hydrological modelling project; the stormwater upgrades project for Busselton; and water treatment trials in the Lower Vasse River.

The Vasse Geographe Strategy was initiated by an independent review of waterways management (Hart 2014), commissioned by the State Government in response to serious community concerns about water quality issues. The Vasse Geographe Strategy is overseen by the Vasse Taskforce, comprising representatives from:

- Department of Water and Environmental Regulation (DWER)
- City of Busselton (the City)
- Shire of Capel
- Geographe Catchment Council (GeoCatch)
- Department of Biodiversity, Conservation and Attractions (DBCA)
- Department of Primary Industries and Regional Development (DPIRD)
- Department of Planning, Land and Heritage (DPLH)
- South West Catchments Council (SWCC)
- Water Corporation (WCorp)
- Busselton Water (BW)

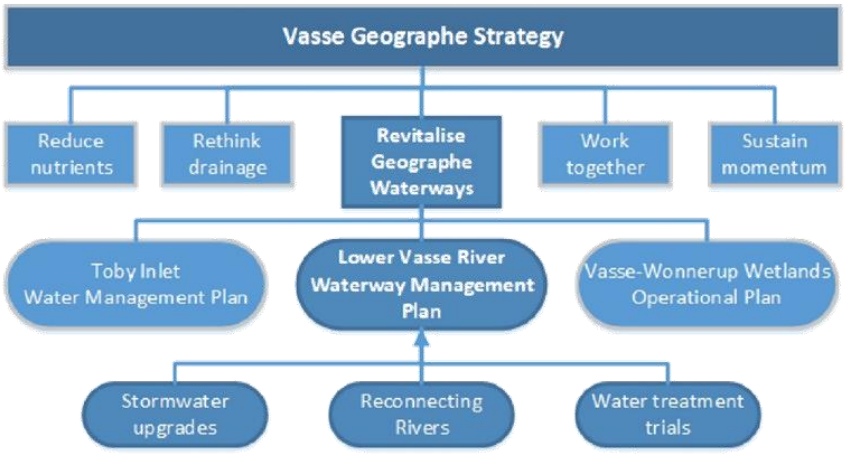

Figure 1. Framework for developing the Lower Vasse Waterway Management Plan.

1.2 Study area description

The study area includes the reach of the Vasse River approximately 5.5km in length, from the Vasse Diversion Drain to the weir boards at the Old Butter Factory, flowing through the centre of Busselton. The river discharges through a wetland area into the upper reach of the Vasse Estuary, which is part of the internationally significant Vasse-Wonnerup Wetland System. The study area includes the river itself and some adjacent areas of public land (Figure 1). Areas of water and unallocated crown land have no management responsibility designated, other areas are foreshore reserves managed by the City.

The lower section of the Vasse River is within Busselton's urban area, with a mix of residential and light industrial uses in the catchment. Upstream of the Busselton Bypass the surrounding land is agricultural, aside from the golf course. Upstream of the intersection with the Vasse Diversion, dairy and beef grazing are the dominant uses in the catchment and are intensifying.

The Vasse River catchment has ephemeral headwaters in the Whicher Scarp to the south, and lowland reaches crossing the Swan Coastal Plain. Extensive clearing and construction of the artificial drainage network during the early 1900s facilitated agricultural development across the Swan Coast Plain areas of the catchment. Native vegetation in these areas is very limited, and much of what remains is therefore of high conservation value. The upper parts of the catchment in the Whicher Scarp still retain substantial areas of remnant vegetation.

The Vasse Diversion diverts flow from approximately 90% of the Vasse River catchment to Geographe Bay. It was constructed in the early 1900s to provide flood protection for Busselton. Flow from this region of the catchment is restricted to a 900mmm pipe at the intersection, which may be open or closed by a manually-operated valve. This diversion drain physically separated the lower reach of the Vasse River, known as the Lower Vasse River, substantially changing the natural hydrological regime. At the downstream end of the study area the river is impounded by a weir, established in the early 1900s to maintain higher summer water levels through the town section for amenity and recreation

purposes. Removable weir boards are installed at the end of winter and removed in autumn. The effect of flow diversion and impoundment is essentially an elongated "lake" area from late spring to late autumn. In recent years, the weir boards have become degraded and gradual leaking of water during summer leads to water levels defined by land to the east near Ford Road.

Owing to increased inputs of nutrients from catchment sources, and the still conditions created by impoundment, the Lower Vasse River is eutrophic. Extremely high nutrient concentrations, particularly phosphorus, and ideal physical conditions drive severe seasonal algal blooms for up to seven months from November to May. Algal blooms cause unsightly water discoloration and scums and unpleasant odours. These blooms are often dominated by blue-green algae (cyanobacteria) which are potentially toxic and close the waters to public use.

Despite seasonally poor water quality, the Lower Vasse River retains social and natural values. It provides permanent freshwater habitat and vegetated foreshore areas that support native fauna, including many waterbirds, native fish, oblong turtles, freshwater mussels and western ringtail possums. Many people in the community still enjoy the ecological characteristics amenity of the river.

The isolation of the Lower Vasse River by diversion and impoundment; the conditions of extremely poor water quality experienced; and the high profile location have led to the need for specific management of this area. This is the focus of this WMP.

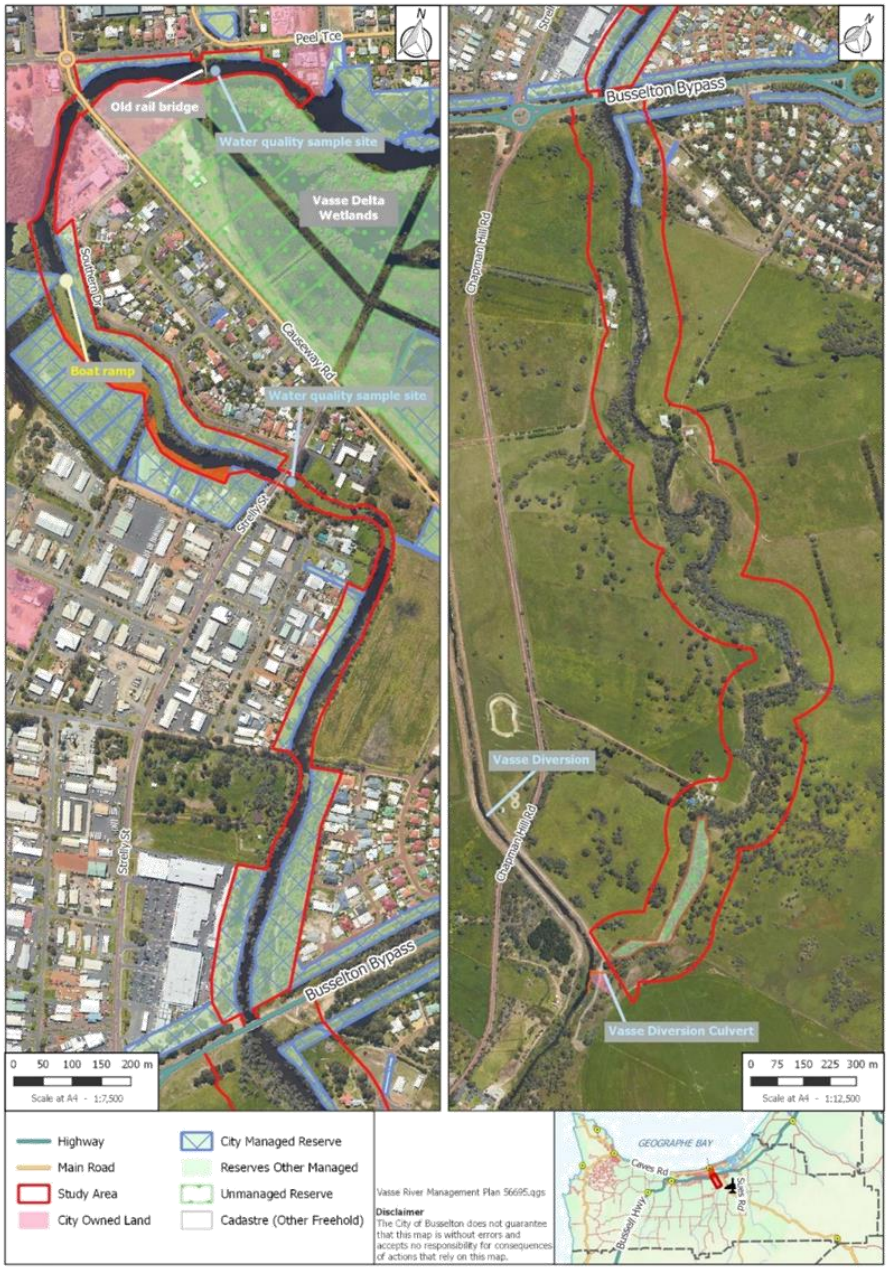

Figure 2. Study area for the Lower Vasse River Waterway Management Plan, showing tenure and landmarks.

1.3 History of management

Poor water quality in the Lower Vasse River has been a focus of management activities for at least two decades. The Lower Vasse River Cleanup Program (LVRCP) commenced in 1999, which implemented a range on-ground works and trials to improve the ecological health of the system (Paice 2005). Key components of the LVRCP were:

- sediment treatment and removal;
- restoring river ecology;
- rural catchment management; and
- urban catchment management.

These approaches had some success and have provided useful information for future work. The revegetation undertaken through this project has doubtless enhanced the ecological values of the river. However water quality remains extremely poor with severe algal blooms recurring each year during the warmer months. A review of the LVRCP recommended priority areas for action as:

- continued partnerships to assess appropriate sediment remediation options;
- maintenance of revegetated areas in terms of weed control;
- continued revegetation with emergent and submerged plants;
- formalise agreed management of water flows through the river to maximise flushing;
- management of the feral goldfish population;
- identifying and addressing point source problems in particular septic tank leachate; and
- ongoing monitoring and evaluation to measure progress towards long term objectives (Paice 2005).

Since the Lower Vasse River Cleanup program, managers have continued to implement nutrient reduction actions in the rural and urban catchments, including river restoration, implementation of best management practices and installation of stormwater treatments. There have also there have been small scale studies to assess potential for improving water quality using other measures such as enzyme treatments, floating islands and establishing aquatic plants.

The independent review of the waterways management (Hart 2014) highlighted the lack of an obvious lead agency. It made the distinction between long-term reduction of nutrients from the overall catchment, and short-term management of the impounded reach Lower Vasse River. It highlighted the need for an operational management plan for this section of the river that would address the dual objectives of achieving good water quality while also preventing flooding in Busselton.

1.4 Process for developing the Waterway Management Plan

The WMP has been developed using a collaborative approach that has allowed for extensive consultation to work towards future management of the Lower Vasse River that aligns with community priorities, is well-understood and accepted, and has significant commitment to implementation by stakeholders. Key stakeholders that contributed to this WMP are:

- City
- Community members
- Aboriginal People
- GeoCatch
- Department of Water and Environmental Regulation
- Department of Biodiversity, Conservation and Attractions
- Water Corporation

The process for developing the WMP is shown in Figure 3. The consultation process has contributed directly to the management issues, vision, management objectives, management strategies and actions for the WMP. Activities undertaken for consultation are outlined in the following sections. The consultation process and the overall WMP have been informed by review of existing information about the Lower Vasse River and new information gained through projects undertaken during the planning process. It is important to note the adaptive nature of this WMP. It has been prepared at a point in time, using the information currently available. Implementation will require an ongoing process of monitoring and evaluation to determine future actions.

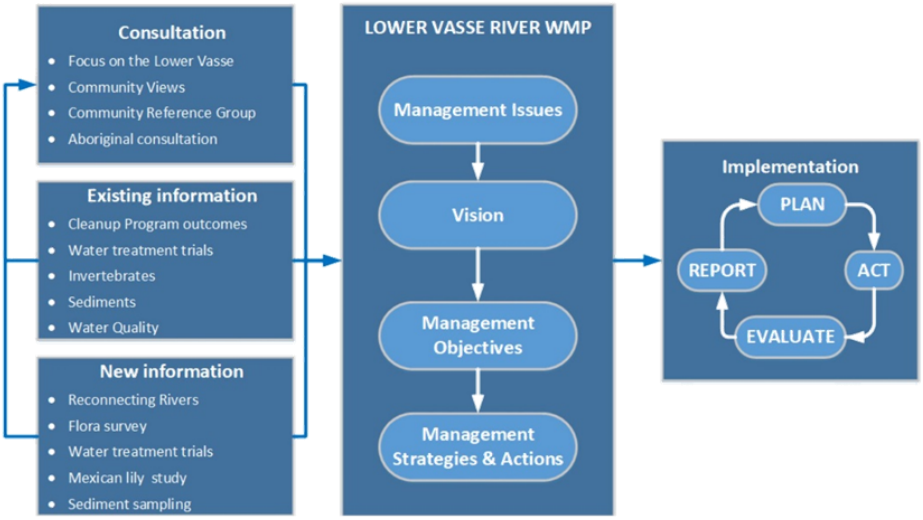

Figure 3. Process for developing the Lower Vasse River Waterway Management Plan

1.4.1 Community consultation

Consultation with stakeholders was an integral part of preparing this WMP. The aims of consultation were:

- To understand community issues and concerns on the Lower Vasse River;
- Gain input, ideas, feedback into future management of the Lower Vasse River;
- To get support from the community on proposed actions; and
- To raise community awareness and understanding of local water quality issues.

Early consultation events were widely advertised to attract a broad representation from the community. The first of these, *Focus on the Lower Vasse* in June 2015, provided current information and sought to identify issues of most importance to the community. The *Community Views* event in March 2016 was also open to whole community and facilitated rating of management issues valued characteristics and desired change (Figure 4; AHA 2016). These results reflected a high level of importance on issues related to the health of the Lower Vasse River and associated amenity (82%). Other issues rated as important were recreation and access, heritage, flood and management. The outcomes of this consultation were used to formally identify key management issues, as outlined in Section 2 of the WMP. Information provided by the community regarding their understanding of the system and suggested management actions were used to develop draft management objectives, and were considered when reviewing management options.

Following initial consultation, the Lower Vasse River Community Reference Group (CRG) was formed to provide ongoing input to WMP. This group was formed by inviting participants of earlier events to nominate for ongoing involvement. It also included representation from the Department of Water and Environmental Regulation and GeoCatch, as key supporting partners in development of the WMP. Facilitated workshops with this group were held to develop the vision, management objectives (AHA 2017a, 2017b) and management strategies and actions (AHA 2018) for the WMP.

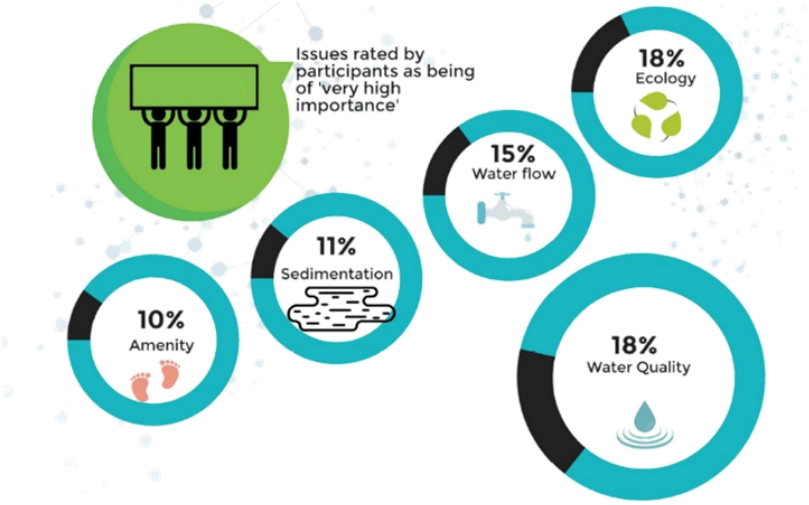

Figure 4. Outcomes of identifying and rating management issues for the Lower Vasse River from the *Community Views* consultation session, March 2016.

1.4.2 Aboriginal consultation

In recognition of Aboriginal (Wadandi) people as the traditional custodians of country, and understanding the significance of waterways to Aboriginal people, additional consultation was undertaken with the South West Boojarah (SWB) and Harris Family native title claim groups to allow their input to the WMP.

The study area is within the South West Boojarah Indigenous Land Use Agreement area which is one of six Agreement areas that form part of the South West Native Title Settlement Area[1].

Presentations were given to the South West Boojarah (SWB) Working Party and subsequent during an Aboriginal heritage survey. An overview of the RGW program and the draft management objectives were presented to the SWB Working Party.

An aboriginal heritage survey was undertaken with representatives of the SWB and the Harris family native title groups in February 2018, encompassing the study areas of the Lower Vasse River and Toby Inlet water management plans and the Vasse Wonnerup Operation Plan. The survey was facilitated by Brad Goode and Associates (BGA) and included briefings and a bus tour of key sites for discussion of scientific investigations, future management actions and the content of the plans (BGA 2018). On-site discussions were held on key potential management actions including sediment removal, water treatment, reshaping and revegetation, Mexican waterlily control.

The representatives highlighted the importance of connectivity of waterways in the landscape from both spiritual and ecological perspectives. They highlighted the importance of managing the headwaters of the river to address the real cause of poor health in the lower reach, relating problems in the Lower Vasse to disruption of connectivity with its catchment. They also acknowledged that it is not practical to return the river's hydrology to its natural state. The group supported specific works to address sediment and water quality problems, including sediment removal and waterlily control. Information from this consultation has been considered in the development of management strategies and actions in this WMP.

[1] Current information on the South West Native Title Settlement: http://www.noongar.org.au

2 Management Issues

Through the consultation process, management issues were grouped into the following eight key focus area for management:

1. Water quality
2. Ecology
3. Water flow
4. Sedimentation
5. Amenity
6. Recreation and Education
7. Heritage
8. Governance

The most important issues for management the Lower Vasse River as rated through community consultation are water quality, ecology, water flow, and sedimentation. These are key river health issues, which are interconnected and fundamental to ongoing management of the river.

Management strategies which provide outcomes for river health will contribute directly to social issues by improving amenity and increasing opportunities for recreation and education. In turn, facilities to provide for these activities will allow for promotion of cultural heritage values. Governance relates to policy and management responsibilities, which will underlie the implementation of strategies to improve river health.

A summary of key management issues and available information for these focus areas is provided in this section.

2.1 Water quality

2.1.1 Nutrients and algal blooms

The Lower Vasse River is a eutrophic waterway, with very high nutrient concentrations resulting in extremely high densities of phytoplankton (microscopic algae), commonly referred to as algal blooms. These algal blooms persist for up to seven months each year, generally between December and May, resulting in discoloured water, unsightly scums and unpleasant odours. The blooms are dominated by blue-green algae (cyanobacteria), which are potentially toxic to animals and humans (Figure 5). Not surprisingly, water quality is the most significant management issue for the Lower Vasse River.

It is interesting to note that "thick algae" was observed in the river in 1940 (Mouritz, Elphick and Anderson).

Nitrogen and phosphorus are the main nutrients contributing to eutrophication. Nutrients have been regularly sampled by DWER at two sites in the Lower Vasse River (Figure 2):

i. Strelly Street Bridge from 1996 – 2010, and since January 2017 (excluding winter since 2000);
ii. Old rail bridge from 1996 – 2010.

Total nitrogen (TN) concentrations have often exceeded ecosystem protection guidelines in the past (Figure 6a). However, sampling in recent years has lower TN concentrations, particularly at the Strelly Street site. Monthly data for the old rail bridge site shows high TN in winter and a gradual decrease

during spring, followed by an increase to very high levels in summer (Figure 6b). Peak TN in summer corresponds to peak algal growth (Figure 6e), and is likely related to the ability of blue-green algae to fix nitrogen from the atmosphere. Very little nitrogen is present in dissolved available forms, which limits the amount available for growth or other types of algae.

Total phosphorus (TP) concentrations in the lower Vasse River are extremely high with annual and monthly means consistently exceeding ecosystem protection guidelines, often by an order of magnitude (Figure 6c, d). Phosphorus concentrations show a seasonal increase from spring to summer and then remain high (Figure 6d). Unlike nitrogen, the phosphorus concentrations are higher at the Strelly St Bridge site upstream, where algal blooms have been less severe in recent years (Figure 6e). This is unusual, as phosphorus is known to promote algal growth. Dissolved phosphorus is consistently high at the Strelly Street site, accounting for an average 48% of TP. At the old rail bridge site, dissolved phosphorus accounts for an average 17% of TP, and decreases over the duration of the season. Dissolved oxygen concentrations are much lower at the Strelly Street site than downstream and this may be linked to higher phosphorus concentrations, as phosphorus is released from sediments under low oxygen conditions.

Chlorophyll a is an indicator of phytoplankton growth, and very high concentrations throughout the river until 2010 reflect seasonal algal blooms. Chlorophyll a has been much lower at the Strelly St Bridge site since sampling recommenced in the 2016-17 season (Figure 6e). It has remained high at the old rail bridge in recent years, showing a seasonal increase in correspondence to increasing algal growth in the summer (Figure 6f). This is also reflected in monitoring of phytoplankton cell densities and species (Figure 8), which shows continuing dominance by blue-green algal blooms at the old rail bridge; but a substantial reduction at Strelly Street. There has been a shift at the Strelly St site to harmless species of green algae, with occasional 'bloom' densities. Lower phytoplankton growth at the Strelly Street site is no doubt due to the recent presence of Mexican waterlily at this site. The waterlily prevents light entering the water column, preventing algal growth. However, as discussed in Section 2.2.3, Mexican waterlily appears to reduce algal growth more broadly.

2.1.2 Nutrient sources

Nutrients in the Lower Vasse River come from surface runoff and groundwater infiltration; and are also released into the water column from the sediment (0). Nutrient sources include residential, commercial, industrial and rural sources in its local catchment area (downstream of the Vasse Diversion), as well as some flows from the Vasse Diversion. In addition to ongoing inputs to the river, nutrients accumulate in the sediments from the ongoing cycle of algal growth and decay, providing an internal source of nutrients (2.4).

Water quality analysis and modelling for the Water Quality Improvement Plan (WQIP) estimated that septic systems in the Busselton light industrial area (LIA) contribute 0.45 tonnes (9.4%) of phosphorus 1.3 tonnes of nitrogen 3.7% to the river annually (DoW 2010). This modelling also predicted that urban expansions in the catchment could result in a 41% increase in phosphorus load and a 23% increase in nitrogen load. Importantly, the WQIP also identified one feedlot as being the largest contributor of phosphorus in the Lower Vasse River catchment (since converted to irrigated horticulture, and likely to remain a significant phosphorus source). Dairy sheds also contribute a significant proportion of nutrients from broader agricultural areas.

Nutrient concentrations in the Vasse Diversion vary widely from acceptable to extremely high, with mean annual concentrations since 2008 of 1.6-2.4 mg/L for TN and 0.03-0.23 mg/L for TP. Nutrient inputs to the Vasse River depend on the operation of the culvert valve connection to allow water to flow through the 900mm pipe at the upper end of the river (Section 2.3). Opening of the valve connection is not formally managed and flows are not formally recorded. There may be potential to optimise management of the valve connection to reduce flows when nutrient levels are high. Community perception is that water flow from the Vasse Diversion to the Lower Vasse River should be maximised to improve water quality by flushing the river.

2.1.3 Downstream impacts

In addition to problems associated with nutrient enrichment within the river itself, high loads of nutrients flowing through the river influence the wetlands and the Vasse Estuary downstream. The WQIP reports that the Lower Vasse River contributes very high nutrient loads to downstream waters relative to its catchment size (DoW 2010); and recommends long-term load reductions of 67% for phosphorus and 70% for nitrogen to meet acceptable loadings for the Vasse-Wonnerup Wetlands. Management actions for the Lower Vasse River need to consider downstream impacts. For example, increasing flows from the Vasse Diversion to the Lower Vasse River would increase nutrient loads from this source to the Vasse Estuary (Section 4.8).



Figure 5. Blue green algal bloom in the Lower Vasse River.

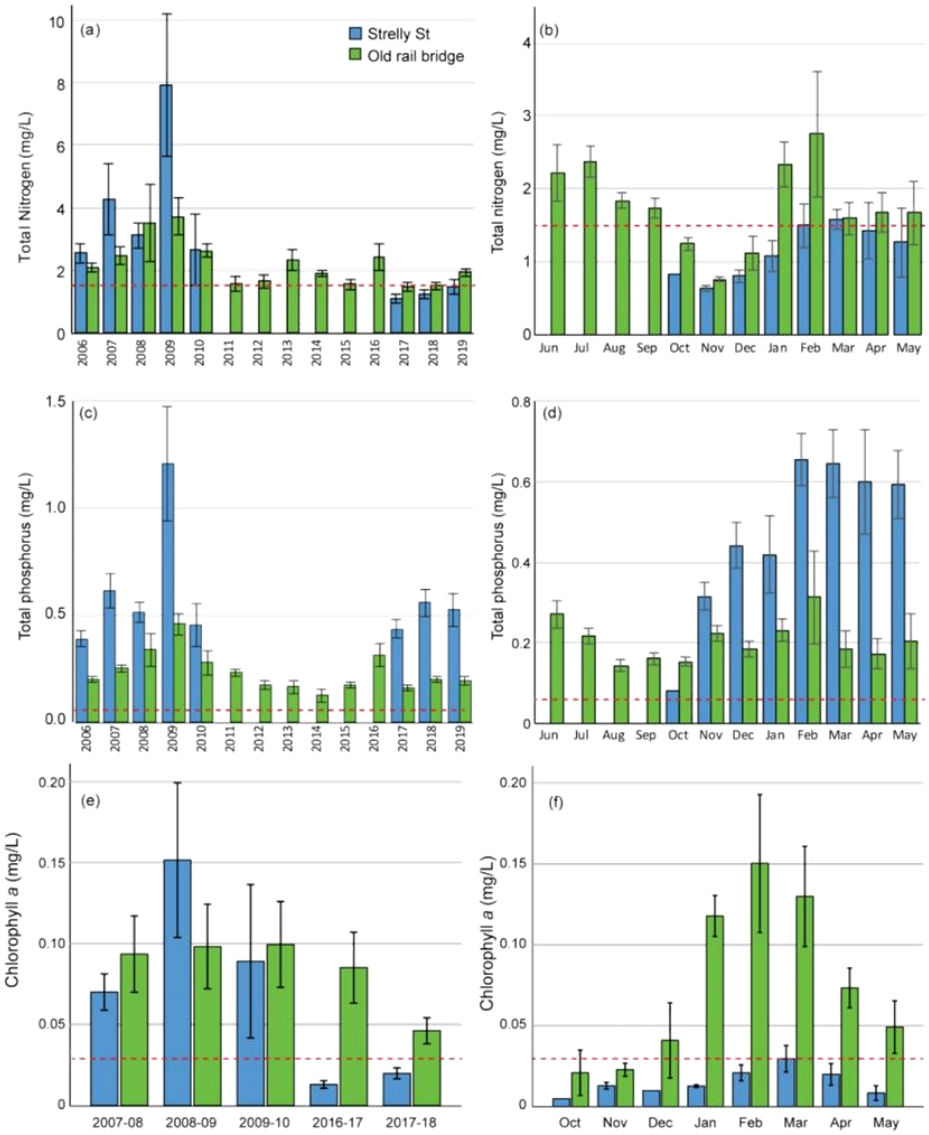

Figure 6. Mean annual and monthly concentrations of total nitrogen (a, b) and total phosphorus (c, d); and mean chlorophyll a across annual spring-summer-autumn sampling seasons (e) and for each month (f). Red dashed lines are guidelines for protection of wetland ecosystems (ANZECC and ARMCANZ 2000). Monthly nutrient data from 2011-2018; monthly chlorophyll *a* data since 2017 (DWER 2018a). Error bars are +/- standard error.

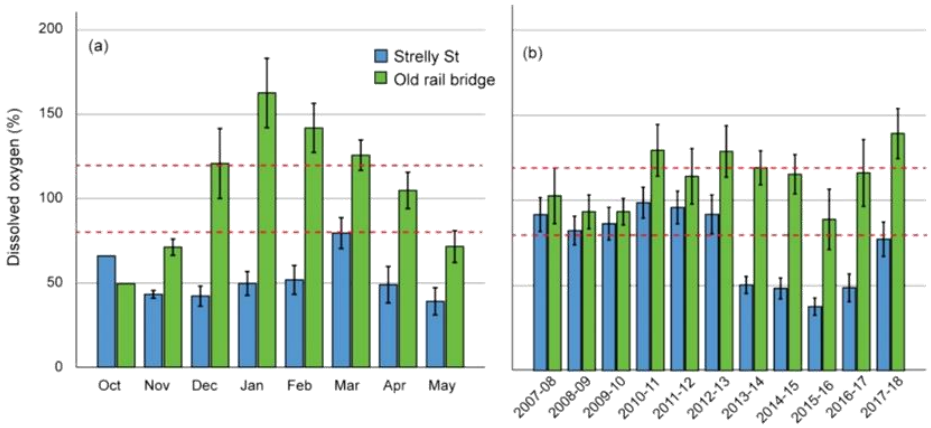

Figure 7. Dissolved oxygen concentrations in the Lower Vasse River: average monthly means for 2016-2018 centred around summer (a); and annual means since 2007-08 (spring-autumn sampling) (DWER 2018a).

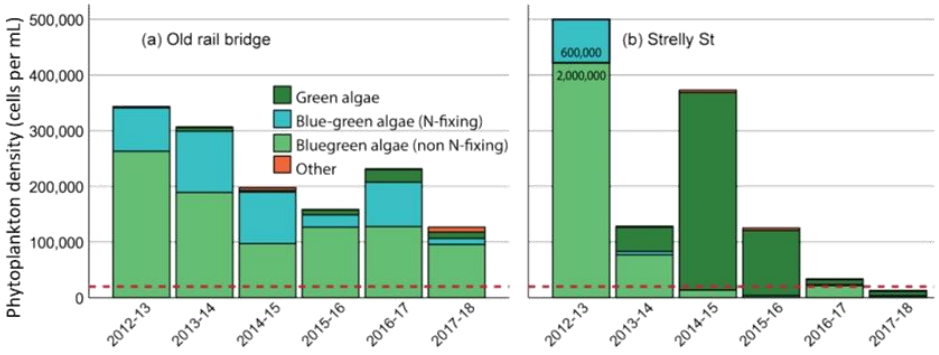

Figure 8. Mean cell densities for main phytoplankton species groups at sampling sites in the Lower Vasse River during spring-summer-autumn seasons since 2012 (DWER 2018b). Red dashed line is the guideline value of 20,000 cells per millilitre for recreational use.

2.2 Ecology

The Lower Vasse River has undergone substantial physical changes through widening and de-snagging, and clearing of surrounding vegetation. This includes a "clean out" by the Public Works Department around 1939 using a dragline. It has also been impacted by altered hydrology and nutrient enrichment. These changes have dramatically affected the river's ecology. Aboriginal people have stories of fishing and hunting along the Vasse River when water quality was better. However it now has little in-stream habitat and the dominance of phytoplankton during the warmer months supports limited diversity.

Although degraded, it still provides habitat for native freshwater fish, frogs, turtles and invertebrates, and open water areas for waterbirds. The riparian vegetation contributes to aquatic habitats and also

supports a range of terrestrial fauna and birds. The permanent fresh waters of the Lower Vasse River provide a unique habitat in a landscape of seasonal wetlands and estuaries.

Ecology was rated as the most important management issue by 18% of *Community Views* participants (AHA 2016). The river environment contributes to local amenity and the birdlife is particularly enjoyed. The study area has been identified as a regional ecological linkage (Molloy et al. 2009, Ecoedge 2017). A summary of the main ecological components of the Lower Vasse River study area and implications for management is provided below.

2.2.1 Vegetation

Native fringing (riparian) vegetation of the Lower Vasse River has been largely cleared, leaving a narrow strip of remnant trees with limited understorey and extensive weed invasion. There are opportunities to enhance vegetation in the study area through weed control and revegetation.

Vegetation along the river provides important habitat for terrestrial fauna, with overhanging trees offering many roosting and nesting sites for waterbirds. In addition to providing habitat benefits, fringing vegetation is a vital component of river health. The important functions include:

- supporting terrestrial and aquatic food webs;
- habitat for terrestrial and aquatic fauna;
- foreshore stabilisation;
- maintaining cooler temperatures
- interception of nutrients and sediments in runoff; and
- nutrient uptake and processing.

The extent and diversity has been increased downstream of the Busselton bypass by revegetation work done for the Lower Vasse River Cleanup program and in new foreshore reserves adjacent to subdivided land. A vegetation survey in the study area in 2017 found only 5.6% of vegetation in good condition, occurring mainly within these revegetated areas (Ecoedge 2017).

The current vegetation includes only 28 native species, including some species in revegetated areas that would not have occurred there naturally. The Ecoedge (2017) survey found no occurrences of threatened or priority flora, although there are nearby occurrences of the Coastal Saltmarsh threatened ecological community (TEC); and the *Eucalyptus rudis*, Marri and Peppermint forest ecological community (Priority 1).

At least 20 species of weeds are present, including 10 of environmental concern, which are mapped in the Ecoedge (2017) survey report. The most widespread problem weeds are Arum Lily, Brazilian pepper tree and Kikuyu (Ecoedge 2017). Kikuyu and other grassy weeds form an extensive component of the understory in much of the study area. Less widespread but potentially invasive weeds include Blue periwinkle, Weeping willow and Watsonia. Within the waterway, Mexican waterlily has infested large areas.

2.2.2 Fire Risk

Management of vegetation needs to address current and future risk of fire, particularly in areas close to buildings and infrastructure. A Bushfire Attack Level assessment can be used to determine suitable setbacks (Calibre 2018). Adequate setbacks to sensitive infrastructures, strategic gaps between vegetated areas limiting width of vegetation can be used to reduce fire risk where required. Selection

of species for revegetation that have lower flammability and maintaining moisture content through irrigation can also mitigate risk (Calibre 2018).

2.2.3 Mexican waterlily

Mexican waterlily (*Nymphaea Mexicana*) covers large areas of the Lower Vasse River (Figure 9a,b). Although present in small patches in the river for several years, it underwent rapid expansion during the 2013-2014 spring-summer growing season and has continued to spread gradually since then. In 2017 it covered 23% and 1.15 hectares of water between the Busselton Bypass and the Butter Factory weir.

This is a serious concern for the community and management authorities owing to impacts on visual amenity, loss of open water habitat and possible flow obstruction. Overhanging fringing vegetation supports many roosting and nesting sites for birds. Growth of lilies beneath these sites prevents diving from these platforms and creates a risk for fledglings that may get trapped in the lilies beneath nests. Loss of open waters reduces space for birds to swim and dive and reduces available habitat for fish and turtles.

A study on the impacts of Mexican waterlily in the Lower Vasse River in 2017 investigated the effects of these plants on water quality and ecology (Paice 2018). In addition to the obvious problem of loss of open waters, the lilies result in very low oxygen levels in the water (Figure 10a), presenting a risk for aquatic fauna. Despite this, the structural habitat provided by the lilies supports greater abundance and diversity of aquatic invertebrates than other parts of the river. However this invertebrate population does include large numbers of non-biting midge larvae, which can contribute to nuisance insect problems.

The extensive root mass of the lilies and ongoing growth and decay contributes to a build-up of organic material, creating shallower conditions. This has allowed additional colonisation of semi aquatic plants. Currently, this has been seen the native (though prolific) Slender knotweed, *Persicaria decipiens*), but there is a risk of colonisation by wetland weeds. The reduced depth is now evident upstream of Strelly Street where waterlilies have died back from herbicide use.

Mexican waterlily has also had an effect on nutrient levels and growth of phytoplankton. Since the period of expansion in 2013-14, algal blooms have been greatly reduced in waters upstream of the point of infestation (near the boat ramp area along Southern Drive) (Figure 9c, d, Figure 10c). This is despite very high phosphorus concentrations in these areas; much higher than downstream Figure 10b). The reasons for reduced algal blooms between patches of waterlily are not fully understood. It may be a combination of greater low residence time in sunlit areas owing to lilies and riparian shading; nitrogen limitation; or chemical inhibition.



Figure 9. Mexican waterlily in the Lower Vasse River: (a) extensive growth upstream of Strelly Street in March 2017; (b) flower; (c) downstream of infestation in April 2014 showing obvious algal bloom; (d) upstream of infestation in April 2014 (same day) with no algal bloom.

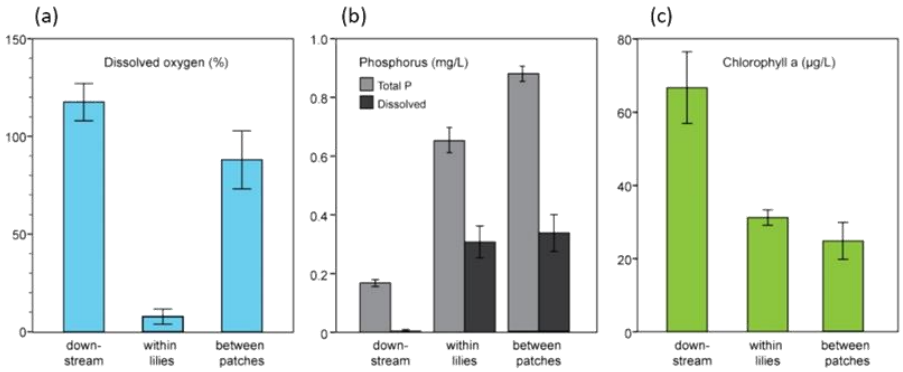

Figure 10. Comparison of water quality in relation to Mexican waterlily in the Lower Vasse River: downstream of the waterlily infestation, within dense waterlily growth, and in areas of open water between patches of waterlily (200-300m reaches) (Paice 2018).

2.2.4 Birds

The birdlife in and around the Lower Vasse River was rated by the community as the most liked characteristic (AHA 2016). Protecting and enhancing habitat for birds and providing opportunities for enjoyment of birdlife should be part of future management.

Table 1 provides a list of bird records available for the Lower Vasse River. There are probably more than this, however limited data is available. There is little formal published information about the birdlife of the Lower Vasse River, and there is scope to improve understanding and to share knowledge. Fostering existing community efforts in birdwatching to capture data would be a good step towards achieving this.

Remnant fringing rushes and overhanging trees provide important nesting and roosting sites. Secluded sections of the river and the southern bank adjacent to Southern Drive support some very dense nesting areas for cormorants, darters, Night heron and Yellow-billed spoonbills. In addition to the areas of remnant native rushes, grassy weeds also provide habitat for birds on the banks of the river, and this should be considered when undertaking weed control.

Threats to birds of the Lower Vasse River include predation by dogs, cats (domestic and feral) and foxes; degradation of vegetation through declining tree health, weed invasion and clearing; and loss of open water habitat by expansion of Mexican waterlily.

Table 1. Bird species recorded in the Lower Vasse River (Birdlife Australia 2018, Birdlife Western Australia 2017; Paice et al. 2016).

Common Name	Scientific Name
Australasian grebe	*Tachybaptus novaehollandiae*
Australasian shoveler	*Anas rhynchotis*
Australian pelican	*Pelecanus conspicillatus*
Australian reed-warbler	*Acrocephalus australis*
Australian spotted crake	*Porzana fluminea*
Australian white ibis	*Threskiornis molucca*
Australian wood duck	*Chenonetta jubata*
Black swan	*Cygnus atratus*
Black-fronted dotterel	*Elseyornis melanops*
Black-winged stilt	*Himantopus himantopus*
Blue-billed duck	*Oxyura australis*
Buff-banded rail	*Gallirallus philippensis*
Darter	*Anhinga melanogaster*
Dusky moorhen	*Gallinula tenebrosa*
Eastern great egret	*Ardea alba modesta*
Eurasian coot	*Fulica atra*
Great egret	*Egretta garzetta*
Grey teal	*Anas gracilis*
Hoary-headed grebe	*Poliocephalus poliocephalus*
Little black cormorant	*Phalacrocorax sulcirostris*
Little grassbird	*Megalurus gramineus*
Little pied cormorant	*Phalacrocorax melanoleucos*
Musk duck	*Biziura lobata*
Nankeen night heron	*Nycticorax caledonicus*
Pacific black duck	*Anas superciliosa*
Purple swamphen	*Porphyrio porphyrio*
Spotless crake	*Porzana tabuensis*
White-faced heron	*Egretta novaehollandiae*
Yellow-billed spoonbill	*Platalea flavipes*

2.2.5 Aquatic fauna

The key management issue for aquatic fauna is degraded habitat, in terms of limited structural habitat and poor water quality. Although a range of aquatic fauna occur in the Lower Vasse River, the degraded conditions no doubt limit the populations it can support. While management should therefore focus on enhancing habitat and reducing threats, such actions may have short term impacts on existing individuals. Nevertheless the Lower Vasse River has been found to have high ecological value worthy of protection, including a fish and crayfish community dominated by native species and with evidence of successful recruitment (DWER 2019).

Fish

Eight native fish species have been recorded in the Lower Vasse River during a fish survey in 2003-2004 and during subsequent goldfish control work: four freshwater species and four estuarine species (Table 2). These species have been heavily impacted by alteration and loss of habitat in the south west region, requiring structural habitat and refuge in permanent freshwaters. These species are generally only found in low numbers in the Lower Vasse River; although higher numbers of the Western pygmy perch and the occurrence of the Mud minnow (listed as vulnerable under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice 2017) at a site just downstream of the Vasse Diversion outflow suggest better habitat there (Morgan and Beatty 2004). The estuarine Western hardyhead was most abundant downstream of the Butter Factory weir and the survey reported that this structure may impede migration of native fish (Beatty *et al*. 2011).

Two introduced fish species are widespread in the Lower Vasse River: mosquitofish and goldfish. Mosquitofish are small and commonly seen in very large numbers in the river. Significant numbers of large goldfish occur in the Lower Vasse River. They have been noted as being common in the river near town in 1956; and trout were released in the river in 1957 (Mouritz, Elphick and Anderson), but have not been reported since then.

The presence of goldfish is an important issue owing to their contribution to poor water quality and algal blooms. Their benthic foraging disturbs nutrient-rich sediments and there is evidence that growth of blue-green algae is stimulated following ingestion and passage through goldfish (Kolmakov and Gladyshev 2003). A program of annual removal from 2003 to 2013 removed 842 goldfish, some exceeding 40cm in length, from the Vasse River (Beatty et al 2014).

Other aquatic fauna

Southwestern snake-neck turtles (*Chelodina oblonga*, Oblong turtles, Western long-necked turtle) are regularly observed in the Lower Vasse River, although they have not been specifically studied. There is no published information about frogs in the study area. Decapods recorded in the study area are the endemic Gilgie (*Cherax quinquecarinatus*) and the introduced Yabbie (*Cherax destructor*) (Beatty *et al*. 2011).

Carter's freshwater mussel (*Westralunio carterii*) is common in the Lower Vasse River, showing a preference for structured benthic habitats such as bridges (Beatty et al. 2017). It is listed as vulnerable fauna (Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice 2017; IUCN Red List).

Aquatic invertebrates are commonly used as indicators of ecological health. The open waters of the river contain little structural habitat and supports very low diversity of invertebrates, dominated by

zooplankton (mostly copepods) and highly mobile predators (of zooplankton) such as backswimmers (Notonectidae) and water boatmen (Corixidae) (Paice et al. 2016). The presence of aquatic plants and waterlilies greatly increases diversity and abundance of aquatic invertebrates in the river, owing to increased structural habitat and alternative food sources. In the case of waterlilies, this included mainly robust species tolerant of poor water quality and low oxygen conditions (Paice et al. 2016). However, growth of submerged plants (as transplants) has been shown to support significantly higher abundance and diversity across a range of functional groups (Paice 2018).

2.2.6 Other fauna

A range of other fauna are known to occur in remnant vegetation in the study area, but have not been formally surveyed. Importantly this includes the Western ringtail possum (Ngwayir, *Pseudocheirus occidentalis*), which is listed as critically endangered fauna (Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice 2017). Grey kangaroos are common in some parts of the study area and adjacent land and the river may provide a corridor for their movement within and increasingly developed landscape. Water rats (Rakali, *Hydromys chrysogaster*) have been anecdotally observed but are not common.

Table 2. Fish in the Lower Vasse River (Morgan and Beatty 2004, Beatty et al. 2011)

Type / Common name	Species	Notes
Native freshwater fish		
Western pygmy perch	*Edelia vittata*	Widely distributed, low numbers
Western minnow	*Galaxias occidentalis*	Few sites, low numbers
Nightfish	*Bostockia porosa*	Few sites, low numbers
Mud minnow	*Galaxiella munda*	Headwater site only, vulnerable
Native estuarine species		
Western hardyhead	*Leptatherina wallacei*	Downstream sites
Swan River goby	*Pseudogobius olorum*	Widely distributed
Sea Mullet		Downstream, low numbers
Black bream	*Acanthopagrus butcheri*	One fish
Introduced fish		
Goldfish	*Carassius auratus*	Widely distributed,
Mosquitofish	*Gambusia holbrooki*	Widely distributed, large numbers

2.3 Water flow

There have been substantial changes to the hydrology of the Lower Vasse River and its catchment. The coastal plain area of the catchment has been modified by a drainage network constructed during the 1920s to facilitate settlement, transport infrastructure and agricultural development (English 1994). This involved widening, straightening and de-snagging of water courses, and construction of artificial channels. Approximately 90% of catchment flows are diverted via the Vasse Diversion Drain, creating a distinct separation of the section known as the Lower Vasse River. Water flow to the Lower Vasse River from the Vasse Diversion is controlled by a manually operated valve on a 900mm pipe.

At the downstream end of the study area the river is impounded by a weir, established around the 1920s to maintain higher summer water levels through the town section for amenity and recreation

purposes. Removable weir boards are usually installed at the end of winter and removed in autumn. In recent years, the weir boards have become degraded and gradual leaking of water during summer leads to water levels defined by land to the east near Ford Road.

The Lower Vasse River flows via a wetland area known as the Vasse River Delta into the Vasse Estuary. A surge barrier on the Vasse Estuary exit channel, first constructed in 1908, allows outflow of water but prevents inflow of tidal and storm surge waters. This provides flood protection but has reduced tidal exchange throughout the estuary and the lower reaches of the river.

The modified water flow regime of the Lower Vasse River contributes to poor water quality. The effect of flow diversion and impoundment is essentially an elongated "lake" area from late spring to late autumn. Reduced flow velocity contributes to accumulation of nutrients and organic material from the catchment, and the still conditions during summer promote algal blooms. Recurring algal blooms contribute to the build-up of nutrients in sediments, creating an internal source of nutrients.

There is a perception in the community that increasing flows from the Vasse Diversion and removal of the Butter Factory weir boards will create a flushing effect that will improve water quality and mobilise the accumulated sediments. Management of these structures has been restricted by limited understanding of the outcomes and constraints of this approach; and a lack of defined management responsibilities for operation.

(a) (b)



Figure 11. Flow management structures for the Lower Vasse River: (a) the valve controlling flow from the Vasse Diversion to the Lower Vasse River via a 900mm pipe; (b) the weir and removable boards at the Butter Factory.

2.4 Sediments

Sediments

The Lower Vasse River has, over several decades, accumulated a layer of nutrient rich organic sediments, generally about 0.5m thick but up to 1m in some parts (Apex 2012). Sediments accumulate from inputs of organic material from the catchment and from ongoing growth and decay of phytoplankton cells within algal blooms. Low oxygen levels and resuspension of sediments when disturbed releases nutrients to the water column over summer, contributing to algal blooms. Sediments are therefore are a key consideration in addressing water quality problems in the Lower Vasse.

There is a perception by the community that the soft organic sediments in the Lower Vasse River contribute to poor water quality, and general support for sediment removal. However there are many constraints to this management option relating to the pollution content of sediments and potential for acidification; and the high costs associated with removal and disposal. Sediment removal is discussed further in Section 4.11.

The presence of soft organic sediments impacts ecology in other ways. They provide a poor substratum for growth of beneficial aquatic plants, and poor habitat for benthic invertebrates other than worms and midge larvae. This limits biodiversity within the river system and contributes to the dominance of phytoplankton in primary production. Sediment accumulation has reduced the depth of the river over time, filling in deeper habitats and contributing to warm conditions that favour algal growth.

The bathymetry of the river (Figure 12) shows the gradual increase in depth moving downstream. There are two areas that are notably deeper: downstream of the Causeway Road bridge and downstream of the Butter factory weir. This suggests scouring of sediments downstream of these constrictions, which may indicate some potential for controlling sediment using flow regimes.

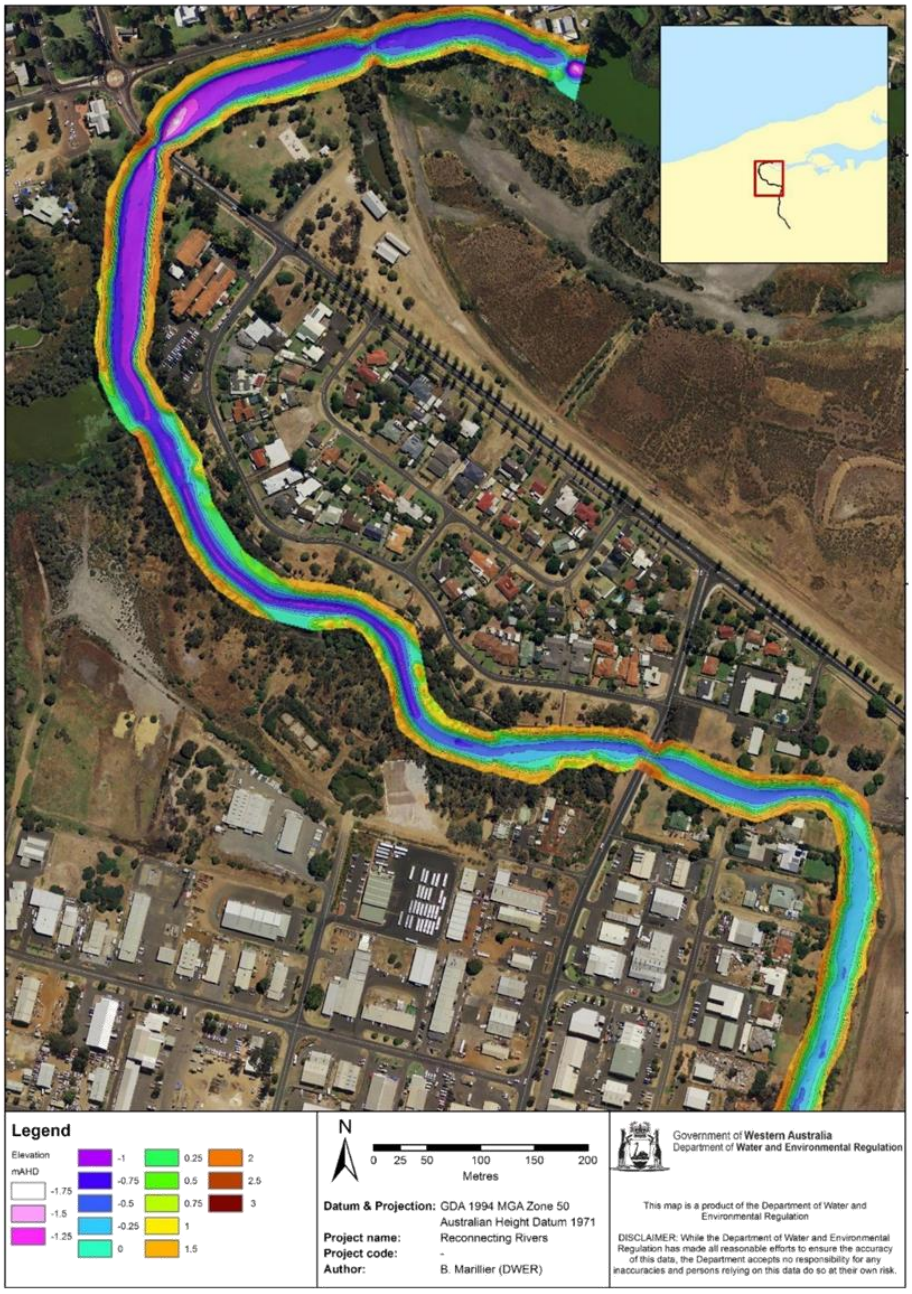

Figure 12. Lower Vasse River bathymetry from Butter Factory weir boards to Isaac Street reserve.

2.5 Amenity

Amenity describes the attractiveness of a place, and for the Lower Vasse River this is directly related to water quality. Algal blooms cause obvious green discoloration of the water, unsightly scums and unpleasant odours. There is concern that the poor amenity of the river during peak the tourist season creates a poor impression at the entrance to Busselton.

Despite poor water quality, natural values of the river environment, particularly the bird life, are still enjoyed by many in the community. Amenity is closely linked to the adjacent reserve and opportunities for recreation and access, which can enhance enjoyment of the Lower Vasse River.

2.6 Recreation and education

Poor water quality has greatly reduced the opportunities for recreational activities in the river during the warmer months. Persistent and severe algal blooms, often dominated by harmful blue-green species (cyanobacteria), cause closure of the water to public use. Access and recreation was rated highest as the focus area requiring change (AHA 2016.

Although algal blooms are seasonal, permanent warning signs are in place to advise against contact with the water. There is potential for recreational use of the water when there are no algal blooms, however signage does not indicate any safe period for contact.

In the past, the waters were used more extensively for recreation. In the 1940s the paddle wheel steamer *Jumna* carried passengers between the town and the Cattle Chosen homestead (Mouritz, Elphick and Anderson). There are anecdotes of canoeing, swimming and fishing and in the past. Whiting, Mulloway, Bream and Mullet have been anecdotally caught in the lower reach. Mullet and Black bream were caught during recent fish sampling but people no longer fish for them.

The Busselton Festival started in 1964, and crowning of the Festival Queen on the river bank opposite the City Administration building. The Festival Queen travelled on a barge from the boat ramp upstream and the community gathered on the banks to watch. At some point this ceremony ceased, though it is not clear when, probably due to poor water quality during the summer festival. In the 1970s there were paddle-boats on the river in town.

Regardless of water quality and restrictions on recreation within the river, a number of trails and public open space areas adjoin the Lower Vasse, which are still regularly used by the community. Rotary Park provides good public infrastructure near the river. Algal blooms and associated odours associated with a do impact use of these areas at times. There is significant potential for improved recreational, amenity and cultural connection with the river through enhancing and protecting natural values and improving facilities. Clearly though, addressing water quality is essential for improving recreational opportunities.

2.7 Culture and heritage

The river is highly valued by the local community and has historically been an iconic feature of the town and focal point for recreational and social events. There is a strong Aboriginal cultural connection to the river and many historical features. Heritage was rated as an issue of very high importance by the community.

2.7.1 Aboriginal heritage

The Lower Vasse River holds significant value for the local Wadandi people. There is a strong spiritual connection with all waterways in the area associated with the Waugul, and they are seen as a fundamental part of all life (Huxtable 2018). In pre European times, Aboriginal People used the Vasse River and its natural resources extensively.

With European settlement and alterations to the landscape, traditional uses of the river have been substantially impacted.

> *Before all the drains were put in the Vasse River was a system of walk trails. The old people would follow the river down to here, singing songs of the elders. We utilised the bush for medicine and food. It's a supermarket, everything we need is right here, the country provides everything we need.*
>
> (I. Webb, as cited in Huxtable 2018)

During consultation, Aboriginal representatives highlighted the importance of connectivity of waterways in the landscape from both spiritual and ecological perspectives. They highlighted the importance of managing the headwaters of the river to address the real cause of poor health in the lower reach, relating problems in the Lower Vasse to disruption of connectivity with its catchment. Representatives also acknowledged the need for intervention to improve the health of the river.

In a formal management sense, the study area is within the South West Boojarah Indigenous Land Use Agreement area within the South West Native Title Settlement Area[2]. An area encompassing the New River wetland area, including part of the study area, is a registered site under the *Aboriginal Heritage Act 1972*. In addition, there may be sites of cultural significance which are not reported or registered for cultural and political reasons. This will necessitate further consultation as specific management actions are developed.

2.7.2 European history

The presence of the Vasse River influenced the decision for settlement, and the development of Busselton and many aspects of social life have long been centred around it (Mouritz, Elphick and Anderson). Prior to settlement the Vasse River was one waterway from its headwaters to Wonnerup, but has been dramatically altered. History shows a connection to the river for many people. Some important historical features and activities associated with the Lower Vasse River are listed below (from Mouritz, Elphick and Anderson).

- Early settlers moved north from the Blackwood River and via the Vasse River towards Busselton.
- The old rail bridge was constructed in 1890, with rail connections to Bunbury, Nannup and Karridale, servicing the timber industry.

[2] Current information on the South West Native Title Settlement: http://www.noongar.org.au

- During the 1830s, the river was used to move goods from the jetty site, via what is now Queen Street, to Cattle Chosen to build the homestead. The small paddle replica paddle steamer *Jumna* transported people from St Mary's Church to Cattle Chosen; this included voyages for many prominent visitors to Busselton.
- The Busselton Festival commenced in 1964, with the crowning ceremony on the banks of the Vasse River a special event.
- The Butter Factory was transferred from Strelly Street to its current site in the banks of the river in 1918, and ceased production in 1975.
- The footbridge near Peel Terrace was built by the local council in 1972.

2.8 Governance

There are two key issues for the Lower Vasse River with regards to governance:

- defining roles and responsibilities for future management; and
- minimising impacts from planning for future developments and land use change.

Management of diffuse and point sources of nutrients from agricultural and urban catchments of the Lower Vasse River is a shared responsibility across GeoCatch, DWER, DPIRD, the City and industry groups. The independent review of water asset management (Hart 2014) recognised this joint responsibility. The Water Quality Improvement Plan (WQIP) provides load reduction targets, management recommendations and identifies key organisations responsible for implementation.

The independent review identified a clear need for a designated manager of the Lower Vasse River 'lake' section. There has been a lack of leadership and funding since the Lower Vasse River Cleanup Program, and thus little progress with management since this program was completed. This issue was also evident during community consultation (AHA 2016). One of guiding principles of the Vasse Geographe Strategy is the appointment of designated lead managers for key water assets. The independent Review (Hart 2014) recommended the City becomes the lead management agency, with continuing assistance from DWER.

The Lower Vase River catchment area will undergo considerable expansion of urban and industrial areas in the future, as identified in the current Draft Local Planning Strategy (CoB 2016). This could result in significant increases in nutrient loads to the Lower Vasse River, and downstream environments (Section 2.1). The City will have an important role in minimising nutrient exports from future developments and land use change; and effectively managing foreshore reserve areas with regard to the vision for the Lower Vasse River. Development is also expected to result in considerable new areas of foreshore reserve being managed by the City (i.e. areas identified as Parks and Recreation in Figure 13).



Figure 13. Draft Local Planning Strategy (2016) land use within the Lower Vasse River study area.

3 Management Objectives

This section presents sixteen management objectives across the eight the focus areas. These were developing in partnership with community members and provide good guidance on the expectations of future management of the Lower Vasse River.

3.1 Water quality

1. Reduce nutrients flowing into the Lower Vasse River from all existing sources to improve water quality and reduce the frequency and severity of toxic algal blooms.
2. Minimise any additional nutrients flowing into the Lower Vasse River from new developments and agricultural intensification.
3. Utilise science and innovative technologies to improve water quality in the Lower Vasse River.

3.2 Ecology

4. Protect and enhance native aquatic and terrestrial habitats in the Lower Vasse River and the foreshore reserve.
5. Reduce the impact of threatening processes on the natural values of the Lower Vasse River and the foreshore reserve.
6. Balance mitigation of fire risks with the protection of natural values of the Lower Vasse River foreshore reserve.

3.3 Water flow

7. Optimise water flow in the Lower Vasse River to balance improvement of water quality, protection of natural values and public amenity, while maintaining flood protection.

3.4 Sediments

8. Strategically manage accumulated sediments to protect the natural and social values of the Lower Vasse River.

3.5 Amenity

9. Improve visual amenity, public health and odours for residents and visitors to enjoy the Lower Vasse River.
10. Facilitate recreational and educational opportunities, which are compatible with protection of the key values of the Lower Vasse River and enhance community stewardship.

3.6 Recreation and education

11. Enhance public access to the Lower Vasse River and within the foreshore reserve, with a focus on creating linkages to the town centre and surrounding areas while protecting the river's natural values.

3.7 Culture and heritage

12. Promote understanding of the Aboriginal and European history and culture of the Lower Vasse River.

3.8 Governance

13. Develop and maintain partnerships and a collaborative approach between key stakeholders and the community when managing the Lower Vasse River.

14. Maximise opportunities for protection of the Lower Vasse River as part of future development proposals and changes in land uses.

15. Manage the Lower Vasse River with consideration to other water assets, including the Vasse-Wonnerup Wetlands and Geographe Bay.

16. Improve knowledge and understanding of key values and management issues of the Lower Vasse River to support adaptive management.

4 Review of Management Options

Development of management strategies for the Lower Vasse River has involved consideration of a range of potential initiatives. Some are fundamental approaches such as catchment nutrient reduction and riparian vegetation management. Intervention options have also been considered to directly manage water quality problems. These options are important due to the long-term nature of achieving nutrient load reductions, and the potential for ongoing release of nutrients from accumulated sediments.

The independent review identified the need for solutions that directly reduce nutrient availability for algal growth, alter physical conditions to make it more difficult for algae to grow, or dredging the sediments (Hart 2014). In addition, the *Community Views* session also provided suggestions for future management options (Figure 14). These reflect long-held community opinions and are aligned well with the options considered for inclusion in the management strategies and actions in this WMP.

This section outlines existing information, challenges and likely outcomes from potential management options. This review was an integral step in the development of strategies and actions for the WMP, outlined in Section 5.



Figure 14. Suggestions for the future management of the Lower Vasse River from the *Community Views* session (AHA 2016).

4.1 Living Streams

The term *living streams* describes an approach to managing urban stormwater that creates a complex ecosystem with outcomes for ecology, water quality, water conveyance and amenity. Although traditionally applied to urban stormwater drains, this approach of restructuring the ecosystem is also relevant to restoration of the Lower Vasse River. In this case it would involve altering the morphology to restore ecological processes and create physical conditions that provide greater resilience to high nutrient conditions.

A living streams approach would see creation of diverse habitats including seasonally dry areas, river pools, channels, floodplain areas, riffle zones and islands (floating and grounded). Creation of these habitats would have clear outcomes for ecology, and the potential to provide significant water quality benefits. Compartmentalising the river by creating seasonally dry areas during summer also provides opportunities to stage works and target intervention actions. Figure 15 provides an example of changes to river form with a living streams approach.

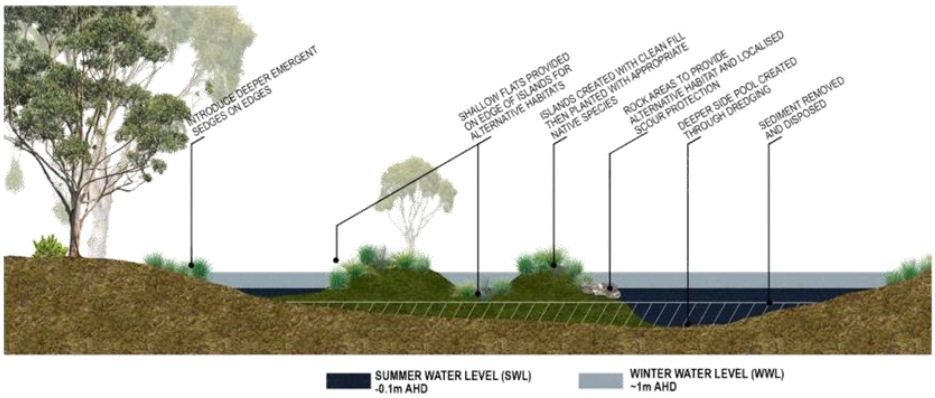

Figure 15. An example of altered river morphology with a living streams approach. More diverse habitats would be created including channels, pools, islands and seasonally dry areas.

4.1.1 Ecological outcomes

As outlined in Section 0, the Lower Vasse River supports many terrestrial and aquatic fauna despite its degraded status. The living stream approach would create new riparian habitat to support birds and possible other terrestrial fauna. Within the river, the increased surface area and diversity of aquatic habitats and food sources is likely to have a profound effect on aquatic invertebrate communities. This has been shown in the river in regard to aquatic plants (Paice et al. 2016, Paice 2018). Physical substrates (e.g. rocks, sand, and logs) and varied flow conditions will also support greater diversity. The plant and invertebrate communities in turn provide food resources for fish and birds.

4.1.2 Water quality outcomes

Potential water quality benefits of ecosystem restructuring through a living streams approach are summarised below. While these mechanisms may not achieve significant water quality improvements

individually, combined they have potential to create a more complex ecosystem that is less prone to seasonal dominance by phytoplankton. Enhanced nutrient processing capacity may also benefit downstream wetlands.

a) Aquatic plants: Modifying the depth profile and enhancing substrate can provide more favourable sediment and depth conditions for anchorage and growth of beneficial aquatic plants (macrophytes). These plants may re-establish naturally or can be transplanted. A macrophyte restoration trial in the river in 2012 did not result in water quality improvement (Paice et al. 2016), however the mechanisms by which these plants contribute to water quality are well known throughout the world (Van Donk and Van de Bund 2002; Davis et al. 2010). Interestingly the Mexican waterlily has shown water quality benefits, although it is not clear how. Aquatic plants contribute to improved water quality through:
   - competing with algae for nutrients, both directly and by supporting biofilm;
   - stabilising and oxygenating the sediments;
   - supporting organisms that graze on algae; and
   - chemical inhibition (allelopathy).

b) Freshwater mussels: Carter's Freshwater Mussel (*Westralunio carteri*) is a listed threatened species known to occur in the river. Modifying substrate or providing additional substrate could increase mussel populations. They are thought to play an important role in maintaining water quality in refuge pools through filtration (Caraco et al. 2006). Mussels in the Lower Vasse River have a habitat preference for bridge sites and river edges, which are more shaded and stable.

c) Benthic algae: Increasing surface area by creating a more complex river form with greater rock and wood surfaces would allow benthic algal populations to establish. These communities are alternative primary producers to phytoplankton, competing for nutrients and providing an important food source for aquatic fauna, so that nutrients are incorporated into the food web. Emergent wood and rock materials also provide habitat for birds.

d) Emergent plants: Reshaping river banks could provide ledges for establishment of more emergent plants through revegetation. These plants use up nutrients, shade the water, trap sediments and provide excellent habitat and food for waterbirds. They are more beneficial than rushes on the upper banks because of stronger interaction with river sediment and water column. Some emergent plant beds have been created in previous restoration efforts, but they are confined to very thin riparian strips.

e) Floating islands: There have been a number of vegetated floating islands trialled in the Lower Vasse River. These islands provide habitat, both above and below the water and may contribute to nutrient uptake and processing through growth of plants and associated biofilm. Some products include a nutrient holding media in the island structure, although effectiveness is uncertain. These structures also provide an immediate shading benefit, restricting algal growth. This shading function may also be useful in restricting the spread of waterlilies (4.5).

f) Changing morphology: Physical modifications that increase surface area and creates seasonal separate wetland compartments may have several advantages, including:

- greater resilience to higher nutrient loading due to greater surface area for beneficial processes;
- higher levels of shading, providing less favourable conditions for algal blooms;
- reduced wind fetch and thus nutrient-release and turbidity from resuspension of sediments;
- potential for water circulation within or between pools, reducing residence time for development of algal blooms; and
- opportunities for targeted interventions to address water quality such as sediment removal (Section 4.11) and water treatment (Section 4.3).

4.1.3 Challenges

Modification of river morphology as part of a living stream approach would involve extensive earthworks that affect hydrology (and flooding) and existing riparian and aquatic habitats. Design will need to address constraints of these issues, and several approvals will be required (Calibre 2018). In particular, Carter's Freshwater Mussels occur in the river. This is a recently listed (2018) threatened species[3] and so will require approval and management of in-river works to minimise mortality and create a net benefit for this species.

Implementation of living streams works would involve considerable cost associated with sediment removal and infill. It has been difficult to develop reliable costings for this approach, owing to variation in potential designs; and uncertainty in volumes and methodology for sediment removal and disposal, and materials used for infill. Costs and uncertainty can be addressed through staging of works, allowing development of reliable methods and better understanding of materials. Adaptive implementation in stages based on results will improve overall outcomes.

4.2 Reducing nutrient sources

Management of nutrient inputs from urban and agricultural catchment areas is addressed in the Water Quality Improvement Plan (WQIP, DoW 2010), which is currently being reviewed. The WQIP outlines management measures and provides recommendations, which are included in the Management Strategies for this WMP (WQ1 and WQ2).

A large proportion of the catchment with agricultural landuse (approximately 90%) is currently diverted via the Vasse Diversion. Nonetheless, flows from the broader rural catchment do impact water quality in the Lower Vasse River. Increasing flows from the Vasse Diversion to the Lower Vasse River (Section 4.8) would increase nutrient loads from this source. There are also some rural land use activities remaining in the Lower Vasse River catchment area.

GeoCatch, supported by DWER, has a strong focus on nutrient reduction in agricultural areas, supporting implementation of best management practices for fertiliser use and dairy effluent management, and soil amendments. They also promote and assist riparian management and stock control on waterways. There are opportunities to improve management of the extensive modified drainage networks, which rapidly convey nutrients and sediments within the catchment. This is the

[3] Listed as threatened under Wildlife Conservation Act 1950 (Western Australia); listed as vulnerable under Environmental Protection and Biodiversity Conservation Act (1999) (Commonwealth); listed as vulnerable under Global IUCN Red List of Threatened Species.

focus of the *Rethink Drainage* action area for the RGW program. These management initiatives are important to the long-term reduction of nutrient contributions to the Lower Vasse River from rural sources.

Much of the Lower Vasse River catchment is urban, and these areas will continue to expand with future development, creating new sources of nutrients. In existing urban areas, the City has worked in partnership with GeoCatch to implement significant stormwater management upgrades throughout the Busselton CBD and LIA areas (Appendix 3). These include:

- biofiltration beds
- rain gardens (Figure 16)
- enhancement of natural wetlands
- constructed wetlands
- vegetated swales
- biofiltration swales
- detention basins

There may be more opportunities for stormwater upgrades in the Lower Vasse River catchment, and a process to identify and prioritise future projects would be beneficial.

Inclusion of best practice water management technologies in new developments will be essential to minimise future nutrient inputs. The City has a key role through its planning and development approvals processes to ensure this occurs. The *Better Urban Water Management Framework* (BUWMF) provides guidance ensure consideration of water resource management in the planning process (Section 4.13).

Sewerage infrastructure has a major role in protecting water quality in the Lower Vasse River, diverting nutrient- and pollutant-rich waters to the Busselton Wastewater Treatment Plant. Not all properties are connected to existing sewerage infrastructure, and there may be opportunities to increase connections within the Lower Vasse River urban catchment areas, reducing nutrient exports from these areas.

The Busselton Light Industrial Area (LIA) is currently not connected to sewerage infrastructure. Septic tanks in the LIA are estimated to contribute about 10% of the phosphorus load and 4% of the nitrogen load to the Lower Vasse River annually (DoW 2010). However, there is limited data available to base these estimates on. Development of infill sewerage infrastructure in the LIA has a high potential cost and requires clear evidence to be progressed. This would be assisted by investigation of nutrient and pollutant exports, and an audit of waste in relation to acceptable criteria.



Figure 16. Example of a rain garden for stormwater quality management, at the City Administration building.

4.3 Water treatment

Reducing nutrient inputs is a fundamental management approach, but significant reduction in nutrient loading from diffuse sources in the catchment is difficult to achieve and takes many years. In highly eutrophic systems, such as the Lower Vasse River, reducing nutrient inputs alone is unlikely to prevent algal blooms because of the ongoing supply of nutrients form the sediments. Intervention options to limit nutrients available to algae and to treat algal blooms may be necessary to achieve short term water quality improvement. The main limitations of these options are uncertainty in effectiveness, costs of large scale treatment, and short-term effectiveness.

4.3.1 Water treatment using specialised clays

"Water treatment trials" in the Lower Vasse River have focussed on specialised clays. Covering the sediments with specially-developed material can prevent nutrient release and reduce nutrients available for algal growth. These products are applied as a slurry and settle through the water column to form a layer on the surface of the sediments. Applied in this way, these products can bind to and sink nutrients and algal cells as they settle through the water column (Figure 17). There are a number of clay products used commercially and experimentally in a global context. Three have been trialled in the Lower Vasse River: Phoslock™, flocculating clays, and hydrotalcite clay.

From 2001-2004, three trials of Phoslock™ were completed. Application during an existing algal bloom can substantially reduce available phosphorus but had no effect on the algal bloom. Application prior to establishment of the algal bloom reduced both phosphorus levels and limited algal growth by 80%, although a less severe algal bloom still occurred (Robb et al. 2003). Application rates for Phoslock™ are well-understood and it is a commercially available product. It needs to be applied prior to establishment of an algal bloom, to restrict growth by reducing phosphorus availability.

Two types of flocculating clays have been trialled in the Lower Vasse River. Application of a clay mixture containing polyaluminium chloride in April 2000 had no overall positive effect on river appearance. An experimental clay product was applied to a small contained area in February 2002, which did show visible improvement in water quality, but little monitoring was done.

Hydrotalcite clay (HT clay) has been the focus of more recent trials in the Lower Vasse River. Like Phoslock, this product is applied as a slurry and designed to strip phosphorus from the water column and trap phosphorus by forming a layer on the sediment surface. A mesocosm study was undertaken during 2006-17; followed by a larger scale field experiment in 2017-18. The results of these trials indicate reductions in phosphorus concentrations and algal growth (DWER 2018c). Unfortunately observed water quality remained poor in the trial areas, with the water still having a green appearance. More work is required to determine appropriate dosage levels, and this product is not widely available.

In general terms, these products have not demonstrated prevention of algal blooms, but have shown some success in reducing algal growth. Their effectiveness is limited by ongoing external nutrient inputs, so ongoing applications are needed and they are costly. DWER currently recommend annual treatment of the lower reach of the river with Phoslock™, at an estimated cost of $120,000 per year.

Targeted treatment may be possible in smaller, seasonally-isolated areas following implementation of living streams works. This would make multiple applications more affordable. An ongoing interest in future development of these products should be maintained as they are improved and developed commercially.

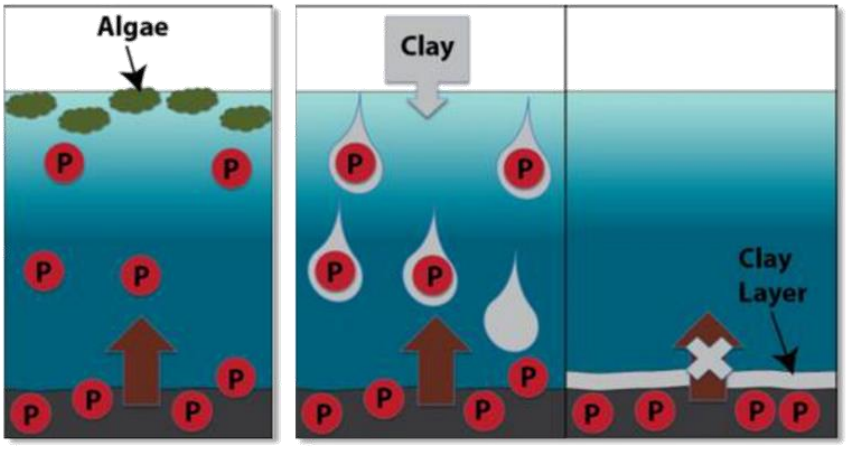

Figure 17. Phosphorus-binding clay products such as Phoslock® or the new HT-clay lock up phosphorus, making it unavailable to algae. Phosphorus is removed as the clay settles through the water and it also forms a protective layer on the sediments, reducing phosphorus release. Figure Courtesy DWER.



Figure 18. HT clay being applied in the Lower Vasse River during the 2017-18 trial.

4.3.2 Oxygenation and aeration

Oxygen is important for aquatic fauna and also influences nutrient availability. Low oxygen levels can be artificially increased by pumping oxygen gas into the water and by aeration. Both these methods will result in increased oxygen levels in the water, although oxygenation is more effective and aeration may increase nitrogen concentrations (due to nitrogen content of air). Increasing oxygen levels improves conditions for aquatic fauna and promotes aerobic biological processes, which can address odour issues.

Low oxygen conditions at the bottom of the water facilitate release of phosphorus from the sediments, which contributes to algal blooms (Boulton et al. 2014). This situation occurs when there is little mixing and the water column is stratified. In this situation, oxygenation, aeration or artificial circulation can reduce phosphorus release from sediments into the water.

The Lower Vasse River is not stratified, and has high oxygen levels throughout the water column during summer when the algal bloom is established. Algal blooms increase oxygen levels to above 100% during the day through photosynthesis. Although respiration at night consumes oxygen, it does not cause deoxygenation. The water is shallow enough to be mixed by the wind. Oxygenation and aeration of the water column would therefore not address nutrient problems in the Lower Vasse River when an algal bloom is established. The sediment is anoxic, but these methods do not oxygenate the sediments, and an attempt to do so would cause considerable resuspension of sediments.

Oxygenation was trialled in the Lower Vasse River during the summer of 1998-99 to determine the effectiveness of the process and water quality outcomes. There was no effect on the established algal bloom, although increased oxygen levels were observed and considered beneficial for aquatic fauna. Greater understanding of oxygen fluctuations prior to the onset of the algal bloom when oxygen levels would help assess potential advantages of oxygenation lower in the Lower Vasse River.

In addition to increasing oxygen levels, mixing of the water through aeration combined with sufficient circulation may influence algal growth by reducing the residence time. Phytoplankton thrive in the still conditions of the Lower Vasse River during summer. Movement of water within the system has potential to limit algal blooms by physical disturbance and reducing water temperatures (Cha et al. 2017). Artificial mixing is a common management practice in lake restoration, both to address stratification problems and to restrict growth by entraining phytoplankton in flow, and can restrict growth of scum-forming blue-green algae (Visser et al. 2016).

4.3.3 Water treatment using microbiological products

A number of commercial products exist that claim to improve water quality through the introduction or enhancement of micro-organisms. There are no scientific studies available on the effectiveness of these products. Current evidence is anecdotal only and while some benefits may have been observed in small-scale situations they have not been formally reported.

The City supported trials of two such products in the Lower Vasse River during the summer of 2012-2013:

- A microbiological culture pad product that provides high surface area and trace elements to increase the population of beneficial microbes (*Archaea* microbes and *Bacillus* bacteria).
- An enzyme protein product designed to promote bacterial growth and activity.

Water quality monitoring over three months did not show any significant effects of these treatments, however there were several limitations of the trials. There was no aeration, which is generally recommended in combination with these treatments. The trials did not take place under conditions of severe algal blooms expected, owing to the effect of Mexican waterlily downstream.

Enhanced nitrification and denitrification is described as the beneficial process by which these products improve water quality, and some effect on available nitrogen was found for the enzyme product. The Lower Vasse River generally has very low available nitrogen, which favours blue green algae because they can obtain nitrogen from the atmosphere through fixation. This product may influence the phytoplankton community by increasing available nitrogen. Reducing phosphorus availability is very important for limiting algal growth, and these products do not achieve this.

There are no published studies of the effective use of microbiological products to control algal blooms at the lake scale. They may be more effective in small isolated systems such as ponds and dams.

4.3.4 Barley Straw

Addition of barley straw is considered a preventative method for algal control that has been used extensively in farm dams and canals. Decomposing straw has been shown to inhibit algal growth in laboratory conditions (Gibson et al. 1990) and reduce filamentous algal growth in canals in years following placement (Welch et al. 1990). Barley straw bales and extracts are marketed for use in algae prevention.

In April 2000, straw bales were placed in the Lower Vasse River upstream of the Causeway Rd bridge to assess their effect on algal blooms. No effect on water quality was observed, however it is uncertain that Barely straw was used. Potential future use should consider it may be most effective at small scales; in a preventative approach; and that straw must be decomposing. It may be more effective for filamentous algae rather than phytoplankton.

4.3.5 Algaecides

A number of algaecides are marketed for treating algae, usually copper-based, but are generally not recommended for natural systems due to their toxicity to non-target plants and aquatic fauna. Hydrogen peroxide is marketed as an algaecide which has high specificity for blue-green algae and no residual impacts on the environment as it breaks down to hydrogen and oxygen gases. Some research supports its potential as a management tool for algal blooms (Matthijs et al. 2012, Bauza et al. 2014). It has been used to control blue-green algae in small lakes and wastewater treatment ponds, but is not widely used for larger systems for a number of reasons:

- difficulty in achieving and maintaining required concentrations throughout water body;
- potential impact of hydrogen sulphide on other organisms, mainly zooplankton;
- potential for release of toxins such as microcystins from dying algal cells;
- lack of residual effect (regrowth of algae following treatment).

Trials of hydrogen peroxide in Lake Torrens[4] in South Australia have not been formally reported. Information provided suggests effective reduction of blue-green algae at H_2O_2 concentrations of 2-5 mg/L, with no impacts on aquatic fauna. However these trials were conducted at low algal cell densities (below algal bloom levels), and the current recommendation is for small scale use in combination with other methods. SA Water continues to investigate this method for reservoir management.

4.3.6 Ultrasound

Ultrasonic control of phytoplankton is commonly used for pond environments and works by destruction of algal cells. Its effectiveness has been demonstrated in small scale studies and laboratory experiments, but upscaling this treatment to field conditions is challenging (Park et al. 2017). Frequency, intensity and exposure are important factors in effectiveness, and may have variable effects on different algal species. There has been a successful trial in a 9000m^3 pond in combination with pumping, but could not differentiate the effects of ultrasound and the pumps (Ahn et al. 2007).

4.4 Riparian vegetation management

In addition to the conservation value of the flora itself, fringing vegetation of wetland areas is a vital component of river health. Functions include:

- supporting terrestrial and aquatic food webs;
- habitat for terrestrial and aquatic fauna;
- foreshore stabilisation;
- shading and maintaining cooler temperatures
- interception of nutrients and sediments in runoff; and
- nutrient uptake and processing.

Riparian vegetation along the Lower Vasse River provides important bird habitat and forms part of a regional ecological linkage mapped along the length of the study area (Ecoedge 2017). However the vegetation is mostly degraded with low species diversity and extensive weed invasion. There has been

[4] Information from unpublished report and discussions with local NRM group Natural Resources Adelaide and Mt Lofty Ranges.

considerable riparian revegetation on the Lower Vasse River banks since 1999, and these areas provide the best condition riparian vegetation. This demonstrates successful revegetation, but these areas need more active weed control and could be enhanced with infill planting.

Extensive areas of public lands provide good opportunities for revegetation. Ecoedge (2017) suggests five key areas for rehabilitation based on size, accessibility and level of competition with existing plants (Appendix 3. Additional areas of City-managed foreshore reserve are being created through new developments, providing new opportunities for improving riparian vegetation. The littoral zone[5] could be expanded in some areas through a living streams approach, including zones of seasonal and permanent inundation, requiring a specialised suite of species. A species list for revegetation for terrestrial and aquatic areas is provided in Appendix 4.

Outside of urban areas there is still stock access to some foreshore areas, damaging fringing vegetation and directly contributing wastes to the river. The *Vasse River Action Plan* study area extends from the headwaters in the Whicher Range to Fairlawn Road (Scott 2000). It provides an assessment of foreshore condition and identifies areas requiring management of stock access, weed control, erosion control and revegetation. A review of implementation of the Action Plan and an update of the foreshores assessment and associated management recommendations for the Lower Vasse River WMP study area would assist in planning and undertaking restoration activities. This would also set a baseline for future monitoring of progress and outcomes. River action planning should also include consideration of future development and provide information to assist in planning for additional foreshore reserves.



Figure 19. Improving riparian revegetation through weed control and infill planting.



Figure 20. Floating island on the Lower Vasse River installed in 2002.

[5] The ecological zone in freshwater systems close to the shoreline where sufficient light extends to the bottom for plant growth (Boulton et al. 2014).

4.5 Floating Islands

Floating islands are also known as constructed floating wetlands, as they are designed to provide the ecological engineering benefits of constructed wetlands designed for water quality improvement. They are used in water treatment systems, particularly in China, and can contribute to restoration of natural waterbodies, however their effectiveness in pollutant removal is lower at larger scales (Bi et al. 2019). Floating islands have potential to remove nutrients from the water column, and they provide ecological benefits of habitat and shading.

Islands consist of a floating frame or structure supporting a contained media within which plant roots can grow. The plants and media combined enhance microbial processes that have potential to reduce nutrients in the water column. They may be more effective at nitrogen reduction than phosphorus: nitrogen is removed via enhanced nitrification and denitrification, while phosphorus is stored internally and remains potentially available. As plants grow they take up nutrients from the water, however this only contributes to ongoing nutrient removal plants are regularly harvested.

The shading effect of floating islands has immediate benefits of reducing lower water temperatures and light availability to algae, although the scale of islands needed for this to limit algal blooms may be unfeasible. The structures have potential for use in restricting growth of Mexican waterlily by shading, while retaining beneficial biological processes. Islands and the roots below provide structural habitat for aquatic invertebrates, increasing biodiversity and improving food resources for other aquatic fauna. They also provide refuge from heat and predation from waterbirds.

Some small floating islands have been placed in the river in the past. In 2002 a small reed raft was made from a PVC frame with plastic mesh base (Figure 20). Plant growth was rapid, and the structure was subsequently used for nesting. This 'island' remains in the river today and has become rooted to the bottom of the river. Swans have recently been observed nesting on it. In 2012 floating islands were installed in a curtained off area to assess water quality benefits. The trial did not take place under conditions of severe algal blooms expected, owing to the effect of Mexican waterlily downstream. No significant effects on water quality were found in this trial, however the beneficial ecological processes associated with floating islands are well-established.

4.6 Managing waterlilies

The extensive cover of waterlilies in the river has negative impacts on oxygen levels and open water habitat; however they appear to have had a beneficial effect on water quality, inhibiting the development of algal blooms in open water areas upstream of the point of infestation (near the boat ramp) (Paice 2018). The structural habitat of the waterlilies also supports aquatic invertebrates, despite low oxygen levels.

Although unintentional, this is an example of "ecological engineering", whereby a change in the ecology has provided water quality benefits. The reasons for reduced algal blooms between patches of waterlily are not fully understood. It is not a result of reduced phosphorus concentrations, as phosphorus was actually extremely high in areas with low algal growth. It may be a combination of greater low residence time in sunlit areas owing to lilies and riparian shading; nitrogen limitation; or chemical inhibition (allelopathy). Understanding the mechanisms by which waterlilies inhibit algal growth may provide important insights to future management, and warrants further research. It

would also be valuable to investigate the potential to achieve similar inhibition using native aquatic plant species, such as *Cycnogeton* spp., *Potamogeton* spp., *Liparophyllum* spp. and *Ottelia ovalifolia*.

Reduced algal growth was observed following a rapid expansion of waterlily cover in 2013-2014 (Figure 9), at considerably lower levels of cover than subsequent years. This suggests that water quality benefits can be maintained with some control of waterlily. Large scale control would likely see a return to widespread seasonal algal blooms; and also presents risks of widespread deoxygenation following plant die-off. Paice (2018) recommends strategic control of waterlily to gradually reclaim open waters between lily patches, targeting important waterbird habitat, and to prevent invasion of new areas. Although outside the study area of the WMP, the downstream Lower Vasse River delta wetlands are at particular risk and should be targeted for waterlily control.

4.7 Controlling feral fish

The two main feral fish species in the Lower Vasse River are goldfish and mosquitofish. There is little that can be done to control mosquitofish populations. Goldfish are known to feed in at the bottom of the river, disturbing sediments and so contributing to nutrient release and turbidity. There is also evidence that passage through goldfish stomachs can increase the growth rate of blue-green algal cells.

Although eradication of goldfish is difficult, population numbers were successfully reduced through an annual electrofishing program from 2003 to 2013 (Beatty et al 2014). The resumption of this program should be considered. Compartmentalising the river may provide opportunities for effective targeted goldfish removal.

4.8 Increasing flow inputs from the Vasse Diversion

Reduction in catchment flows due to interception by the Vasse Diversion, together with impoundment by the Butter Factory weir boards have substantially altered hydrology of the Lower Vasse River. The effect on nutrient concentrations is complex due to variation in nutrient concentrations and the combined results of flow volume and velocity, assimilation within the system and outflows. Although nutrient loads may have decreased due to lower volumes, this does not translate to lower nutrient concentrations.

The impounded conditions and accumulated sediments in the lower 'lake' section of the river promote algal blooms which causes a seasonal increase in nutrient concentrations over summer when there is negligible flow (Section 2.1.1). Flushing of the river may be important for removing nutrients and organic material that accumulate in during summer (Figure 6).

There is strong support from the community for increasing flow into the Lower Vasse River from the Vasse Diversion with the aim of improving water quality. Altering flows has potential to improve water quality where it dilutes nutrient concentrations or reduces residence time for growth of algal blooms. But outcomes need to be considered in the context of flood protection and impacts on nutrient loads to downstream wetland ecosystems. This option of altering flows was investigated by the *Reconnecting Rivers* study (DWER 2018b), which used hydrological modelling to determine the outcomes from a range of reconnection scenarios. The main findings of the *Reconnecting Rivers* study in relation to the Lower Vasse River were:

- the Vasse surge barrier is essential for flood prevention in Busselton;

- additional flows from the Vasse Diversion would increase nutrient loads to the Lower Vasse River and Vasse Estuary;
- an additional 900mm culvert at the Vasse Diversion offtake to the Lower Vasse River is feasible without increased flood risk and without unacceptable additional nutrient loads to the Vasse Estuary;
- the equivalent of three 900mm culverts or full reconnection of the Vasse Diversion would cause unacceptable flood risk and increase in nutrient loads to the Vasse Estuary;
- additional flows from the Vasse Diversion only has a significant effect on flows during winter;
- the potential effect of an additional culvert on summer water quality in the Lower Vasse River is small because of a lack of flow;

The study recommended that the Vasse Diversion Drain offtake structure be upgraded to an equivalent of two 900mm culverts (i.e. double its current capacity), with the ability to control flow. This infrastructure has been designed and works are currently scheduled for 2019. *Reconnecting Rivers* also recommended the development of an operational strategy to manage the culverts, with defined roles and responsibilities and consideration of how nutrient concentrations could be minimised. A greater understanding of relationships between water flow and water quality wold be beneficial to inform optimal operation of the culvert with regard to nutrient management.

4.9 Improving summer flows

There is no flow from the Vasse Diversion in the warmer months to address water quality problems during the algal bloom season through dilution and water movement (DWER 2018b). There are limited other options for creating summer flows with other water sources. These are summarised as follows:

- Storage of water for summer release: A dam to hold water for summer release would need a capacity of 18GL and cover an area of 9km^2. Water stored in such a reservoir is at risk of experiencing similar water quality problems to the Lower Vasse River. Using the Vasse Diversion or existing flood detention basins is not viable as it would compromise their flood protection function (DWER 2018b).
- Busselton Wastewater Treatment Plant discharge: This option would reduce water residence time and may decrease phosphorus concentrations with limited increase in loads to downstream wetlands (DWER 2018b). This option may be considered further, but its practicality is limited by need for substantial infrastructure and future competition for this water resource.
- Busselton Water operations: There may be potential for backwash inputs, but this has not yet been assessed.
- Internal artificial circulation: Movement of water within the system has potential to limit algal blooms by physical disturbance, reducing water temperatures. Temperature and residence time can be key factors controlling algal blooms in impounded rivers suggests (Cha et al. 2017). This approach may provide opportunities for external treatment techniques associated with recirculation (e. g. filtration via treatment wetlands). This option has not been assessed.

4.10 Removal of the Butter Factory weir boards

The Butter Factory weir structure and boards were installed around 1918 to retain water levels in Busselton for amenity and recreation outcomes. There are mixed perceptions regarding their

necessity: that removal would improve water quality in the river through flushing; that they are not necessary and greater drying would be beneficial; and that maximising depth is important to improve water quality by creating cooler conditions.

Current management practice is to remove the weir boards in winter, and reinstall them in October to maintain water levels. However, the wooden boards currently leak, so higher water levels are only maintained temporarily. From around December, the extent of water is determined by land elevation, and currently restricted by a point further downstream near Ford Rd.

Modelling through the Reconnecting Rivers project indicated that removal of the weir functionality would not create a flooding risk; and would not result in drying out of the river. This approach may have the following outcomes:

- water levels in the Lower Vasse River would become lower earlier, by up to eight weeks;
- water would continue to flow into the downstream wetlands for a longer period, rather than being held back, influencing nutrient load;
- potential effects on goldfish movement.

An important operational issue at present is the safety of City staff during the installation and removal of the weir boards. A decision is required as to their future use, because if they are necessary part of river management they will need to be replaced and the mechanism for their installation and removal upgraded.

4.11 Sediment removal

Regardless of potential reductions in nutrient loads, the organic sediment in the Lower Vasse River provides an ongoing internal source of nutrients loading that can continue to drive algal blooms. Phosphorus is released from the sediments under low-oxygen conditions, and nutrients are also resuspended from the sediments when disturbed by flows and wind. Increasing phosphorus concentrations over the summer months may be a result of sediment-nutrient release. Note that specialised clay products are a form of sediment treatment that prevents phosphorus release (Section 4.3).

Sediment removal has long been viewed by many stakeholders as an essential part of future management. It was highlighted as a key management action during community consultation (AHA 2016). As a stand-alone method it would probably not prevent algal blooms, because nutrient concentrations in surface and groundwater inputs are sufficient for excessive algal growth. However, "resetting" the river through removal of organic sediments does have potential outcomes for water quality and ecology.

Outcomes of sediment removal for river health are complex. Increasing depth may create cooler temperatures but can also result in stratification if there is little mixing of the water, so there may be little temperature-related control of algae. Deeper waters may also reduce resuspension of nutrients from the riverbed. However, shallow waters may also be less prone to algae blooms owing to more favourable conditions for aquatic plants and benthic algae. Rather than removing all soft sediments from the river, creation of deeper pools and channel habitats in some areas as part of a living stream approach is considered more feasible (Section 0).

A section of the river upstream of Causeway Rd Bridge was dredged in March 2001. This work has increased the depth of the river in this section, however a large amount of soft sediment remains, at

thickness similar to other parts of the river, and water quality remains poor (Paice 2005). In this case a mini-dredge was used to pump material to a holding dam, allowed to settle overnight and then overlying water was returned to the river. Sediment from the dam was disposed of at a gravel pit.

4.11.1 Removal method

Sediments in the Lower Vasse River are very fine and contain a high moisture content, and so require pumping from the river rather than excavation. The method used in 2001 was effective in removing some sediment and allowing it to dry out sufficiently for excavation. However drying took a considerable length of time and the total amount removed was dependent on the capacity of the holding dam. A more recently developed option is pumping sediments into porous geotextile bags placed nearby (Figure 21); with addition of a polymer to expel the water from the bags, which flows back into the river. This approach allows additional sediment to be pumped from the river as the volume of water is removed from collected sediments. This is considered the most feasible option for sediment removal from the river, and a proposal for a trial is currently being developed.

4.11.2 Disposal options

Disposal of dredged sediment is challenging in terms of potentially very large volumes, involving considerable transport costs; and limitations on disposal site owing to potential acidification and nutrient and pollutant content. To inform disposal options, the City undertook sampling of between the boat ramp on Southern Drive and the Butter Factory weir in March 2018, with assistance from DWER.

Levels of heavy metals and organic and inorganic contaminants were below threshold levels for disposal at a Class I landfill facility, with the exception of lead (Table 3). Although lead content levels were above threshold values for waste not requiring a leach test, subsequent leachate testing results showed levels were well below the Class I concentration limit.

The average depth of soft sediment in core samples was 488mm, with these sediments dominated by fine silts and clays (71.4%). Sample analysis found no existing acidity (mean pH 7.0), and low acid volatile sulphur (<0.005 %S) but indicated sulfidic soils with very high potential acidity. Net acidity varied greatly, ranging from 449 to 1511 with a mean value of 980 mole H+/Tonne dry weight. This is well above the acid sulphate soils 'action criterion' of 62 mole H+/T for fine texture materials (DER 2015). When sulfidic soils are exposed to air, oxidation can result in acidification. This has been demonstrated for the dredged material from 2001 at the gravel pit, which has a pH of around 4. The average lime dosing required to buffer potential acidification is 74kg/Tonne dry weight.

Soil characteristics do show that dredged material could be disposed of at a Class I landfill facility, such as the City's Vidler Road Waste Facility. However the high nutrient and organic content of the material suggests potential for reuse of the material as a component of compost. Composting can further dilute concentrations of pollutants. This approach would require a trial and further testing of the material to ensure it is safe for any proposed end use.

4.11.3 Risks

The main risks associated with sediment removal are:

- potential impact on benthic organisms;

- short term effects on water quality;
- acidification of sulfidic sediments; and

In the Lower Vasse River the soft sediment layer general provides poor habitat for benthic organisms. However the threatened Carter's Freshwater Mussel (*Westralunio carteri*) is known to occur. Mussels in the Lower Vasse River have a habitat preference for bridge sites and river edges, which are more shaded and stable. Key habitat areas could be avoided and work could be offset by overall habitat improvement; but nonetheless sediment removal work would need to consider and manage impacts on this species and be approved under state and federal legislation.

There is some risk of increased nutrient concentrations in the vicinity of dredging operations disturbance of nutrient rich sediments. Given the severe water quality problems currently experienced in the river this is not considered to be a serious risk. However the connectivity to the Vasse Estuary downstream does raise the issue of impacts on nutrient loads. This could be avoided by undertaking work when the river is disconnected from the downstream system.

The soft sediments in the Lower Vasse River are sulfidic and laboratory analysis and the pH of the old dredge spoil do indicate that oxidation would cause acidification. Severe acidification can have direct impacts on aquatic flora and fauna, lead to contamination of water resources, and cause corrosion of infrastructure. Exposure of the sediments to oxygen in the water column or air would be avoided using the geotextile bag method, preventing oxidation during the removal process. The sediments are not monosulfidic (indicated by low acid volatile sulphur); so do not pose the risk of rapid acidification and associated deoxygenation of the water column with potential heavy metal release. Sediments would require lime dosing for disposal.

Table 3. Comparison of pollutant content of Lower Vasse River sediments to threshold values for Class I landfill (sampling by City, March 2018).

Analyte	mean	Class I landfill threshold[1]	Units
Arsenic	<5	14	mg/kg
Beryllium	0.1	2	mg/kg
Cadmium	0.34	0.4	mg/kg
Chromium	6.6	10	mg/kg
Lead	35	2	mg/kg
Lead leachate	<0.01	0.1	mg/L
Mercury	0.04	0.2	mg/kg
Molybdenum	<2	10	mg/kg
Nickel	2.00	4	mg/kg
Silver	<1	20	mg/kg
Fluoride	137	300	mg/kg
Cyanide - Total	<1	16	mg/kg
Petroleum hydrocarbons C_{6-9}	<0.2	2800	mg/kg
Petroleum hydrocarbons – other	19.5	450[2]	mg/kg

[1] Landfill Waste Classification and Waste Definitions (DEC 2009)
[2] minimum threshold value for range of petroleum hydrocarbons
< indicates value below limit of detection
Phenol and pesticide suite also analysed, all results below limit of detection

4.11.4 Costs

There is uncertainty around costs for sediment removal, related to volumes of material and potential shrinkage, method of removal and options for disposal. Further work is required to provide accurate estimates of sediment and determine sound methods for removal and disposal. Removal also needs to consider appropriate locations and whether it could be staged in association with a living streams design approach. The removal trial currently being developed (see 4.11.1) will inform future costings of this management option.



Figure 21. Geotextile bags used for sediment removal via dredging.

4.12 Recreation and access management

Recreational opportunities for the Lower Vasse River are mainly walking and riding along the river and bird watching. Feeding of ducks and other birds near Peel Terrace is also common, but is discouraged owing to potential impacts on water quality and bird behaviour. Recreation is clearly limited by water quality problems. Algal blooms pose a health risk that prevents direct contact activities such as swimming and use of paddle craft; and at times cause poor odours that limit activities near the water. Management actions that address water quality are thus essential to improve recreational opportunities.

There is potential to improve access and facilities for recreation and enjoyment during periods where algal blooms do not occur, or do not cause offensive odours. Community consultation indicated access and recreation as the area of management where the community would most like to see change (AHA 2016). Examples include additional pathways, boardwalks, viewing platforms, seating, bird hides and picnic areas. Upgrading of interpretive signage would also encourage people to the river and enhance their experience. There are existing pathways along the river in the vicinity of Peel Terrace and

Southern Drive, and among the nearby New River Wetlands: the City is currently developing plans for an extension to this network.

There is also a need to review the use of permanent warning signs around the river, which discourage activities when there is no public health risk. This is particularly important if water quality improvements are achieved.

There is significant potential for improved recreational, amenity and cultural connection with the river. Although poor water quality does limit these outcomes, it does not prevent it. Enhancing ecological values of the river and opportunities for community connection can be achieved independent of water quality improvement. Furthermore, there are many months of the year when water quality does not pose a health risk. Clearly though, water quality improvement is a key aspect of enhancing recreational opportunities.

Interpretive signage along the Lower Vasse River between the old Rail Bridge and Rotary Park was developed as part of the Lower Vasse River Cleanup Program, in the early 2000s. These signs are still in place but are outdated: some are no longer visible and some are no longer relevant. Improved interpretive facilities and information would engage more of the community and enhance appreciation and understanding of the river and its management.

4.13 Governance options

The independent review of water asset management (Hart 2014) highlighted the need for the Lower Vasse River to have a designated manager. The City was recognised as the most appropriate manager, and this has been supported by the Western Australian Government in its response to the review. It is sensible that the City adopts this role given the high public profile of the river as a part of Busselton's town centre; and the large areas of foreshore reserves under the City's management control. Although the City is responsible for overall implementation of management actions, several key stakeholders also have important roles, outlined below. These roles and responsibilities are also summarised in Table 4, in Section 6.

The flow control structures at the Vasse Diversion connection and the Butter Factory, considered vital components of river management, are generally operated by the City. However, this infrastructure is owned by the Water Corporation. The Water Corporation has given the City permission to operate these mechanisms for water quality purposes, however some uncertainty remains in relation to flood protection.

The City also has an important role in its planning capacity. The *Optimising Planning Tools* project was completed by the City, for the RGW Program, to review the potential role of planning in water resource protection (Hosken 2018). Proposals for changes in land use and new developments can trigger the imposition of new environmental protection requirements at the approval stage. This applies to both urban and rural development.

The Lower Vasse River catchment area will undergo considerable expansion of urban and industrial areas in the future, which will increase potential nutrient and pollutant sources. Continued implementation of best practice stormwater management designs, and long term maintenance of infrastructure by the City is essential to minimise water quality impacts from future developments. Future residential development will provide opportunities for improving foreshore environments as new reserves are vested in the City. Consideration of water quality protection and surface water

management in the planning process is guided by *Better Urban Water Management* document (WAPC 2008). There is potential to require new developments to demonstrate that nutrient and contaminant levels will not exceed background levels, but this would require amendment of the City's Local Planning Scheme and is restricted by a lack of water quality standards.

In rural areas, the current trend of intensification of agriculture is likely to continue into the future. Although there is a requirement for planning approval for intensive agricultural uses such as horticulture and feedlots, development applications for these land use changes are generally not submitted to the City. Improved clarity of planning approval requirements for changes in agricultural land use and new agricultural developments may increase opportunities for waterway protection requirements. The development of industry best management practices (BMPs) would provide useful criteria for planning assessment.

The City's management responsibility is generally limited to the study area and does not extend into the broader catchment. Ongoing management initiatives in the catchment, in particular to address issues of nutrient enrichment and sedimentation, are a fundamental component of waterways management. GeoCatch, with the support of DWER, is the lead manager for catchment management. The Water Corporation has management responsibility for its rural drainage network.

DWER has an ongoing role in providing support for the management of the Lower Vasse River through continued involvement in water science, modelling and monitoring. If the implementation of this WMP is to be funded through ongoing investment in a broader program for Geographe Bay catchment waterways, DWER is likely to continue to have an important project management and networking role.

The community is also an important stakeholder with potential roles in management decisions, advocacy, implementation of on-ground works and contribution to community science. Many interested community members have provided valuable assistance during the preparation of this WMP and would be valuable in ongoing collaboration during implementation. The City has a strong 'Friends of' approach to reserves management, which may facilitate volunteer involvement in actions and monitoring. Aboriginal people have expressed a desire to participate in management decisions and on-ground projects.

4.14 Research and monitoring needs

Research and monitoring are needed to enable assessment and reporting on progress of management initiatives and to fill knowledge gaps. Research outcomes need to feed back into management planning through an adaptive process. The key research areas for the Lower Vasse River are summarised below.

Water quality: Ongoing water quality monitoring is an essential part of long-term assessment and reporting for waterway health. Future research into different water treatment options to reduce nutrient availability and reduce algal growth may provide important management tools. Short-term Intensive monitoring of nutrient concentrations and flows to the river from the Vasse Diversion Drain to improve understanding of the first flush dynamics of the system would inform operation of culverts.

Water flow: Investigation of the relationship between nutrient and flows in the Vasse Diversion will help inform management decisions around operation of the culvert connection. When the culvert is upgraded, inclusion of flow monitoring in the design would support future decisions in optimising flow. Better understanding of the effects of the Butter Factory weir on water levels and water quality is also needed to determine the need for upgrading this structure.

Birds: Despite being one of the most valued characteristics of the river, bird populations and key habitat areas are not well understood. Better knowledge of birds would assist in prioritising management actions (e.g. habitat restoration) and in developing information resources for visitors. There is an opportunity for development of community-based sampling to address this gap.

Mussels: Freshwater mussels occur in the river, and have recently been added to specially protected fauna lists at the state, federal and global levels. A better understanding is needed of the mussel population, habitat requirements, potential contribution to water quality and potential impacts of management initiatives.

Mexican waterlily: The reasons for reduced algal blooms between patches of waterlily are not fully understood, and research into the mechanisms for this would provide insights for broader river management.

Sediments: Sediment removal is potentially a major part of future management of the river to address internal nutrient sources. More work is needed to develop methods of removal, determine costs, and examine potential outcomes for water quality and impacts on existing ecological values.

5 Management Strategies and Actions

The management strategies and actions included here have been developed to work towards meeting the management objectives and vision for the Lower Vasse River. Specific actions have been grouped into strategies for each of the management focus areas, although many have potential outcomes for several objectives. Living Streams is included separately, because it is an approach to management that influences implementation of actions for a number of focus areas. A framework for implementation of the WMP is provided in Section 6, including the roles and responsibilities of key stakeholders; definition of management areas; and a process for ongoing action planning, reporting and review.

5.1 Living Streams

Living Streams is separated from the management focus areas because it provides an overarching pathway for implementing management actions related to water quality and ecology. It involves altering the morphology and physical characteristics of the river to restore ecological processes and create less favourable conditions for algal blooms. It may also facilitate intervention actions, such as water treatment and sediment removal, in specific areas of the river.

5.1.1 Strategy LS1: Living streams approach

A living streams approach would see creation of diverse habitats including seasonally dry areas, river pools, channels, floodplain areas, riffle zones and islands (floating and grounded). In addition to outcomes for biodiversity in the river, these habitats would be designed to maximise potential benefits to water quality.

Management actions:

LS.3 Continue to develop Living Streams planning as a pathway for implementing ecological restoration and water quality improvement works, and assess community support for this approach.

LS.4 Incorporate the following principles into restoration planning as part of the Living Streams approach:

- maximise shading;
- enhance substrate to provide more favourable sediment and depth conditions for anchorage and growth of beneficial aquatic plants;
- modify depth contours to support more in-stream vegetation, including emergent and submerged plants, to enhance nutrient uptake and cycling;
- provide greater surface area for benthic algal populations to develop as alternative primary producers to phytoplankton;
- reduce the size of open water areas to increase resilience to nutrient loading;
- enhance habitat for freshwater mussels to maximise their role in maintaining water quality;
- reduce residence time for algal growth through flow management.

5.2 Water quality

Nutrients are a key driver of algal blooms, so ongoing load reduction actions are a fundamental part of management. However, it often takes a long time to achieve load reductions, and they may be counteracted by new developments and changes to land use. Algal blooms can also be addressed through interventions that limit nutrient availability or directly target algal blooms. They may also be managed by creating less favourable physical conditions for phytoplankton; or restoring ecosystem functions such as nutrient cycling and food web processes.

Catchment management actions in this section are closely linked with recommendations in the Water Quality Improvement Plan (WQIP: DoW 2010), which are included for reference.

5.2.1 Strategy WQ1: Protecting water quality from urban sources

The Busselton Light Industrial Area (LIA) has been identified as a potentially significant source of nutrients and pollutants to the Lower Vasse River. This strategy is focussed on improving understanding of this problem to guide future management. It also includes actions to maintain and expand best practice stormwater management to improve water quality.

Management actions:

WQ1.8 Quantify nutrient and pollutant exports from Busselton LIA to the Lower Vasse River to inform a case for deep sewerage.

WQ1.9 Explore options to secure deep sewerage for the Busselton LIA in partnership with Water Corporation.

WQ1.10 Assess opportunities for greater connection to existing sewerage infrastructure within the Lower Vasse River catchment. If there a significant opportunity exists, investigate options and incentives to increase connectivity.

WQ1.11 Planning decisions to include appropriate sewerage management requirements and best practice water management, through implementing the *Better Urban Water Management* framework.

WQ1.12 Develop a prioritised program for stormwater WSUD upgrades to maximise nutrient reduction outcomes.

WQ1.13 Support educational campaigns that aim to reduce nutrients in runoff through individual and community actions (e.g. Bay OK).

WQ1.14 Support implementation of the Vasse-Wonnerup Wetlands and Geographe Bay WQIP (DoW 2010).

5.2.2 Strategy WQ2: Reducing nutrient inputs from the rural catchment

Agricultural activities in the Vasse River catchment influence nutrient inputs via the Vasse Diversion culvert, which may increase when the culvert capacity is increased (see Water Flows). There are also some rural land use activities remaining in the Lower Vasse River catchment area. This strategy reflects catchment management initiatives recommended in the WQIP, and future management direction in improving rural drainage.

Management actions:

WQ2.3 Support projects focussed on reducing nutrient exports from rural catchment of the Lower Vasse River, as recommended in the Vasse-Wonnerup Wetlands and Geographe Bay WQIP (DoW 2010):

- *Improve fertiliser management throughout the catchment*
- *Improve effluent management at dairy sheds and feedlots*
- *Implement riparian management and stock control on streams and drains*
- *Use soil amendments on sandy soils*
- *Use perennial pastures when suitable*

WQ2.4 Explore opportunities for enhanced nutrient assimilation in rural drains in the Lower Vasse River catchment, particularly those in reserves.

5.2.3 Strategy WQ3: Water treatment

Even when substantial reductions in nutrient loads are achieved, algal blooms often persist owing to ongoing internal nutrient supply. This strategy includes remediation approaches that address in-situ water quality, by treating water to reduce nutrient levels and algal blooms.

Management actions:

WQ3.4 Incorporate outcomes from the Water Quality Treatment Trials (2016-2018) into future management planning.

WQ3.5 Undertake seasonal water treatments in priority amenity area/s prior to algal bloom establishment, ensuring physical isolation to maximise effectiveness (dependent on outcomes Water Quality Treatment Trials, 2016-2018).

WQ3.6 Maintain research partnerships to identify and investigate new technologies to treat water in the future.

5.3 Ecology

5.3.1 Strategy E1: Riparian vegetation management

Riparian vegetation provides important habitat and supports ecosystem functions that maintain water quality. This strategy directs weed control and revegetation to improve and expand vegetated areas.

Management actions:

E1.6 Develop and implement a revegetation program for City-managed foreshore reserves, considering recommended rehabilitation areas reported in Ecoedge (2017).

E1.7 Continue to impose appropriate conditions on new developments adjacent to the Lower Vasse River that ensure future vesting and revegetation of foreshore reserves.

E1.8 Include creation and improvement of habitat for birds and possums in planning riparian revegetation.

E1.9 Update the Vasse River Action Plan in partnership with adjacent landholders, and extend this throughout the Lower Vasse River study area.

E1.10 Minimise fire risks associated with foreshore reserves by: reducing growth of annual grassy weeds; and considering species type, height and planting density when planning revegetation.

5.3.2 Strategy E2: Understanding and protecting waterbirds

Although there is high community appreciation of waterbirds in and around the Lower Vasse River, there is little formal understanding of bird populations and key habitats. This strategy will improve knowledge to guide protection and enhancement of bird habitat. There is potential for community contribution to this through a citizen science approach.

Management actions:

E2.5 Undertake a survey of waterbirds of the Lower Vasse River and identify important habitat zones, with strong involvement from the community.

E2.6 Protect identified important bird habitat zones through revegetation and weed control, recognising the current role of weeds as habitat.

E2.7 Create additional habitat zones for birds by placing large woody debris emerging from the water.

E2.8 Avoid identified important bird habitat zones when planning future infrastructure, and consider nesting season when planning works.

5.3.3 Strategy E3.1 Controlling invasive species

Mexican waterlily and feral goldfish are significant invasive species in the Lower Vasse River, impacting substantially on ecology and water quality. This strategy supports ongoing control programs for these species, but recognises the role of waterlily in reducing algal blooms.

Management actions:

E3.5 Prevent of further spread of Mexican waterlily through herbicide control and/or shading.

E3.6 Undertake strategic control of Mexican waterlily to progressively reclaim areas of open water, while minimising adverse impacts and preventing a return to algal blooms in these areas.

E3.7 Undertake regular feral fish eradication activities in partnership with Murdoch University.

E3.8 Undertake targeted control of arum lily and Brazilian pepper trees throughout the Lower Vasse River study area.

5.4 Water flow

5.4.1 Strategy WF1: Optimising flows

This strategy considers potential for water quality outcomes by manipulating flow inputs from the Vasse Diversion Drain, and by increasing summer flows. Increased flow inputs from the Vasse Diversion Drain require careful consideration of nutrient loads and flood protection. While there are limited sources of summer flow, there is scope to further investigate options and benefits of internal water circulation. This could be made more feasible through the Living Streams approach.

Management actions:

WF1.7 Increase flushing of the river by installing a second 900mm culvert at outflow point from Vasse Diversion Drain, in accordance with recommendations from the Reconnecting Rivers Report (DWER 2018).

WF1.8 Monitor impacts of increasing flows into the Lower Vasse River.

WF1.9 Undertake intensive monitoring water quality in the Vasse Diversion to support operational guidelines for managing the culvert.

WF1.10 Develop operational guidelines for the Vasse Diversion culvert that defines responsibilities and provides formal guidance for manipulation of the valve to maximise water quality benefits and minimise risk of flooding.

WF1.11 Review function of the Butter Factory weir boards to inform their future use and need for replacement.

WF1.12 Investigate potential for increasing internal circulation in the system during summer to reduce residence time for phytoplankton.

5.5 Sediments

5.5.1 Strategy S1: Sediment removal

The accumulated organic sediment in the Lower Vasse River provides an ongoing internal source of nutrients that drive algal blooms. These sediments also create a hostile environment for beneficial native aquatic plants and benthic aquatic fauna. This strategy includes removing sediment through an adaptive approach over time and considers alternatives to removal.

Management actions:

S1.4 Undertake a small-scale sediment removal project, using geotextile bags for dewatering and disposal, to assess cost and logistics of this approach.

S1.5 Determine feasibility of disposal options for future sediment removal: landfill, composting, soil conditioner.

G2.4 Depending on outcomes of small scale removal, undertake staged removal of sediments in the Lower Vasse River as a component of Living Streams design.

5.6 Amenity, recreation and education

5.6.1 Strategy ARE1: Improving facilities and information

Management actions:

ARE1.6 Review existing facilities and develop a concept plan for strategic pathways and viewing points that connect people with the river.

ARE1.7 Update the interpretive signage around the river to provide information on of the history, ecology, hydrology and management of the Lower Vasse River.

ARE1.8 Develop online and printed resources with interesting and important information on ecology, water quality, history and management of the Lower Vasse River.

ARE1.9 Establish bird watching areas and hides in appropriate places with informational material.

ARE1.10 Encourage opportunities for citizen science to contribute to understanding and appreciation of the Lower Vasse River.

5.6.2 Strategy ARE1: Public health management

There are many months of the year when algal blooms are not present and some areas do not experience regular summer algal blooms. The current approach of leaving warning signs in place throughout the year contributes to poor public perception of river health, and is not appropriate in terms of actual risk.

Management actions:

ARE2.4 Continue monitoring phytoplankton species and densities to inform public health notifications.

ARE2.5 Review algal bloom warning sign protocol and prepare a communication program to inform the community when harmful algal blooms occur.

ARE2.6 Develop a policy for use of recreational watercrafts in the Lower Vasse River, including consideration of public health constraints.

5.7 Culture and Heritage

5.7.1 Strategy CH1: Recognising Wadandi custodianship

Wadandi people have a strong connection to the Lower Vasse River and have considerable interest in its future management. This strategy will improve involvement of the Wadandi community in decisions and actions on river health and cultural connection.

Management actions:

CH1.6 In partnership with Wadandi people, include reference to traditional custodianship of the waterways and land in development of information resources.

CH1.7 Manage future access in a way that avoids additional disturbance and considers protection of potential sites of significance – however Wadandi activities such as fishing, camping, the gathering of bush foods and family recreational and educational activities, should not be restricted by implementation of this plan.

CH1.8 Seek to improve partnerships with the Wadandi community to increase their involvement in the management, protection and restoration of the Lower Vasse River.

CH1.9 Consult further with Wadandi representatives in regards to specific works which result from this plan.

CH1.10 Support programs that engage the Wadandi community in implementation of works associated with this plan.

5.7.2 Strategy CH2: Preserving historical values

Working towards the vision will improve community perception of the Lower Vasse River as an iconic and historical feature of the Busselton. The history of the river should be preserved in terms of physical structures and records of information.

Management actions:

CH2.3 Identify and ensure appropriate maintenance of sites of historical importance.

CH2.4 Develop interpretive material to increase understanding of local history, and to promote, appreciate and access historical sites.

5.8 Governance

5.8.1 Strategy G1: Collaborative and adaptive management

The City has coordinated the development of this WMP and has overall responsibility for implementation, but partnerships with other stakeholders will be essential to achieve many management actions and assess their outcomes. This strategy provides for a collaborative approach to management and will ensure outcomes of actions and new research inform future decisions. Roles and responsibilities of key stakeholders are defined in Table 4.

Management actions:

G1.2 The City to consider securing management orders over the waterway and adjacent public lands in Lower Vasse River study area, to facilitate implementation of this plan.

G1.5 Establish a Management Advisory Group comprised of representatives from the City, Department of Water and Environmental Regulation, Department of Biodiversity, Conservation and Attractions, Water Corporation of WA, GeoCatch, Wadandi representatives, and other community representatives.

G1.6 Continue water quality monitoring in the Lower Vasse River.

G1.7 Ensure adequate monitoring and reporting of outcomes from management actions, and feedback results into future management actions.

G1.8 Maintain and develop partnerships with research organisations to improve knowledge and management of the Lower Vasse River.

5.8.2 Strategy G2: Optimising planning tools

There is potential for the City to facilitate improved management through the planning and development framework. This strategy builds on the *Optimising Planning Tools* project, which outlines the potential use of planning tools in water quality protection.

Management actions:

G2.5 Improve clarity of planning approval requirements for changes to land use and new developments in the agricultural sector (e.g. horticulture, dairies, feedlots).

G2.6 Assess future development proposals and changes of land-use on adjoining lands with consideration of impacts on the Lower Vasse River.

G2.7 Include 50m wide foreshore reserves as part of future development adjacent to the river.

6 Implementation

6.1 Roles and responsibilities

The lead role of the City in the future management of the Lower Vasse River will be recognised through endorsement and adoption of this WMP. This will task the City with responsibility for coordinating implementation, however key stakeholders will have ongoing roles in many aspects of the WMP. These roles and responsibilities are defined in Table 5.

As captured in action G1.1 a Management Advisory Group is recommended to oversee implementation of this WMP, comprised of representatives from the City, Department of Water and Environmental Regulation, Department of Biodiversity, Conservation and Attractions, Water Corporation of WA, GeoCatch, Wadandi representatives and broader community representatives.

6.2 Management areas

In planning for implementation of management actions, it is helpful to define specific management areas of the catchment and river/foreshore, based on the characteristics of the areas and thus the actions that will be applicable. These are described as follows:

River and foreshore areas:

A. From the Butter Factory weir to Strelly Street, with significant areas of public reserve
B. From Strelly Street to Busselton Bypass, with adjacent residential and commercial areas and less prominent reserves
C. From Busselton Bypass to the Vasse Diversion, with adjacent rural properties

Catchment areas:

A. Busselton light industrial area
B. Other residential and commercial areas
C. Rural areas downstream of the Vasse Diversion
D. Rural catchment upstream of the Vasse Diversion

6.3 Implementation process

An adaptive process of action planning, works, evaluation and reporting is recommended for the WMP, summarised by Figure 22. The strategies and actions presented provide the basis for planning actions for a specified period of time, dependent on achievable priority works and research within available budgets. This would be a key role of the Management Advisory Group. Outcomes of these actions are measured through adequate monitoring, with results assessed in terms of progress towards the management objectives and vision. Reporting of outcomes to the community is essential to maintain community support and this forum would provide an opportunity to gain input to the next action planning cycle.



Figure 22. Implementation process for the Lower Vasse River Waterway Management Plan.

Table 4. Roles and responsibilities of key stakeholders for implementation of the Lower Vasse River Waterway Management Plan.

Stakeholder	Roles and Responsibilities
City	Overall implementation of the WMP. Management of reserves. Stormwater infrastructure upgrades and maintenance. Operation of the Vasse Diversion culvert. Operation of the Butter factory Weir boards. Support to community groups.
Department of Water and Environmental Regulation	Monitoring of water quality. Technical contributions to management decisions. Coordination of future investment in waterways management through Revitalising Geographe Waterways.
GeoCatch	Support to private landholders to improve land and waterway management in the catchment. Educational programs to minimise nutrient and sediment loads. Education, habitat restoration, and community group support for protection of Western Ringtail Possums.
Water Corporation	Managing flooding risk. Support to operational decisions for the Vasse Diversion culvert. Sewerage infrastructure development. Rural drainage maintenance, with potential to improve sediment trapping and nutrient assimilation.
Department of Biodiversity, Conservation and Attractions	Coordinate native wildlife management programs and implement recovery plans for native flora and fauna of conservation significance. Provide guidance and direction to community group in relation to the protection and conservation of Western Ringtail Possums. Providing information about native flora and fauna.
South West Boojarah Working Party	Advocating protection and enhancement of the Vasse River. Providing input to management decisions that affect environmental and cultural values. Engagement and participation of Aboriginal people in management decisions and actions.
Friends of reserves groups	Future role in local-level advocacy and management actions.

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8 Appendices

Appendix 1. List of vascular flora found within the Survey Area of the Lower Vasse River (Ecoedge 2017).

FAMILY	LATIN NAME	COMMON NAME	NATURALISED	PLANTED
Anacardiaceae	*Schinus terebinthifolius*	Pepper Tree	*	
Apiaceae	*Centella asiatica*	Centella		
Apocynaceae	*Vinca major*	Blue Periwinkle	*	
Araceae	*Zantedeschia aethiopica*	Arum Lily	*	
Asteraceae	*Lactuca saligna*	Wild Lettuce	*	
Asteraceae	*Sonchus asper*	Rough Sowthistle	*	
Casuarinaceae	*Allocasuarina fraseriana*	Sheoak		
Cyperaceae	*Carex divisa*	Divided Sedge	*	
Cyperaceae	*Ficinia nodosa*	Knotted Club Rush		
Cyperaceae	*Gahnia trifida*	Coast Saw-sedge		
Cyperaceae	*Lepidosperma gladiatum*	Coast Sword-sedge		
Dennstaedtiaceae	*Pteridium esculentum*	Bracken		
Dilleniaceae	*Hibbertia cuneiformis*	Cutleaf Hibbertia		
Euphorbiaceae	*Euphorbia terracina*	Geraldton Carnation Weed	*	
Fabaceae	*Acacia saligna*	Orange Wattle		
Fabaceae	*Lupinus cosentinii*	Blue Lupin	*	
Fabaceae	*Vicia sativa*	Common Vetch	*	
Fabaceae	*Viminaria juncea*	Swishbush		
Goodeniaceae	*Dampiera alata*	Winged-stem Dampiera		
Haemodoraceae	*Anigozanthos flavidus*	Tall Kangaroo Paw		
Juncaceae	*Juncus kraussii*	Sea Rush		
Juncaceae	*Juncus pallidus*	Pale Rush		
Menyanthaceae	*Liparophyllum lasiospermum*			
Moraceae	*Ficus carica*	Common Fig	*	
Myrtaceae	*Agonis flexuosa*	Peppermint		
Myrtaceae	*Astartea scoparia*	Common Astartea		
Myrtaceae	*Calothamnus quadrifidus*	One-sided Bottlebrush		x

FAMILY	LATIN NAME	COMMON NAME	NATURALISED	PLANTED
Myrtaceae	*Corymbia calophylla*	Marri		
Myrtaceae	*Eucalyptus citriodora*	Lemon-scented Gum	*	x
Myrtaceae	*Eucalyptus rudis*	Flooded Gum		
Myrtaceae	*Kunzea glabrescens*	Spearwood		?
Myrtaceae	*Melaleuca cuticularis*	Saltwater Paperbark		
Myrtaceae	*Melaleuca huegelii*	Chenille Honeymyrtle		x
Myrtaceae	*Melaleuca rhaphiophylla*	Swamp Paperbark		
Myrtaceae	*Melaleuca viminea*	Mohan		
Myrtaceae	*Taxandria parviceps*			
Papaveraceae	*Fumaria muralis*	Wall Fumitory	*	
Poaceae	*Bromus diandrus*	Great Brome	*	
Poaceae	*Cenchrus clandestinus*	Kikuyu Grass	*	
Poaceae	*Cortaderia selloana*	Pampas Grass	*	
Poaceae	*Cynodon dactylon*	Couch	*	
Poaceae	*Ehrharta calycina*	Perennial Veldt Grass	*	
Poaceae	*Ehrharta longiflora*	Annual Veldt Grass	*	
Poaceae	*Holcus lanatus*	Yorkshire Fog	*	
Poaceae	*Phleum pratense*	Timothy	*	
Polygonaceae	*Persicaria hydropiper*	Water Pepper		
Polygonaceae	*Rumex conglomeratus*	Clustered Dock	*	
Proteaceae	*Banksia grandis*	Bull Banksia		
Proteaceae	*Banksia littoralis*	Swamp Banksia		
Salicaceae	*Salix babylonica*	Weeping Willow	*	
Solonaceae	*Solanum linnaeanum*	Apple of Sodom	*	
Typhaceae	*Typha orientalis*	Typha		

Appendix 2. Summary of Water Sensitive Urban Design infrastructure

WSUD infrastructure implemented in the Lower Vasse River Catchment

Description
CBD area
Kent Street streetscaping Kent Street biofiltration bed
Coles Carpark Bio-filtration Gardens
Woolworths carpark – Rain Gardens and soak wells
Queen Street/Prince Street Bio-filtration beds
Busselton Community Resource Centre Rain Gardens
Busselton Community Youth Centre Rain gardens– High and Jolliffe Street Busselton
Queen Street Outfall – Natural wetlands
Busselton LIA
Frederick Street – Artificial ponds and vegetated swales
College Avenue – Constructed wetland
College – Cook connector drain
Bunnings Carpark – detention ponds
Fairlawn road – Vegetated Swale
Strelly Street – Demonstration – Biofiltration swales and rain gardens Urban Drainage Pilot Project - Details on Strelly Street biofiltration swales
Community Garden – Vegetated swales and detention ponds
Bunbury Street/Roe Terrace – Vegetated detention pond and constructed wetland
Roe Terrace – Vegetated Swale
Bunbury/Barlee Street – Bio-filtration basin

Locations of WSUD in Busselton CBD:

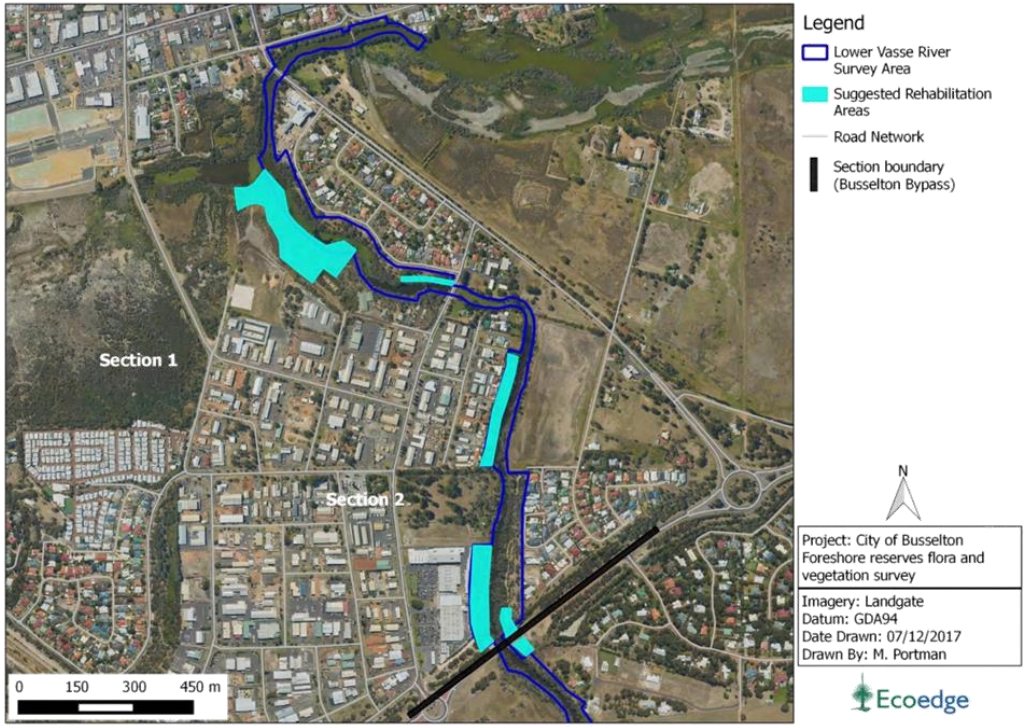


Locations of WSUD in Busselton LIA:



Appendix 3. Recommended revegetation areas for the Lower Vasse River Study area

Recommended rehabilitation areas identified the 2017 vegetation survey (Ecoedge 2017). Note the western foreshore area to the south was revegetated in June 2018.



Appendix 4. Suggested species for revegetation of the Lower Vasse River

Revegetation species list for damp and terrestrial areas (Ecoedge 2017).

Family	Species	Common Name	Habitat	Form
Cyperaceae	*Ficinia nodosa*	Knotted Club Rush	Damp	Rush
Cyperaceae	*Gahnia trifida*	Coast Saw-sedge	Damp	Sedge
Cyperaceae	*Lepidosperma gladiatum*	Coast Sword-sedge	Damp	Sedge
Cyperaceae	*Lepidosperma squamatum*		Dry	Sedge
Dennstaedtiaceae	*Pteridium esculentum*	Bracken	Dry	Herb
Dilleniaceae	*Hibbertia cuneiformis*	Cutleaf Hibbertia	Dry	Shrub
Dilleniaceae	*Hibbertia diamesogenos*		Dry	Shrub
Ericaceae	*Astroloma ciliatum*	Candle Cranberry	Dry	Shrub
Fabaceae	*Acacia saligna*	Orange Wattle	Damp	Shrub
Fabaceae	*Hardenbergia comptoniana*	Native Wisteria	Dry	Climber
Fabaceae	*Jacksonia gracillima*		Dry	Shrub
Fabaceae	*Viminaria juncea*	Swishbush	Damp	Shrub
Goodeniaceae	*Dampiera alata*	Winged-stem Dampiera	Damp	Shrub
Haemodoraceae	*Anigozanthos flavidus*	Tall Kangaroo Paw	Dry	Herb
Hemerocallidaceae	*Agrostocrinum scabrum*	Blue Grass Lily	Dry	Herb
Juncaceae	*Juncus kraussii*	Sea Rush	Damp	Rush
Juncaceae	*Juncus pallidus*	Pale Rush	Damp	Rush
Myrtaceae	*Agonis flexuosa*	Peppermint	Dry	Tree
Myrtaceae	*Astartea scoparia*	Common Astartea	Damp	Shrub
Myrtaceae	*Calothamnus sanguineus*	Silky-leaved Blood flower	Dry	Shrub
Myrtaceae	*Eucalyptus rudis*	Flooded Gum	Damp	Tree
Myrtaceae	*Hypocalymma angustifolium*	White Myrtle	Damp	Shrub
Myrtaceae	*Kunzea glabrescens*	Spearwood	Dry	Shrub
Myrtaceae	*Melaleuca cuticularis*	Saltwater Paperbark	Damp/ Saline	Tree
Poaceae	*Austrostipa flavescens*		Dry	Herb
Proteaceae	*Conospermum caeruleum* ssp. *marginatum*	Blue Brother	Dry	Shrub
Proteaceae	*Xylomelum occidentale*	Woody Pear	Dry	Tree
Santalaceae	*Exocarpos odoratus*	Scented Ballart	Damp	Shrub
Thymelaeaceae	*Pimelea angustifolia*	Narrow-leaved Pimelea	Dry	Shrub

List of emergent and submerged species for restoration of seasonally and permanently inundated areas (littoral zone).

Species	Common Name	Habitat	Form
Centella asiatica	Native celery, Gotu-cola	seasonally emergent	groundcover
Cotula coron			
Melaleuca raphiophylla	Swamp paperbark	seasonally emergent	tree
Eleocharis acuta	Common spike-rush	seasonally-permanent emergent	Rush
Schoenoplectus vallidus		seasonally-permanent emergent	rush
Baumea articulata	Jointed twigrush	seasonally-permanent emergent	rush
Baumea juncea		seasonally emergent	rush
Baumea rubiginosa		seasonally emergent	
Liparophyllum sp		seasonally emergent	broad leaf
Cycnogeton huegelii	Water ribbons	submerged – seasonally emergent aquatic	narrow leaves
Cycnogeton procera	Water ribbons	submerged aquatic	narrow leaves
Potamogeton crispus	Curly pondweed	submerged aquatic	branched macrophyte
Potamogeton ochreatus		submerged aquatic	branched macrophyte
Potamogeton drummondii		submerged aquatic	submerged and floating leaves
Ottelia ovalifoloa	Swamp lily	submerged aquatic	submerged and floating leaves
Stuckenia pectinatus		submerged aquatic	branched macrophyte

CLEARPOND™

WE WORK WONDERS WITH WATER

Oase Air Flo installation in Carlton Gardens – Melbourne

Overview

In April 2011 Clearpond provided a temporary display in the Carlton Gardens Lake as part of the Melbourne International Flower & Garden Show(MIFGS). The display consisted of the Oase Pond Jets for decoration as well as the new Oase AirFlo aeration unit.



Over the 5 days of MIGFS the water quality improvement was noticed by Citywide who were the maintenance contractors for Melbourne City Council.

This was an old lake with years of sediment build up which had recently been dredged, but due to the birdlife in the lake and the lack of movement had continual issues with green and turbid water as well odour issues from time to time.

The Solution

Clearpond provided and installed 2 x Oase AirFlo 1.5kw 400v units to aerate and improve the Dissolved Oxygen levels in the lake as well as providing a nice visual fountain effect. Once anchored to the bottom of the lake the Oase Air Flo units were put onto a timer to run 12 hours a day, with improvements in water quality noticed within days including improvement in the depth visibility.





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CLEARPOND

Oase AirFlo

The AirFlo is a high performance aerator and decorative floating fountain in one and is available in a 1.5kw 240V motor or a 4kw 400v motor. The AirFlo units are fast and easy to install and include 50m of power cable and fastening materials for added value. An optional lighting kit is available to provide an impressive display at night.



The Team

Supply and Installation	Stakeholders
Clearpond	Citywide Melbourne City Council

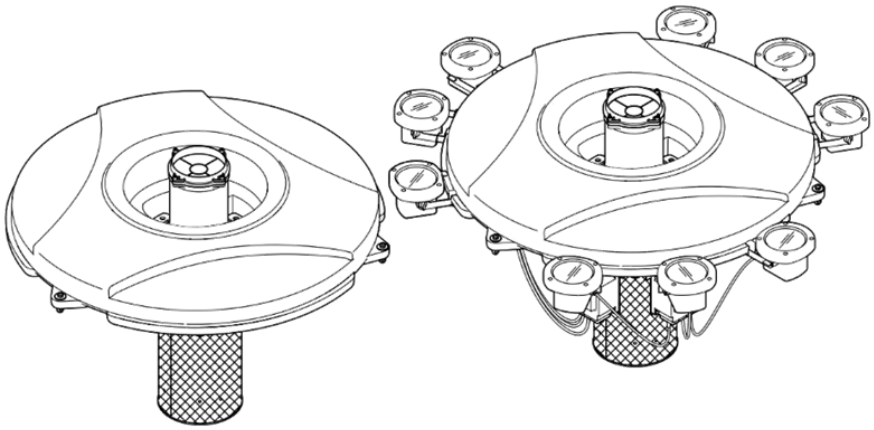
Oase
LIVING WATER

D Gebrauchsanweisung
GB Operating instructions
F Notice d'emploi
NL Gebruiksaanwijzing
E Instrucciones de uso

Air Flo

230 V, 1.5 kW / 400 V, 1.5 kW / 400 V, 4.0 kW

CE



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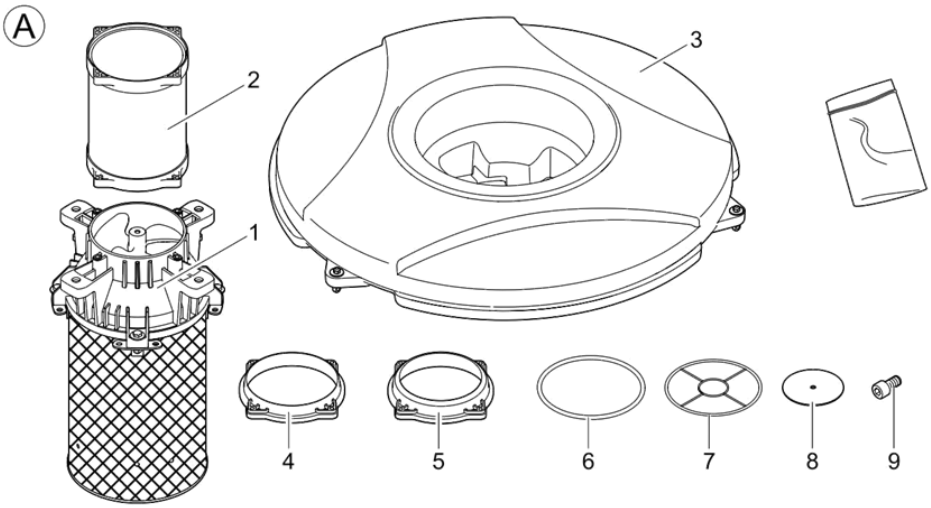
Technische Daten

D	Abmessungen Air Flo	Abmessungen Control Box / Motorschutzschalter	Gewicht Air Flo	Gewicht Control Box / Motorschutzschalter	Mindestwassertiefe	Förderleistung	Wassertemperatur	Kabellänge
GB	Air Flo dimensions	Control box / motor (over-load) protection switch dimensions	Air Flo weight	Control box / motor (overload) protection switch weight	Minimum water depth	Max. flow rate	Water temperature	Cable length
F	Dimensions Air Flo	Dimensions appareil de commande / disjoncteur-protecteur	Poids Air Flo	Poids appareil de commande / disjoncteur-protecteur	Profondeur d'eau minimale	Capacité de refoule-ment	Température de l'eau	Longueur de câble
NL	Afmetingen Air Flo	Afmetingen Control Box resp. motorbeveiligingsschakelaa r	Gewicht Air Flo	Gewicht Control Box resp. motorbeveiligingsschake laar	Minimale waterdiepte	Vloeistofopbrengst	Watertemperatuur	Kabellengte
E	Dimensiones Air Flo	Emplazamiento de la caja de control / guardamotor	Peso Air Flo	Peso caja de control / guardamotor	Profundidad mínima del agua	Capacidad de elevación	Temperatura del agua	Longitud del cable
Air Flo								
1.5 kW / 230 V	700 x 1150 mm	250 × 175 × 120 mm	43 kg	3.2 kg	0.9 m	165000 l/h	+4 - +35 °C	50 m
1.5 kW / 400 V	700 x 1150 mm	145 × 85 × 120 mm	40 kg	1 kg	0.9 m	175000 l/h	+4 - +35 °C	50 m
4.0 kW / 400 V	950 x 1150 mm	145 × 85 × 120 mm	60 kg	1 kg	1.15 m	295000 l/h	+4 - +35 °C	50 m

D	Nennspannung	Leistung Pumpe	Nennstrom	cos φ	Schutzart Pumpe	Schutzart Control Box / Motorschutzschalter
GB	Rated voltage	Pump rating	Rated current	cos φ	Pump protection type	Type of protection Control box / motor (overload) protection switch
F	Tension nominale	Puissance pompe	Courant nominal	cos φ	Type protection pompe	Type de protection appareil de commande / disjonc-teur-protecteur
NL	Nominale spanning	Capaciteit pomp	Nominale stroom	cos φ	Beschermingsgraad pomp	Beschermingsgraad Control Box resp. motorbeveiligingsschakelaar
E	Tensión nominal	Potencia de la bomba	Corriente nominal	cos φ	Categoría de protección de la bomba	Categoría de protección Caja de control / guardamotor
Air Flo						
1.5 kW / 230 V	AC 220-240 V, 50 Hz	1.5 kW	10.2 A	0.98	IP 68	IP 42
1.5 kW / 400 V	AC 400 V, 50 Hz	1.5 kW	4.2 A	0.75	IP 68	IP 54
4.0 kW / 400 V	AC 400 V, 50 Hz	4.0 kW	9.6 A	0.8	IP 68	IP 54

	IP 68 4 m			
D	Staubdicht. Wasserdicht bis 4 m Tiefe.	Nicht mit normalem Hausmüll entsorgen!		Achtung! Lesen Sie die Gebrauchsanweisung
GB	Dust tight. Submersible to 4 m depth.	Do not dispose of together with household waste!		Attention! Read the operating instructions
F	Imperméable aux poussières. Etanche à l'eau jusqu'à une profondeur de 4 m.	Ne pas recycler dans les ordures ménagères !		Attention ! Lire la notice d'emploi
NL	Stofdicht. Waterdicht tot een diepte van 4 m.	Niet bij het normale huisvuil doen!		Let op! Lees de gebruiksaanwijzing
E	A prueba de polvo. Impermeable al agua hasta 4 m de profundidad.	¡No deseche el equipo en la basura doméstica!		¡Atención! Lea las instrucciones de uso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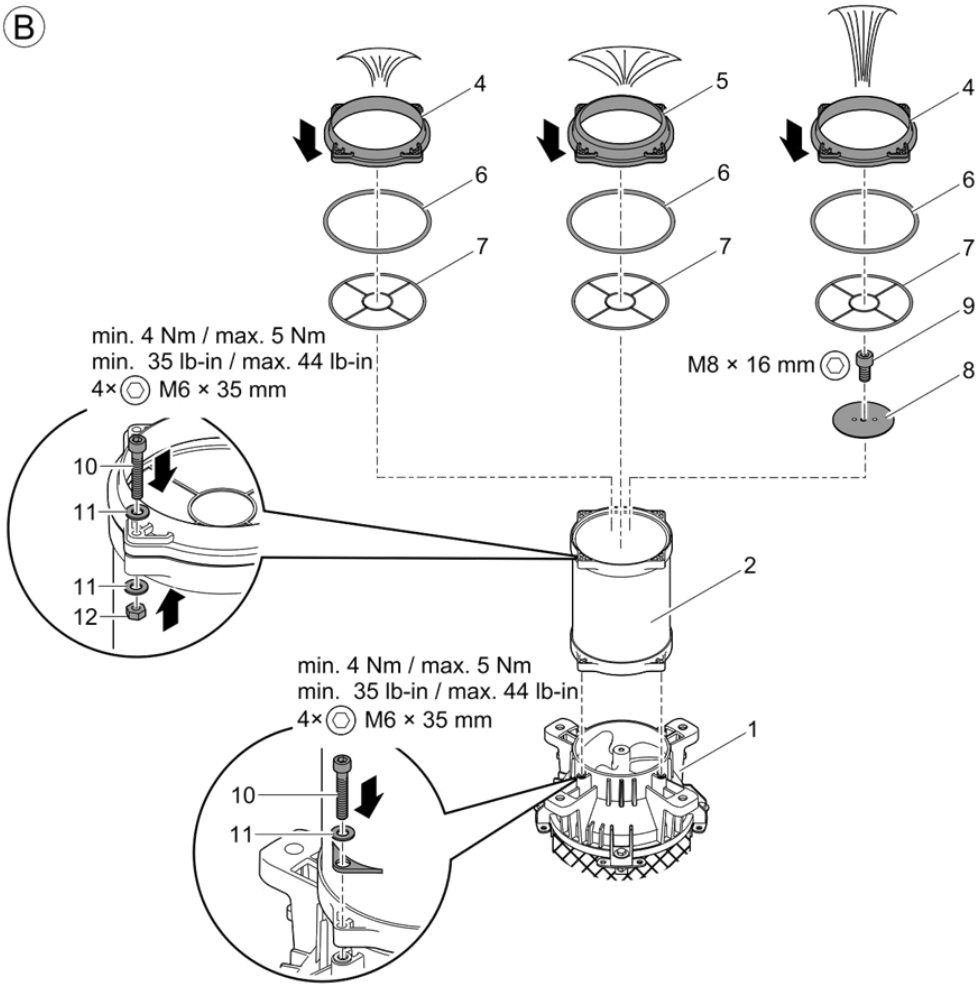
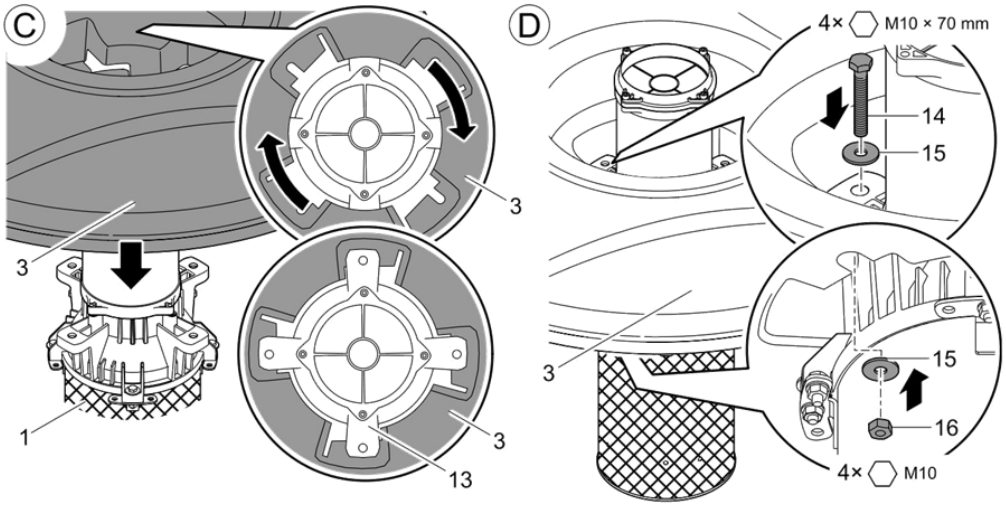
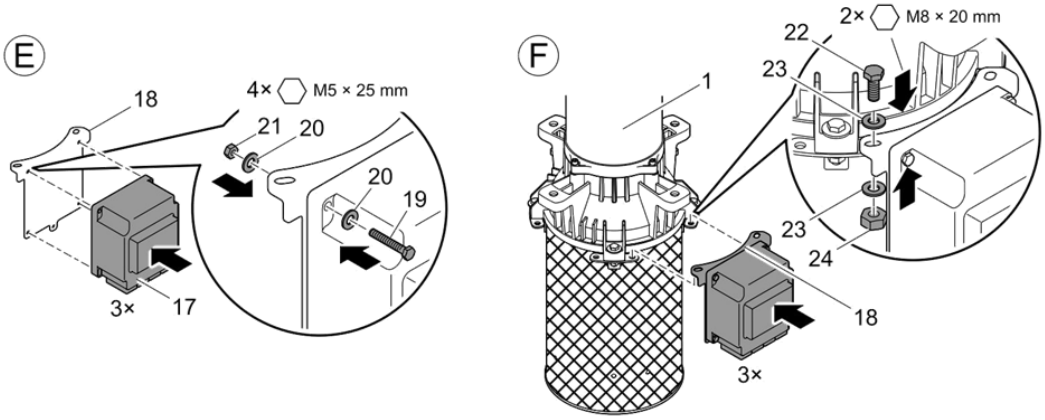
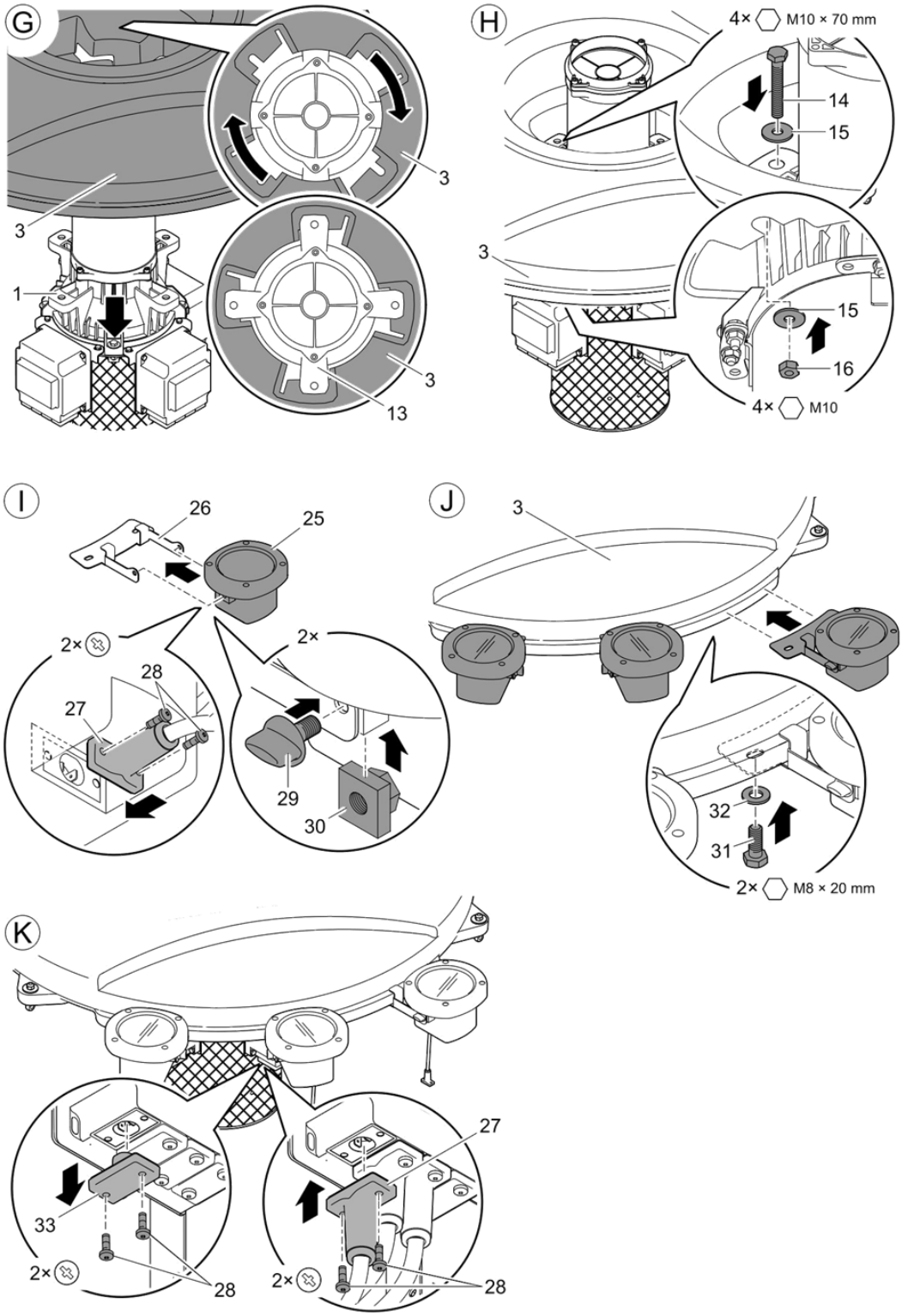
6
7
8
9

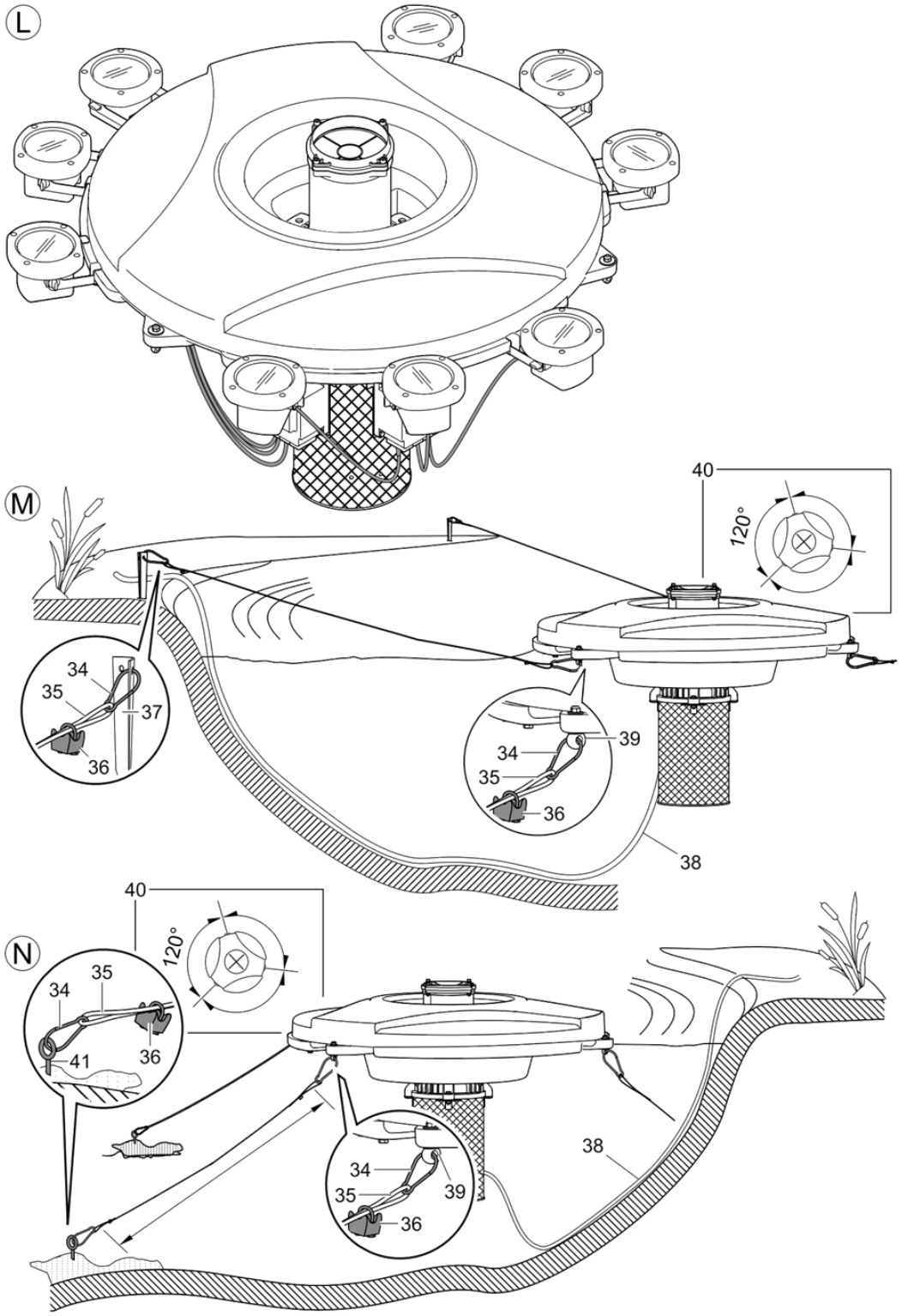

B
4
5
6
7
9
8
min. 4 Nm / max. 5 Nm
min. 35 lb-in / max. 44 lb-in
4× M6 × 35 mm
M8 × 16 mm
10
11
12
2
1

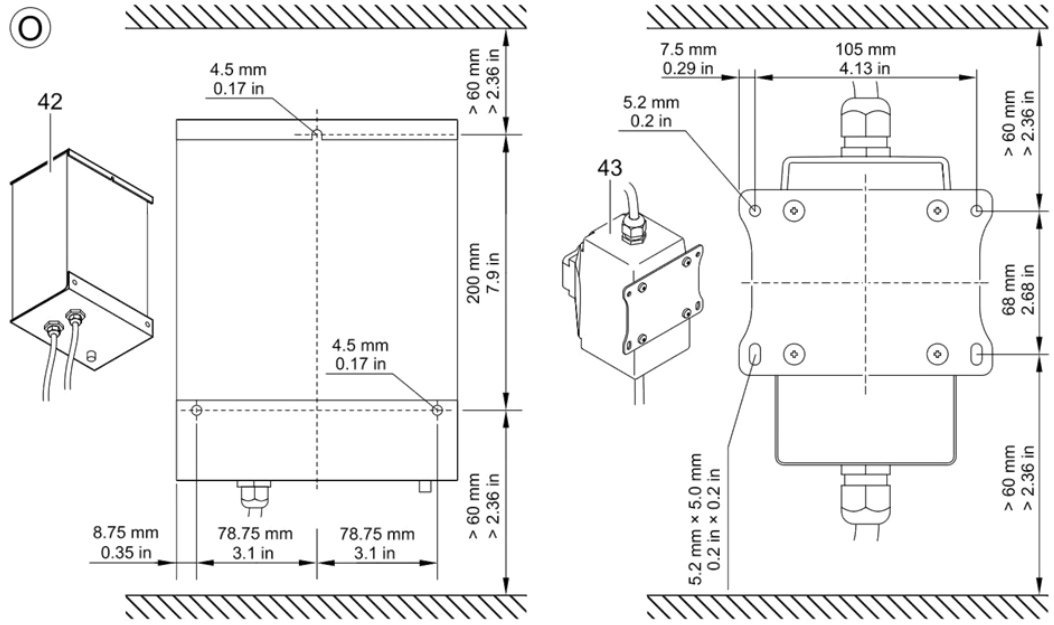


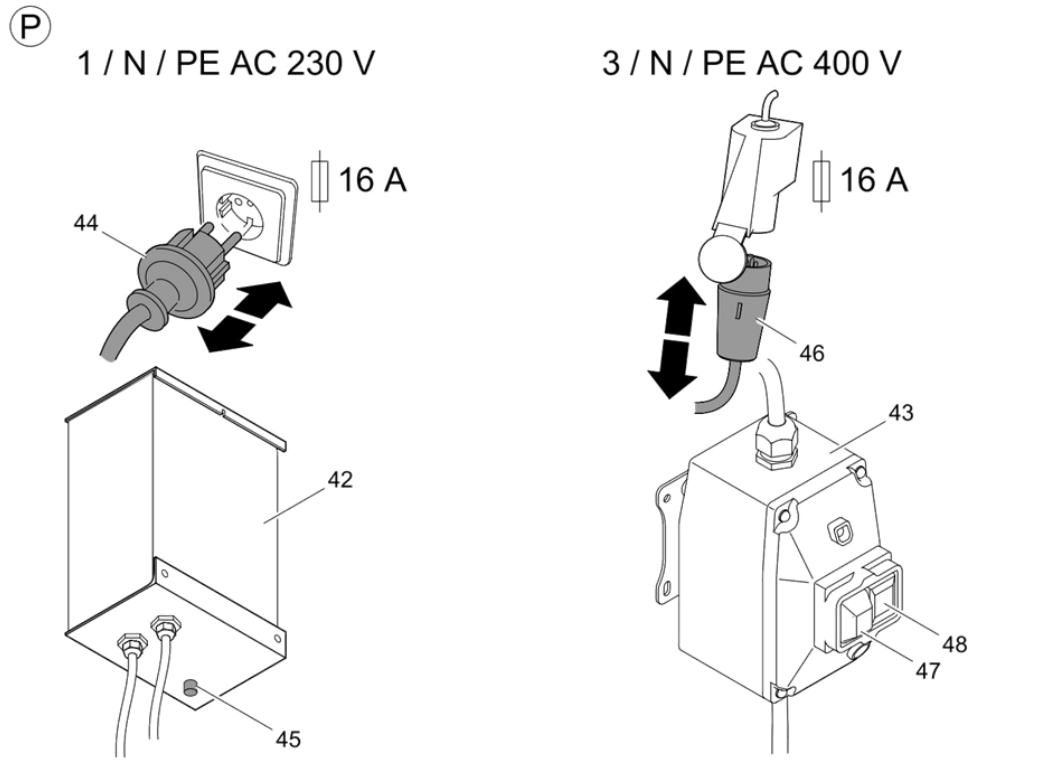
optional / optional / en option / optioneel / opcional




G
3
1
3
3
13
H
4× M10 × 70 mm
14
15
3
15
16
4× M10
I
26
25
2×
28
27
2×
29
30
J
3
32
31
2× M8 × 20 mm
K
33
2×
28
27
2×
28


L
M
40
120°
34
35
37
36
39
38
N
41


O
42
4.5 mm
0.17 in
> 60 mm
> 2.36 in
200 mm
7.9 in
4.5 mm
0.17 in
> 60 mm
> 2.36 in
8.75 mm
0.35 in
78.75 mm
3.1 in
78.75 mm
3.1 in
7.5 mm
0.29 in
105 mm
4.13 in
5.2 mm
0.2 in
43
> 60 mm
> 2.36 in
68 mm
2.68 in
> 60 mm
> 2.36 in
5.2 mm × 5.0 mm
0.2 in × 0.2 in


P
1 / N / PE AC 230 V
16 A
44
42
45
3 / N / PE AC 400 V
16 A
46
43
48
47

- GB -

Störungsbeseitigung

Achtung! Schnelldrehender, gefährlicher Propeller.
Mögliche Folgen: Schwere Verletzungen an den Gliedmaßen.
Schutzmaßnahmen: Vor Arbeiten am Gerät Netzstecker (Bild P, 44/46) ziehen.

Störung	Ursache	Abhilfe
Die Pumpe läuft nicht an	Netzspannung fehlt	Netzspannung überprüfen Reinigen, Zuleitungen kontrollieren
Pumpe schaltet nach kurzer Laufzeit ab	Pumpe ist überlastet	
	– Starke Wasserverschmutzung	Filterkorb reinigen
	– Wassertemperatur zu hoch	Gerät nur bei der in den technischen Daten angegebenen Wassertemperatur betreiben
	– Filterkorb verschmutzt	Filterkorb mit einer Bürste und unter fließendem Wasser reinigen.
	– Propeller sitzt durch Verschmutzung fest	Verschmutzung entfernen
	– Motor defekt	Rücksprache mit OASE erforderlich
Falsche Drehrichtung des Propellers beim 400-V-Gerät	Netzphasen in der CEE-Steckdose vertauscht	Der Propeller muss gegen den Uhrzeigersinn drehen (CCW). In der CEE-Steckdose die Netzphasen entsprechend dem Drehsinn anschließen.
Wasserbild unregelmäßig, laute Strömungsgeräusche	Filterkorb verschmutzt	Filterkorb reinigen

Gerät wieder einschalten

Air Flo, 230 V: Gerät abkühlen lassen (ca. 30 Sekunden), dann den Taster (45) an der Control Box (42) drücken. Die Pumpe läuft an.

Air Flo, 400 V: Den grünen Taster (48) am Motorschutzschalter (46) drücken. Die Pumpe läuft an.

Lagern / Überwintern

Bei Frost muss das Gerät deinstalliert werden. Führen Sie eine gründliche Reinigung durch, prüfen Sie das Gerät auf Beschädigung.

- GB -

Information about this operating manual

Please read the operating instructions and familiarise yourself with the unit prior to using it for the first time. Adhere to the safety information for the correct and safe use of the unit.

Please keep these operating instructions in a safe place! Also hand over the operating instructions when passing the unit on to a new owner. Ensure that all work with this unit is only carried out in accordance with these instructions.

Scope of delivery

Fig. A	Number	Description
1	1	Propeller unit
2	1	Riser pipe
3	1	Floating body
4	1	1.5 kW unit: Nozzle 138 (factory fitted) 4.0 kW unit: Nozzle 150 (factory fitted)
5	1	1.5 kW unit: Nozzle 120 4.0 kW unit: Nozzle 138
6	1	O ring
7	1	Protection grid
8	1	1.5 kW unit: Disc 110 4.0 kW unit: Disc 90
9	1	Screw M8 × 16 mm
	1	Accessory kit containing fastening material
	1	Instructions for use

Intended use

The aerator Air Flo, in the following text termed unit, may only be used to enrich normal pond water with air at a water temperature of +4°C to + 35°C. Do not use the unit in swimming ponds. The Air Flo with an AC 230 V power supply is controlled by a control box with integrated motor (overload) protection. The Air Flo with AC 400 V is protected by an integrated motor (overload) protection switch. Operation is only permitted with these protection devices functioning.

- GB -

Use other than that intended

Danger to persons can emanate from this unit if it is not used in accordance with the intended use and in the case of misuse. If used for purposes other than that intended, our warranty and operating permit will become null and void.

CE Manufacturer's Declaration

We declare conformity in the sense of the EC directive, EMC directive (2004/108/EC) as well as the low voltage directive (2006/95/EC). The following harmonised standards apply:

EN 60335-1, EN 60335-2-41, EN 55014-2, EN 61000-3-2, EN 61000-3-3

Signature:

Safety information

The companyOASE has built this unit according to the state of the art and the valid safety regulations. Despite the above, hazards for persons and assets can emanate from this unit if it is used in an improper manner or not in accordance with its intended use, or if the safety instructions are ignored.

Hazards encountered by the combination of water and electricity

- The combination of water and electricity can lead to death or severe injury from electrocution, if the unit is incorrectly connected or misused.
- Prior to reaching into the water, always disconnect the power supply to all units used in the water.

Safe operation of the unit

- Only switch on the unit with the riser pipe fitted.
- Only operate the unit if no persons are in the water.
- Keep the power plug dry.
- Route the power cable so that damage is excluded.
- Do not carry or pull the unit by the power cable. The power connection cable cannot be replaced.
- Never run the unit without water. The unit will be destroyed.
- Never use the pump for fluids other than water. Other fluids could destroy the unit.
- Never open the unit housing or its attendant components, unless this is explicitly mentioned in the operating instructions.
- Never carry out technical modifications to the unit.

Only use original spare parts and original accessories for the unit.

Correct electrical installation

- Electrical installations at ponds must meet the international and national regulations valid for installers.
- Electrical installations may only be carried out by qualified electricians.
- Only use cables approved for outside use.
- Ensure that the unit is protected by for a rated fault current of max. 30 mA via a fault current protection device.
- Only operate the unit when plugged into a correctly fitted socket. Keep the socket dry.
- Only connect the unit when the electrical data of the power supply is identical to that on the unit type plate.

Installation

Nozzle assembly (B)

Attention! Danger emanating from the propeller rotating at high speed.

Possible consequences: Severe injury to limbs.

Protective measures: Pull the power plug prior to starting any work on the propeller unit (1) and secure it from unintentional plugging in again. The motor will start running as soon as the power plug is plugged in the power socket.

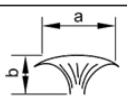
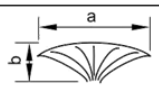
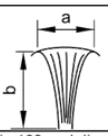
Riser pipe installation: Place the riser pipe (2) on the propeller unit (1) and tighten using the four screws (10) and washers (11).

Nozzle installation for water image effect I or II: Place the protection grid (7), O ring (6) and the respective nozzle (4 or 5) on the riser pipe (2). Tighten using screws (10), washers (11) and nuts (12).

Nozzle installation for water image effect III: Place disc (8) on the propeller such that the grub screws at the propeller and the bore holes in the disc (8) are congruent one on top of the other. Fasten disc (8) with screw (9). Place the protection grid (7), O ring (6) and the nozzle (4) on the riser pipe (2). Tighten using screws (10), washers (11) and nuts (12).

Note: Adhere to the nozzle-disc combination according to the table. Other combinations are not permissible.

- GB -

Water image effect		I	II	III
				
Air Flo 1.5 kW		Nozzle 138	Nozzle 120	Nozzle 138 and disc 110
	a [m]	3.5	5.0	6.0
	b [m]	0.8	1.0	2.0
Air Flo 4.0 kW		Nozzle 150	Nozzle 138	Nozzle 150 and disc 90
	a [m]	6.0	8.0	10
	b [m]	1.5	2.0	3.0

All dimensions are reference values

Float switch installation (C,D)

Place the float switch (3) on the propeller unit (1), turn the float switch (3) clockwise against the stop until the four fastening flanges (13) are visible. Tighten the float switch (3) using screws (14), washers (15) and nuts (16) to the fastening flanges (13).

Fitting the spotlight set Lunaqua 10 (optional) (E-L)

Three Lunaqua 10 spotlight sets can be fitted to the Air Flo. The spotlight sets are available as accessories. Ask your OASE specialist dealer.

Transformer installation (E, F): Ensure that the float switch is NOT fitted. Tighten the transformer (17) using screws (19), washers (20) and nuts (21) to the transformer mounting plate (18). Tighten the transformer mounting plate (18) using screws (22), washers (23) and nuts (24) to the propeller unit (1).

Float switch installation (G, H): Place the float switch (3) on the propeller unit (1), turn the float switch (3) clockwise against the stop until the four fastening flanges (13) are visible. Tighten the float switch (3) using screws (14), washers (15) and nuts (16) to the fastening flanges (13).

Installation of the Lunaqua 10 lamps (I-L): Connect the plug of the connection cable (27) to the Lunaqua 10 (25), turn in and firmly tighten the screws (28). Screw the spotlight holder (26) to the Lunaqua 10 (25) using the clamping screws (29) and square nuts (30). Tighten the spotlight holder (26) to the float switch (3) using screws (31) and washers (32). Connect three Lunaqua 10 each to one transformer. For this purpose, remove the screws (28) and the cover cap (33) on the transformer. Connect the plug of the connection cable (27) to the transformer, turn in and firmly tighten the screws (28).

Avoid kinking the connection cables (Fig. L). If necessary, bundle connection cables with cable binders.

Installation

Air Flo installation (M, N)

The unit floats on the water. Adhere to the minimum water depth. To keep it in position, the enclosed wire cables are fastened to the unit and either to the bank or to the pond bottom.

Anchoring the unit at the bank (M): Shorten the three wire cables to the desired length. Form loops at the cable ends (35) and fasten with the cable clamps (36). Hook the cables into the eyebolts (39) at the float switch by means of snap hooks (34). Knock the three tent pegs (37) into the bank ground. Important: Adhere to the specified bracing angles (40) to prevent the unit from moving. Set the unit in the water and hook the cables to the tent pegs (37) using the snap hooks (34). Attention: Pull relieve the connection cable (38) and protect the power plug from moisture!

Anchoring the unit to the pond bottom (N): Shorten the three wire cables to the desired length. Form loops at the cable ends (35) and fasten with the cable clamps (36). Hook the cables into the eyebolts (39) at the float switch by means of snap hooks (34). For anchoring to the pond bottom, screw the enclosed threaded hooks (41) including the dowel, for instance, into three sufficiently heavy stones. Hook three cables with snap hooks (34) in the threaded hooks (41), lower the stones to the bottom of the pond and set the unit on the water. Attention: Pull relieve the connection cable (38) and protect the power plug from moisture!

Installation of the control box / motor (overload) protection switch (O)

Install the control box (42) / motor (overload) protection switch (43) at a minimum distance of 2 m from the pond. Fit the control box (42) such that the connection cables hang down. The control box (42) / motor (overload) protection switch (43) meet protection type IP 42. For this reason, fit a protective cover over the control box (42) / motor (overload) protection switch (43) to prevent the ingress of moisture, if installed outside.

- GB -

Start-up

Attention! Dangerous electrical voltage.
Possible consequences: Death or severe injury.
Protective measures: Disconnect the power plug (Figure P, 44/46) prior to reaching into the water and commencing work.

Attention! Danger emanating from the propeller rotating at high speed.
Possible consequences: Severe injury to limbs.
Protective measures: Only switch on the Air Flo with the protection grid fitted.

Switching on / Switching off (P)

The Air Flo switches on automatically when the power connection is established.

Switching on: Plug the shock-proof plug (44) of the 230 V unit in the shock-proof socket. Plug the CEE plug (46) of the 400 V unit in the CEE socket.

Switching off: Pull the power plug (44) / CEE plug (46).

The control box (42) and the motor (overload) protection switch (43) are intended to protect the motor. The pump will be switched off in the case of an overload.

Button (45): Press the button to restart the motor.

Red switch (47): Press the switch to trigger the motor (overload) protection switch. The motor will switch off.

Green switch (48): Press the switch to restart the motor.

Also read the section “Remedy of faults”.

Cleaning

Disconnect the power plug (Figure P, 44/46) prior to starting cleaning work!

If necessary, clean the unit under clear water using a soft brush.

Remedy of faults

Attention! Danger emanating from the propeller rotating at high speed.
Possible consequences: Severe injury to limbs.
Protective measures: Disconnect the power plug (Figure P, 44/46) prior to starting work at the unit!

Malfunction	Cause	Remedy
Pump does not start	No mains voltage	Check mains voltage Clean, check supply lines
Pump switches off after a short running period	Pump overload	
	– Excessively soiled water	Clean filter basket
	– Water temperature too high	Only operate the unit at the water temperature specified in the technical data
	– Filter basket soiled	Clean the filter basket under running water using a brush.
	– Propeller seized up due to soiling	Remove soiling
	– Motor defective	Contact OASE
Incorrect propeller rotational direction of the 400 V unit	Mains phases in the CEE socket reversed	Ensure that the propeller rotates counter-clockwise (CCW). Connect the mains phases in the CEE socket to comply with the rotational direction.
Irregular water image effect, loud flow noise	Filter basket soiled	Clean filter basket

Switch on the unit

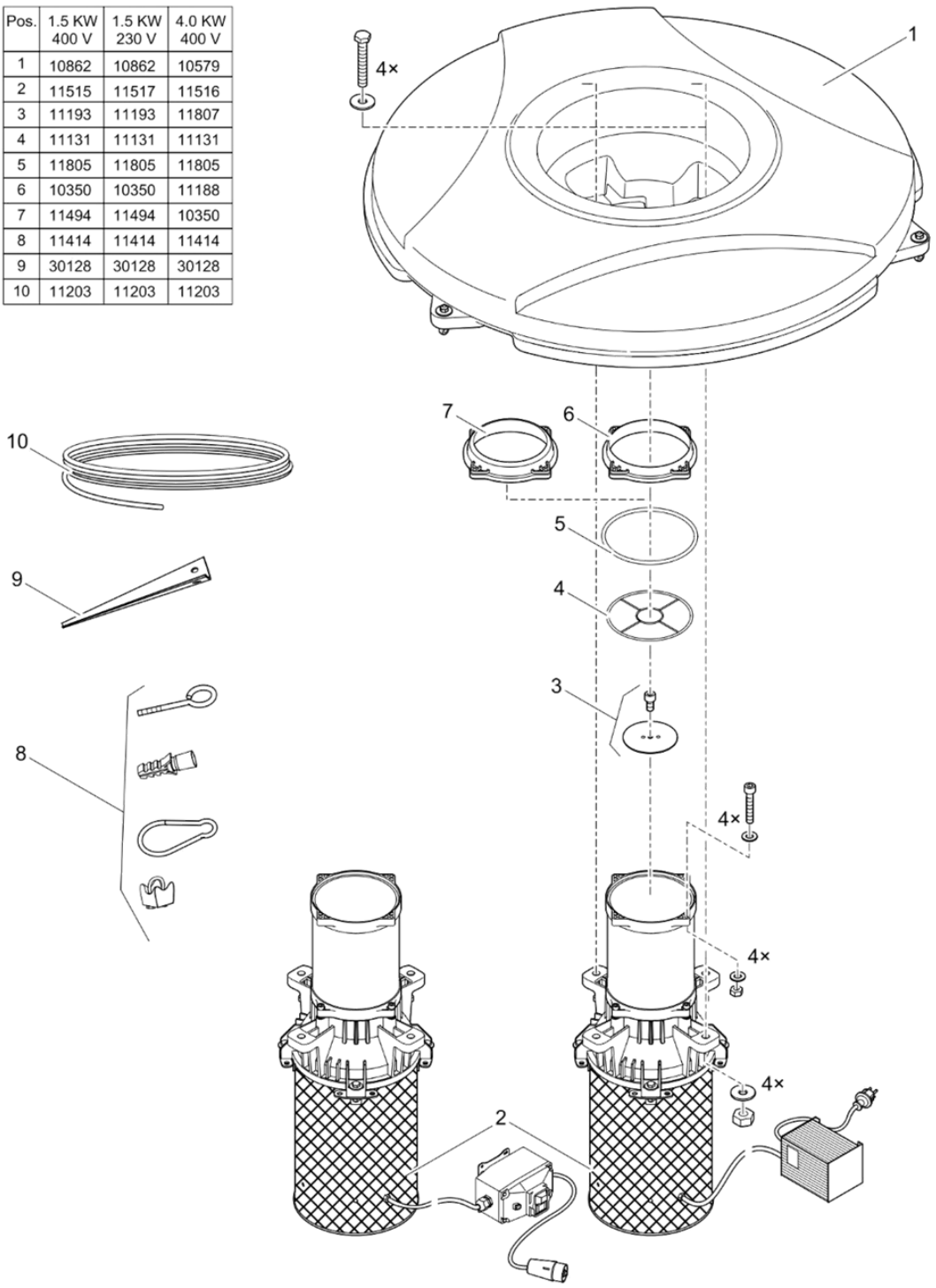
Air Flo, 230 V: Allow the unit to cool down (approx. 30 seconds), then press the button (45) at the control box (42). Pump will start.

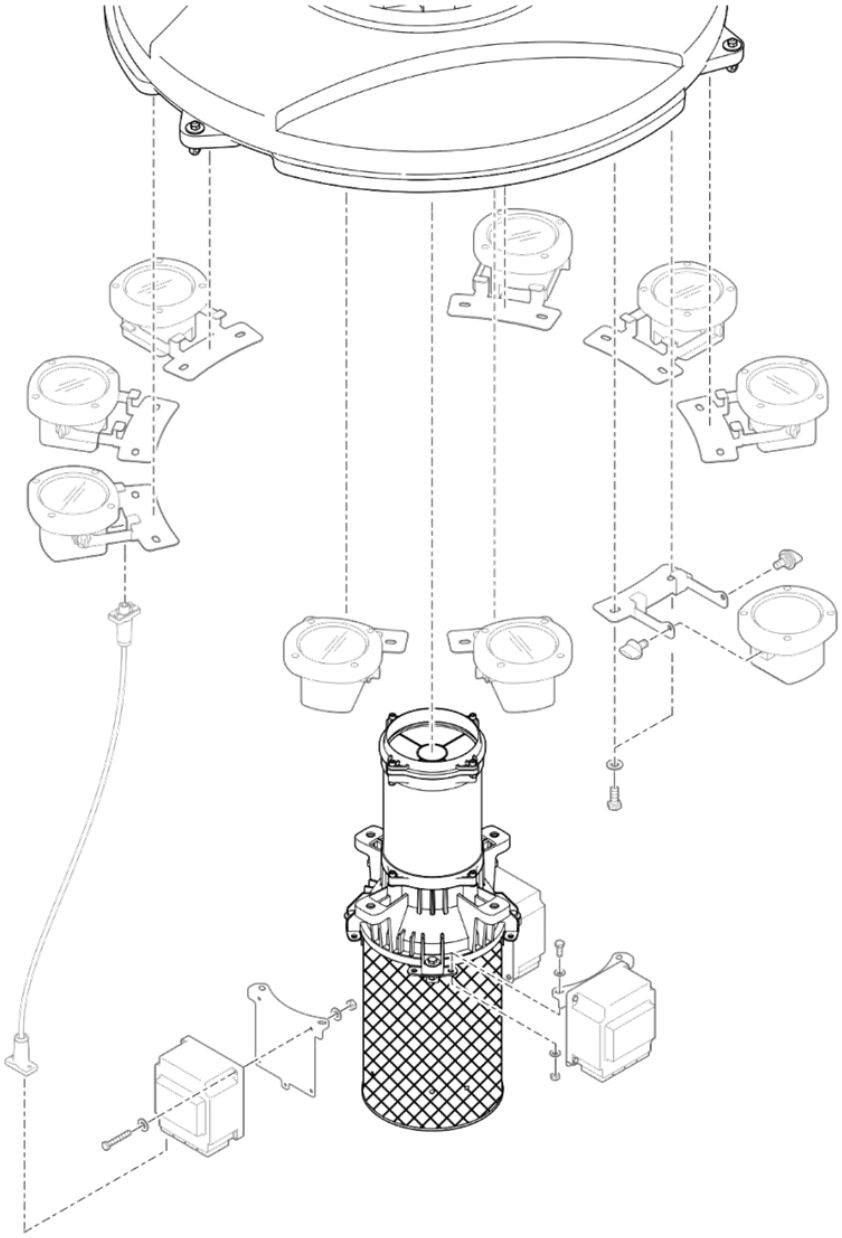
Air Flo, 400 V: Press the green button (48) at the motor (overload) protection switch (46). Pump will start.

Storage/Over-wintering

Remove the unit at temperatures below zero degrees centigrade. Thoroughly clean and check the unit for damage.

Pos.	1.5 KW 400 V	1.5 KW 230 V	4.0 KW 400 V
1	10862	10862	10579
2	11515	11517	11516
3	11193	11193	11807
4	11131	11131	11131
5	11805	11805	11805
6	10350	10350	11188
7	11494	11494	10350
8	11414	11414	11414
9	30128	30128	30128
10	11203	11203	11203





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Attachment D – advice regarding water circulation trial

Aeration and oxygenation have been proven to work in waterbodies, however with slightly different conditions to the LVR, when there is low oxygen levels and stratification of water column (i.e. little mixing). The LVR has high oxygen levels throughout the water column when the algal bloom is established and is not stratified as it is shallow enough to be mixed by the wind. The LVR WMP does not dismiss the use of aeration as such but recommends given the scale of the river that it is considered as part of the development of a 'Living Streams' scenario which may lead to smaller, separated water bodies.

A 'Living Streams' scenario would involve altering the morphology of the river to restore ecological processes and create physical conditions that provide greater resilience to high nutrient conditions. It would include creation of diverse habitats and extensive revegetation, but may also include innovative approaches to improve water quality and facilitate intervention actions, such as water treatment, circulation and sediment removal.

The City recently secured significant funding under Revitalising Geographe Waterways 2 Program to prepare detailed designs to progress a Living Streams scenario. As part of this the City is in the process of drafting a Request for Quotation for the preparation of detailed designs for the restoration and re-design of an 800m section of the Lower Vasse River in the centre of Busselton using a 'Living Streams Approach'. This approach is adapted from the Stormwater management manual for Western Australia (DoW, 2007). The project will involve application of principles of water sensitive urban design, ecological restoration and remediation to create conditions less favourable to algal blooms. Designs will ensure positive outcomes for water quality, ecological values and public amenity.

It is thought well-designed trials could assist with developing detailed designs that are more likely to reduce algal bloom. An area of interest that has not yet been trialled is water circulation.

<u>Water circulation trial</u>

Blue-green algae thrive in warm, still conditions. They benefit from stable water columns. This allows cells to stay within optimal temperature, light and nutrient conditions for growth.
Reducing water residence times through flushing has been shown to reduce growth of blue-green algae, as has mixing with cooler water from greater depth. In the LVR there is no water availability for flushing or deep areas. However, mixing of water to disrupt the stable water column may provide less optimal conditions and reduce growth of blue-green algae. This approach has been shown to alter the phytoplankton community to green algae and diatoms over potentially toxic blue-green algae.

There is no guarantee that such an approach would work in isolation, and a trial is sensible prior to investment in permanent infrastructure. Such a trial should consider appropriate water turnover rates and include monitoring to assess any benefit. At a minimum, monitoring should include chlorophyll *a* as an indicator of phytoplankton growth. Residence time should be reduced to a few days to a week interrupt growth rates, which is only possible in small areas of water. This could be achieved by 'compartmentalising' in the LVR, using either temporary (curtains) or permanent (infill) structures, and recirculating water within or between compartments. This approach would have more chance of success if implemented prior to onset of an algal bloom.

It is proposed to isolate a 50m long by 30 m wide section of river, with a mean depth of 1.0m, which is equivalent to 1500 cubic metres of water. The area would be cordoned off through the use of two 'curtains' on either side. The outlet could flow through geotextile bag and/or a constructed rocky riffle

back into the river to provide filtration and oxygenation. The rock rifle could also be designed in an aesthetically pleasing way, to provide a water feature/waterfall.

An additional two curtains may also be used to build on last year's work on isolating areas with more severe algal blooms.

Estimated costs:

Prices have been estimated to be in the order of $40,000. More accurate prices will be known once the request for quote closes on Tuesday 3 December. The price include the installation of curtains, pumping and filtration equipment, monitoring and project management costs.

Attachment E – Department of Health advice

Government of **Western Australia**
Department of **Health**

Health impacts from cyanobacterial aerosol transmission

There are a number of references, studies and sources that indicate health impacts associated with aerosol transmission from water bodies containing cyanobacterial toxins. Excerpts from some of these references, studies and sources are detailed below.

Mode of aerosol formation and extent of transmission

"Surface water with harmful algal blooms (HABs, notably cyanobacteria) and their organic compounds may also affect the surrounding air.

This is not only relevant for large surface waters with breaking waves, but also on other locations with aerosol-exposure risk, such as urban waters with fountains or bathing waters." (Verschoor, 2018)

"Algae cells, bacteria, and waterborne toxins can be aerosolized by a bubble-bursting process with a wind-driven white-capped wave mechanism. … The laboratory study showed that cyanotoxins in water could be transferred to air via a bubble bursting process." (Cheng, Zhou, Mitch Irvin, Kirkpatrick, & Backer, 2007)

"More disruption of the lake surface causes greater aerosolization and more cyanobacteria to be suspended in the air." (Perry, Mack, Haney, & Murby, 2015)

"After a November 2018 finding that one type of airborne blue-green algae toxin was likely inhaled deep into human lungs, Florida Gulf Coast University (FGCU) researchers, supported by NOAA's National Centers for Coastal Ocean Science (NCCOS), have evidence that airborne cyanobacteria toxins may travel more than a mile inland." (NCCOS, 2019)

Studies highlighting potential health effects associated with aerosols

There is anecdotal evidence from human exposure and data from human studies that suggest that possible symptoms and signs of inhaling aerosols contaminated with cyanobacteria or toxin aerosol transmission may cause upper respiratory irritation (wheezing, coughing, chest tightness and shortness of breath). (CDC)

"Aerosol from waterbodies appears to be a likely mechanism for exposure. … Our study suggests that humans routinely inhale aerosolized cyanobacteria, which can be harbored in the nostrils and the lungs. Using PCR, cyanobacteria were found at high frequencies in the upper respiratory tract (92.20%) and central airway (79.31%) of our study subjects." (Facciponte et al., 2018)

Cyanobacterial neurotoxins namely β-N-methylamino-L-alanine (BMAA), may also cause amyotrophic lateral sclerosis (ALS), also known as motor neuron disease (MND), and other neurogenerative disease. The following study highlights this risk:

"To study the aerosol route of exposure to CB, 26 high risk (those living within ¼ mile from a waterbody) and low risk (beyond ¼ mile from a water body) double blinded postmortem upper lobe tissues were examined put under a Olympus IX73 Inverted Fluorescence microscope using a phycocyanin filtered cube. ...

*84.6% of **high risk** postmortem lung tissue **patients** show the **presence of cyanobacteria** by fluorescence microscopy. 92.3% of **low risk** postmortem lung tissue **patients** show **no fluorescent CB**. In our preliminary analysis (using Fisher exact probability test), the presence of CB in high risk lung compared to low risk lung tissue is statistically significant at P<0.05. No neurodegeneration was seen in neuropathology reports of low risk patients; half of the high risk patients that showed positive results with fluorescent microscopy had neurodegeneration described in their neuropathology results.*

Due to our statistically significant findings of lung tissue and neurodegeneration of high vs. low risk autopsy samples, we postulate that aerosolized cyanobacteria from water (which have the potential to produce BMAA) are an environmental risk factor for neurodegeneration and may account for the higher incidence of ALS in association with waterbodies as described in our previous publications." (Henegan et al., 2017)

References

CDC, D. o. H. a. H. S. U.-. *Physician reference - Cyanobacteria blooms. when in doubt, it's best to stay out!* : Department of Health and Human Services USA - CDC Retrieved from https://www.cdc.gov/habs/pdf/habsphysician_card.pdf

Cheng, Y., Zhou, Y., Mitch Irvin, C., Kirkpatrick, B., & Backer, L. (2007). *Characterization of Aerosols Containing Microcystin* (Vol. 5).

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19. URGENT BUSINESS

20. CONFIDENTIAL MATTERS

Nil

21. CLOSURE