Natural Area
CONSULTING MANAGEMENT SERVICES

Association for Christian Education Inc.

Rehoboth Christian College – Kenwick Annual Compliance Report – Ministerial Statement 780

19 January 2017

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V1	19 January 2017	Signature	SB	LS	Final

Contents

1.0 Introduction

The Association for Christian Education Inc. owns and operates the Rehoboth Christian College at 92 Kenwick Road, Kenwick, within the City of Gosnells (Figure 1). A referral describing proposed extensions to the school was submitted to the EPA under Part IV of the *Environmental Protection Act 1986* (WA) due to the potential impacts on flora and wetlands within the school boundary. The EPA issued Bulletin 1249 in March 2007 indicating that the assessment level for the project was 'assessment on referral information' (ARI). The Office of the Environmental Protection Authority (OEPA) published Ministerial Statement 780 on 19 January 2009 indicating that the project could proceed.

Natural Area Holdings Pty Ltd, trading as Natural Area Consulting Management Services (Natural Area), was commissioned by Rehoboth Christian College on behalf of the proponent, Association for Christian Education Inc., to prepare this 2017 Annual Compliance Report. It will report on the project for the period 20 January 2016 to 19 January 2017, and was submitted to the Office of the Environmental Protection Agency (OEPA) on 19 January 2017. It will provide information relating to compliance included within in the Ministerial Statement Audit Table. It also outlines the transition from phase 1 of the project and its completion (Lot 107) and the commencement of phase 2 (previously Lot 105A Brixton Street, now Lot 900).

Phase 1 of the extension works involved the:

- development of 1.0 ha of land that was characterised as a conservation category wetland (CCW) that includes 0.60 ha of the threatened ecological community (TEC) claypan wetlands
- conservation management of 2.3 ha of two TECs in the remainder of the school lot, including:
  - full rehabilitation of 0.18 ha of TEC claypan wetlands
  - partial rehabilitation of 0.66 ha of TEC claypan wetlands
  - preparation of a series of management plans for wetland and drainage areas.

All works associated with Phase 1 were completed by December 2015 and documented in the January 2016 Annual Compliance Report prepared by Natural Area.

The Association for Christian Education is now progressing the development of the triangular area bounded by Brixton Street, Wanaping Road and the wetland area (Lot 900), with preliminary works including a flora and vegetation survey in November 2016, and the installation of monitoring bores in October 2016, and the preparation of management plans commencing in late 2016. When completed, the management plans will be submitted to the OEPA for approval.

Figure 1:
Location—Lot 105a Brixton Street, Kenwick

2.0 Current Status

Stage 1 building commenced in February 2011 after the approval of the Wetland Rehabilitation Plan, the Wetland Management Plan and Drainage and Nutrient Management Plan in November 2010 (Sands, 2012, personal communication; OEPA, 2010, personal communication), and was completed later that year. Implementation of the wetland revegetation plan is complete, as are the requirements of the Drainage Management Plan and the Wetland Management Plan, each of which were specific to Lot 107 (Stage 1). Natural Area prepared the fifth Annual Environmental Compliance Report and the third Performance Review Report, both of which were submitted to the OEPA on 27 January 2016.

Works associated with the development of Lot 900 have now commenced, with Natural Area overseeing all environmental works. Accordingly, during 2016 Natural Area has:

- submitted a letter to the OEPA dated 10 October 2016 seeking confirmation that development of Lot 900 was consistent with the original approval, with a letter dated 25 October from the OEPA confirming that
- undertaking a flora and vegetation survey of Lot 900 during spring to confirm current flora and vegetation site values
- overseeing the installation of three new water quality monitoring bores in the vicinity of Lot 900 to allow pre, during and post construction monitoring activities
- undertaking the first round of pre-construction groundwater monitoring in spring 2016
- commencing preparation of an updated Wetland Management Plan specific to Lot 900
- overseeing the preparation of updated Drainage Management Plan by Hyd2O specific to Lot 900.

3.0 Compliance

The Association for Christian Education Inc. continues to comply with the conditions listed in Ministerial Statement 780 and the approved management plans. Evidence of this will be provided in the audit table provided in Section 5.

3.1 Non-compliances and Non-conformances

According to the Department of Environment and Conservation (2007), a non-compliance is a failure to meet requirements specified within the Ministerial Statement, while a non-conformance is any deviation from procedures, programs and/or management actions described in an environmental management plan. No non-compliances or non-conformances were identified in the fifth Annual Compliance Report (Natural Area Consulting Management Services, 2016b).

3.2 Complaints Register

A complaints register has been prepared by Rehoboth Christian College and is kept at the front office. The complaints register includes the following provisions:

- date
- complainant
- contact details
- nature of the complaint
- response
- date of response.

No complaints have been received since the register was prepared in 2012.

3.3 Compliance Statement

This Annual Compliance Report provides verifiable evidence of compliance with required conditions outlined in Ministerial Statement 780 and endorsed actions and commitments outlined in proponent Management Plans.

Signed: 

Mr Mark Steyn
Chief Executive Officer
Association for Christian Education Inc.

Dated: 18.01.2017

4.0 Environmental Monitoring and Research

During the period 20 January 2016 – 19 January 2017, environmental monitoring and research was limited to the flora and vegetation survey carried out during spring and the pre-development groundwater monitoring activities that occurred after the installation of new monitoring bores. The College continues to undertake nutrient analysis of the ovals prior to fertilising, however, reporting is no longer required.

4.1 Flora and Vegetation Survey

The flora survey was carried out during October 2016, with no significant flora observed. The survey report is included as Appendix 1.

4.2 Groundwater Quality Monitoring

Three groundwater monitoring bores were installed by Hyd2O along the boundary between Lot 900 and the existing school site and the conservation category wetland (Figure 2) on 26 October 2016. The bores were sampled by Natural Area on 22 November 2016, with results of all parameters below recommended guideline levels listed in the ANZECC Fresh and Marine Water Quality Guidelines (ANZECC, 2000); a copy of the certificate of analysis is provided in Appendix 2. Conductivity readings indicated that the water was in the brackish range, and that suspended solids in MB3 were significantly higher than those in MB1 and MB2. The November 2016 results represent the pre-development baseline conditions to which future results will be compared. No comparison has been made with the results of groundwater quality carried out at different bore locations within the college boundary.


MB1
MB2
MB3
BRIXTON
STREET
Lot 900
N
P G S HOPE & PARTNERS PTY LTD
LICENSED SURVEYORS
11/24 THOROGOOD STREET
BURSWOOD WA 6100
Ph: 9470 1229 Email: pgs@linet.net.au
DESCRIPTION
GROUNDWATER MONITORING WELL LOCATIONS
LOT 900 BRIXTON STREET, KENWICK WA 6107
SCALE 0 10 20 30 40
1 : 750 at A3
FILE 37/2016
DATUM A.H.D.
JOB Lot 900 Brixton Street
LEVEL BOOK 283/56
DATE 4 Nov 2016

5.0 Stakeholder Engagement

In order to prepare the 2015 annual compliance report, Natural Area contacted three individuals, the details of which are summarised in Table 3.

Table 3: Stakeholder Engagement

Date	Name	Position	Organisation	Purpose	Outcome
2016	Rachael Fairlamb	Accountant	Rehoboth Christian College (Association for Christian Education Inc.)	Environmental matters relating to the development of Lot 900	Implementation of pre-development environmental studies, monitoring bore installation and groundwater quality monitoring
	Mark Steyn	Chief Executive Officer			
January 2017	Rachael Fairlamb	Accountant		Evidence to support demonstration of compliance with Ministerial Statement 780 and proponent commitments for the project	Input into compliance report and final sign off
	Mark Steyn	Chief Executive Officer			Input into compliance report and final sign off

6.0 Audit Tables

There is currently one audit table applicable to the Rehoboth Christian College proposal, namely the Ministerial Statement Audit Table as the works and commitments documented in the various management plans associated with Lot 107 have been completed and are no longer applicable. As new management plans for Lot 900 are developed and approved, an additional audit table documenting compliance with commitments and works will be developed and audited annually, with outcomes included in the Annual Compliance Reports submitted to the OEPA.

6.1 Ministerial Statement Audit Table

The Ministerial Statement Audit Table has been prepared by the Office of the Environmental Protection Authority and outlines auditable Ministerial requirements and commitments that must be adhered to as part of the environmental approvals process. Each item has been assessed and an implementation status determined in accordance with guidance materials prepared by the DEC (2007). Evidence of status is also provided.

6.2 Environmental Management Plan Audit Table

Prior to any on-ground disturbances at Lot 107, a series of three environmental management plans (EMPs) were prepared in compliance with Ministerial Conditions 6.1, 8.1 and 9.1 of Ministerial Statement 780. These documents were prepared, approved and implemented, and explicitly stated they related Lot 107. All works associated with those plans have been completed.

Condition 6.1 related to revegetation in the conservation category wetland, with further works not being required during and post development of Lot 900. This has been confirmed in a letter from the OEPA dated 25 October 2016. New wetland (Condition 8.1) and drainage (Condition 9.1) management plans are in the process of being prepared to assist with the management of potential impacts associated with the development of Lot 900, and will be approved by the OEPA prior to ground disturbance at the site. Those plans will include a range of commitments and performance measures that will be subject to annual audit activities and reporting in Annual Compliance Reports as from January 2018.

Government of **Western Australia**
Office of the **Environmental Protection Authority**

AUDIT TABLE

Statement Compliance Section
PROJECT: Extension of Rehoboth Christian School, 92 Kenwick Road, Kenwick, City of Gosnells
Statement 780

Note:

- Phases that apply in this table = **Pre-Construction, Construction, Operation, Decommissioning, Overall (several phases)**
- This audit table is a summary and timetable of conditions and commitments applying to this project. Refer to the Minister's Statement for full detail/precise wording of individual elements.
- Code prefixes: M = Minister's condition; P = Proponent's commitment; A = Audit specification; N = Procedure.
- Abbreviations: CAR = Compliance Assessment Report; CEO = Chief Executive Officer of OEPA; DEC = Department of Environment and Conservation; DER = Department of Environment Regulation; DIA = Department of Indigenous Affairs; DMP = Department of Mining and Petroleum; DoH = Department of Health; DoW = Department of Water, DPaW = Department of Parks and Wildlife, EPA = Environmental Protection Authority, Minister for Env = Minister for the Environment; OEPA = Office of the Environmental Protection Authority.
- Compliance Status: C = Compliant, CLD = Completed, NC = Non – compliant, NR = Not Required at this stage. Please note the terms NA = Not Audited and VR = Verification Required are only for OEPA use. IP = In Process may only be used by the proponent in circumstances outlined in Section 2.8 of the *Post Assessment Guideline for Preparing an Audit Table*.

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status
780:M1.1	Proposal Implementation	The proponent shall implement the proposal as assessed by the Environmental Protection Authority and described in schedule 1 of this statement subject to the conditions and procedures of this statement.	Stage 1 completed, Stage 2 in early stages of implementation	Compliance Reports (CR)	Overall	Stage 1 completed 2015, Stage 2 preliminary works commenced October 2016	C
780:M2.1	Proponent Nomination and Contact Details	The proponent for the time being nominated by the Minister for the Environment under sections 38(6) or 38(7) of the Environmental Protection Act 1986 is responsible for the implementation of the proposal.	No change	Website URL: http://www.rehoboth.wa.edu.au/, accessed January 2017	Overall	Since April 2012	C
780:M2.2	Proponent Nomination and Contact Details	The proponent shall notify the Chief Executive Officer (CEO) of the Department of Environment and Conservation of any change of the name and address of the proponent for the serving of notices or other correspondence within 30 days of such change.	Not required	Letter to the CEO notifying of change of contact name and address.	Overall	Within 30 days of such change.	C
780:M3.1	Time Limit of Authorisation to commence	The authorisation to implement the proposal provided for in this statement shall lapse and be void within five years after the date of this statement if the proposal to which this statement relates is not substantially commenced.	Ministerial Statement 780 dated 19 Jan 2009	Stage 1 commenced 2011, completed 2015; Stage 2 (Lot 900) in preliminary stages	Overall	Commence implementation by 19 January 2014.	C
780:M3.2	Time Limit of Authorisation to commence	The proponent shall provide the CEO of the Department of Environment and Conservation with written evidence which demonstrates that the proposal has substantially commenced on or before the expiration of five years from the date of this statement.	Completed	Letter to the CEO demonstrating that the proposal has substantially commenced.	Overall	Within one month of commencement.	CLD
780:M4.1	Compliance Reporting	The proponent shall submit to the CEO of the Department of Environment and Conservation environmental compliance reports annually reporting on the previous twelve-month period,	Compliance reporting, with 2017 compliance report prepared and submitted 19 January 2017.	CR	Overall	Annually by 19 January each year unless required more frequently.	C

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status
		unless required by the CEO of the Department of Environment and Conservation to report more frequently.					
780:M4.2	Compliance Reporting	The environmental compliance reports shall address each element of an audit program approved by the CEO of the Department of Environment and Conservation and shall be prepared and submitted in a format acceptable to the CEO of the Department of Environment and Conservation	Audit template provided by OEPA, audited annually by Natural Area and included in Annual Compliance Report	Audit program and CR.	Overall	Annually	C
780:M4.3	Compliance Reporting	Submission of Environmental Compliance Reports.	The environmental compliance reports shall: 1.be endorsed by signature of the proponents Managing Director or a person, approved in writing by the CEO of the Department of Environment and Conservation, delegated to sign on behalf of the proponents Managing Director; 2.state whether the proponent has complied with each condition and procedure contained in this statement; 3.provide verifiable evidence of compliance with each condition and procedure contained in this statement; 4.state whether the proponent has complied with each key action contained in any environmental management plan or program required by this statement; 5.provide verifiable evidence of conformance with each key action contained in any environmental management plan or program required by this statement; 6.identify all non-compliances and non-conformances and describe the corrective and preventative actions taken in relation to each non-compliance or non-conformance; 7.review the effectiveness of all corrective and preventative actions taken; and 8.describe the state of implementation of the proposal.	CR	Overall	Annually	C
780:M4.4	Compliance Reporting	The proponent shall make the environmental compliance reports required by condition 4-1 publicly available in a manner approved by the CEO of the Department of Environment and Conservation	In accordance with Proposal Implementation Monitoring Section Đ Fact Sheet 1 Đ Draft - Making Documents Publicly Available Đ May 2009.	Available on college website: http://rehoboth.wa.edu.au/our-story/public-reports/	Overall	Within 2 weeks of submission to OEPA.	C

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status
780:M5.1	Performance Review and Reporting	The proponent shall submit to the CEO of the Department of Environment and Conservation Performance Review Reports at the conclusion of the first, third, fifth, seventh and ninth years after the start of implementation of the proposal and then, at such intervals as the CEO of the Department of Environment and Conservation may regard as reasonable.	The Performance Review Reports shall address: 1.the major environmental risks and impacts; the performance objectives, standards and criteria related to these; the success of risk reduction/impact mitigation measures and results of monitoring related to the management of the major risks and impacts; 2.the level of progress in the achievement of sound environmental performance, including industry benchmarking, and the use of best available technology where practicable; and 3.significant improvements gained in environmental management which could be applied to this and other similar projects.	Performance Review Reports, with third report submitted 27 January 2016.	Overall	At the conclusion of the first, third, fifth, seventh and ninth years after the start of implementation of the proposal and then, at such intervals as the CEO of the DEC may regard as reasonable.	C
780:M6.1	Wetland and Vegetation Rehabilitation Plan	Prior to commencement of ground disturbance activities, the proponent shall prepare and submit a Wetland and Vegetation Rehabilitation Plan.	The plan shall meet the objectives set out in Condition 6-3 and the requirements of Condition 6-4 as determined by the CEO of the Department of Environment and Conservation.	Wetland and Vegetation Rehabilitation Plan for Lot 107 completed, letter from OEPA dated 25 October 2016.	Design	Prior to commencement of ground disturbance activities.	CLD
780:M6.2	Wetland and Vegetation Rehabilitation Plan	In preparing the Plan the proponent shall consult with the DEC and Department of Water (DoW).		Wetland and Vegetation Rehabilitation Plan for Lot 107 completed, letter from OEPA dated 25 October 2016.	Design	Prior to commencement of ground disturbance activities.	CLD
780:M6.3	Wetland and Vegetation Rehabilitation Plan	Prepare and submit a Wetland and Vegetation Rehabilitation Plan	The objectives of the Plan are to: 1.ensure full rehabilitation of not less than 0.18 hectares of Threatened Ecological Community claypan wetlands (refer to area delineated on Figure 2); 2.ensure partial rehabilitation of not less than 0.66 hectares of Threatened Ecological Community claypan wetlands (refer to area delineated on Figure 2) and; 3.ensure protection of endemic fauna.	Wetland and Vegetation Rehabilitation Plan for Lot 107 completed, letter from OEPA dated 25 October 2016.	Design	Prior to commencement of ground disturbance activities.	CLD
780:M6.4	Wetland and Vegetation Rehabilitation	Prepare and submit a Wetland and Vegetation Rehabilitation Plan	The Plan shall include management measures for: 1.identification and protection of endemic fauna; 2.removal of weeds; 3.installation of fencing prior to site works; 4.revegetation or rehabilitation with appropriate local species; and 5.implementation of the rehabilitation works by people with demonstrated expertise in rehabilitating wetlands	Wetland and Vegetation Rehabilitation Plan for Lot 107 completed, letter from OEPA dated 25 October 2016.	Design	Prior to commencement of ground disturbance activities.	CLD
780:M6.5	Wetland and Vegetation Rehabilitation Plan	The proponent shall implement the Wetland Management Plan required by condition 6-1.	Annual Compliance Reports to 2016	Wetland and Vegetation Rehabilitation Plan for Lot 107 completed, letter from OEPA dated 25 October 2016.	Overall	Post construction	CLD

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status
780:M7.1	Conservation Covenant	Prior to commencement of ground disturbance activities, the proponent shall enter into a Conservation Covenant with a suitable covenant agency for the Conservation Area delineated in Figure 3 (attached) that will adequately protect the wetland and vegetation values, to the satisfaction of the CEO of the Department of Environment and Conservation.	The covenant shall: 1. ensure conservation of the Declared Rare Flora and Threatened Ecological Communities on site; 2.conserve the Conservation Category Wetland values and valuable linkages to other remnant vegetation and the Greater Brixton Street Wetlands; and 3. prohibit future development of the remaining undeveloped portion of Lot 107.	Conservation Covenant with a suitable covenant agency. Completed, OEPA letter dated 25 October 2016.	Design	Prior to commencement of ground disturbance activities.	CLD
780:M8.1	Wetland and Vegetation Management Plan	Prior to commencement of ground disturbance activities, the proponent shall prepare and submit a Wetland and Vegetation Management Plan.	The plan shall meet the objectives set out in Condition 8-3 and the requirements of Condition 8-4 as determined by the CEO of the Department of Environment and Conservation.	Wetland and Vegetation Management Plan, for Lot 107 no longer applicable as works completed. New management plan in preparation for Lot 900 and to be approved prior to ground disturbing activities.	Design	Prior to commencement of ground disturbance activities.	IP
780:M8.2	Wetland and Vegetation Management Plan	In preparing the Plan the proponent shall consult with the DEC and DoW.		Wetland and Vegetation Management Plan, for Lot 107 no longer applicable as works completed. New management plan in preparation for Lot 900 and to be approved prior to ground disturbing activities.	Design	Prior to commencement of ground disturbance activities.	IP
780:M8.3	Wetland and Vegetation Management Plan	Prepare and submit a Wetland and Vegetation Management Plan.	The objectives of the Plan are to ensure: 1.ongoing management of the Conservation Area, which includes the Declared Rare Flora, Threatened Ecological Communities and the Conservation Category Wetland (See Figure 3) and; 2. ongoing management of the developed site (post-construction).	Wetland and Vegetation Management Plan, for Lot 107 no longer applicable as works completed. New management plan in preparation for Lot 900 and to be approved prior to ground disturbing activities.	Design	Prior to commencement of ground disturbance activities.	IP
780:M8.4	Wetland and Vegetation Management Plan	Prepare and submit a Wetland and Vegetation Management Plan.	The Plan shall include management measures for: 1. identification and protection of endemic fauna; 2. provision and maintenance of ecological linkages; 3. provision of a densely vegetated strip of no less than 10 metres between the development boundary and the wetland; 4. maintenance of fencing; 5. ongoing weeding; 6. ongoing planting of appropriate local species; 7. maintenance of rehabilitation plantings to ensure successful establishment; 8. ongoing monitoring of wetland and vegetation condition; 9. maintenance of paths and access areas; 10. identification and protection of Aboriginal sites; and 11. fire protection	Wetland and Vegetation Management Plan, for Lot 107 no longer applicable as works completed. New management plan in preparation for Lot 900 and to be approved prior to ground disturbing activities.	Design	Prior to commencement of ground disturbance activities.	IP

Audit Code	Subject	Requirement	How	Evidence	Phase	Timeframe	Status
780:M8.5	Wetland and Vegetation Management Plan	The proponent shall implement the Wetland Management Plan required by condition 8-1.		New management plan for Lot 900 in preparation, not yet approved or implemented	Overall		NR
780:M9.1	Drainage and Nutrient Management Plan	Prior to commencement of ground disturbance activities, the proponent shall prepare and submit a Drainage and Nutrient Management Plan.	The plan shall meet the objectives set out in Condition 9-3 and the requirements of Condition 9-4 as determined by the CEO of the Department of Environment and Conservation.	Drainage and Nutrient Management Plan for Lot 107 no longer applicable as works completed. New management plan being prepared by Hyd2O on behalf of the college for Lot 900.	Design	Prior to commencement of ground disturbance activities.	IP
780:M9.2	Drainage and Nutrient Management Plan	In preparing the Plan the proponent shall consult with the DEC and DoW.		Drainage and Nutrient Management Plan for Lot 107 no longer applicable as works completed. New management plan being prepared by Hyd2O on behalf of the college for Lot 900.	Design	Prior to commencement of ground disturbance activities.	IP
780:M9.3	Drainage and Nutrient Management Plan	Prepare and submit a Drainage and Nutrient Management Plan.	The objectives of the Plan are to: 1.Protect the environmental values of the wetland, adjacent wetlands and waterways; 2.Ensure that the hydrological regime of the conserved wetland is maintained; 3.Prevent or minimise impacts of nutrients, sediments and other pollutants from stormwater on the water quality of the wetland; and 4.Avoid acid sulphate soil drainage impacts on the wetland.	Drainage and Nutrient Management Plan for Lot 107 no longer applicable as works completed. New management plan being prepared by Hyd2O on behalf of the college for Lot 900.	Design	Prior to commencement of ground disturbance activities.	IP
780:M9.4	Drainage and Nutrient Management Plan	Prepare and submit a Drainage and Nutrient Management Plan.	The Plan shall include management measures for: 1.Acid sulphate soils, including an investigation that details the potential for acid sulphate soils relating to the installation of the perimeter drain and that the subsequent recommendations in the event that ASS be present; 2.Drainage of the site and its potential impacts on the wetland; 3.Stormwater management, including installation of detention basins to minimise impacts of nutrients, sediments and other pollutants on the water quality of the wetland; and 4. Nutrient and irrigation management	Drainage and Nutrient Management Plan for Lot 107 no longer applicable as works completed. New management plan being prepared by Hyd2O on behalf of the college for Lot 900.	Design	Prior to commencement of ground disturbance activities.	IP
780:M9.5	Drainage and Nutrient Management Plan	The proponent shall implement the Drainage and Nutrient Management Plan required by condition 9-1.		Not required – new plan in preparation.	Overall	Not required	NR

7.0 Glossary

ANZECC	Australian and New Zealand Environment and Conservation Council
ARI	Assessment on Referral Information; assessment level under Part IV of the *Environmental Protection Act 1986* (WA) set by the Environmental Protection Authority (EPA) whereby the assessment is carried out on the basis of information submitted by the proponent
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
CCW	Conservation category wetland as defined by the wetlands branch of the Department of Parks and Wildlife (DPaW) and listed on the Geomorphic Wetlands Swan Coastal Plain Dataset
DEC	Department of Environment and Conservation; now DER and DPaW
DER	Department of Environment Regulation
DPaW	Department of Parks and Wildlife
EMP	Environmental management plan, prepared as an environmental approval condition
EPA	Environmental Protection Authority (Western Australia)
OEPA	Office of the Environmental Protection Authority
TEC	Threatened ecological community declared or listed under the *Wildlife Conservation Act 1950* (WA) (and/or the *Environmental Protection and Biodiversity Conservation Act 1999* (Cwlth))

8.0 References

Australian and New Zealand Environment Conservation Council (ANZECC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ), (2000), *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, available World Wide Web URL: http://www.environment.gov.au/system/files/resources/53cda9ea-7ec2-49d4-af29-d1dde09e96ef/files/nwqms-guidelines-4-vol1.pdf, accessed January 2017.

Environmental Protection Authority, (2007), *Bulletin 1249, Report and Recommendations: Extension of Rehoboth Christian School, 92 Kenwick Road, Kenwick*, available World Wide Web URL: http://www.epa.wa.gov.au/EIA/EPAReports/Pages/default.aspx?cat=EPA Reports&url=EIA/EPAReports&a=Y&ind=4, accessed January 2012.

Fairlamb, R., (2017), Accountant, Rehoboth Christian College, Personal Communication.

Office of Environmental Protection Authority, (2009), *Statement that a Proposal May be Implemented (Pursuant to the Provisions of the Environmental Protection Act 1986) – Extension of Rehoboth Christian School 92 Kenwick Road, Kenwick, City of Gosnells*, available World Wide Web URL: http://www.epa.wa.gov.au/peia/approvalstatements/Pages/default.aspx?a=Y&ind=3, accessed January 2012.

Office of the Environmental Protection Authority, (2014), *Post Assessment Guideline for Preparing a Compliance Assessment Report*, available World Wide Web URL: http://www.epa.wa.gov.au/sites/default/files/Publications/PAG3%20-%20Preparing%20a%20CAR.pdf, accessed January 2017.

Office of the Environmental Protection Authority (2016), letter dated 25 October 2016 indicating that Lot 105A development is consistent with original approval and that conditions 6 and 7 have been complied with.

Steyn, M., (2016), Chief Executive Officer, Association for Christian Education Inc. (Rehoboth Christian College), Personal Communication.

Wildlife Conservation Act 1950 (WA)

Appendix 1: Lot 900 2016 Flora Survey Report

Natural Area
CONSULTING MANAGEMENT SERVICES

Rehoboth Cristian College

Level 1 Flora Survey
Lot 105A Brixton Street, Kenwick

19 January 2017

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V1	19 January 2017	New document	CW, SH	SB	Final

Executive Summary

Natural Area Consulting Management Services (Natural Area) personnel carried out a level 2 flora survey at Lot 105A (now known as Lot 900) Brixton Street within the City of Gosnells in spring 2016to support the approvals process for proposed development extension for the Rehoboth Christian College.

Ministerial Statement 780 was published on 19 January 2009 indicating that development could occur within the boundaries of the Rehoboth Christian College at 92 Kenwick Road Kenwick, with the approval including Lot 107 and Lot 105A. Building commenced in Lot 107 in 2011. Management of the wetland along with surface and groundwater quality was carried out for a period of four and three years' post-construction respectively, until the EPA confirmed that monitoring was no longer required.

The College has now acquired Lot 105A and is planning how that Lot will be developed (Figure 1). It is envisaged that the southern portion of the site will developed during 2017, with occupation at the commencement of the 2018 school year, with the northern portion developed 2019 with occupancy commencing 2020.

The level 1 flora survey at Lot 105A Brixton Street confirmed:

- the presence of 48 flora species from 20 families, of which 22 were monocotyledons and 26 were dicotyledons
- a total of 16 natives and 33 introduced species
- a high proportion of weeds to native species with 33 (68.7%) being weeds
- the vegetation type was *Melaleuca lateritia* Shrubland
- the vegetation condition ranged from Completely Degraded to Very Good
- no declared rare or priority flora species were present.

Contents

1.0 Introduction

Rehoboth Christian College have initiated a development campaign to expand and upgrade facilities at their Wilson and Kenwick campuses. The development of the Kenwick campus will involve the extension of the school grounds into part of Lot 107 and into Lot 105A, Brixton Street Kenwick. In a Ministerial Statement (Statement No. 780 19/01/2009) in relation to the Kenwick development proposal, several conditions including compliance reporting and requirements for rehabilitation and management plans was outlined. The Ministerial Statement has since lapsed, however Rehoboth Christian College plan to resubmit the proposal to undertake expansion works.

Natural Area Consulting Management Services (Natural Area) were contracted by Rehoboth Christian College to undertake a Level 1 Flora assessment of Lot 105A (now known as Lot 900) Brixton Street Kenwick to support the environmental (clearing) approvals process associated with the proposed development. the objectives of the survey were to determine the vegetation type and condition, determine the occurrence of potential declared rare or priority flora on site, and compile a list of native and non-native flora present.

1.1 Scope of Works

Natural Area's scope of works associated with the surveys included the following:

- describe the physical characteristics of the site in terms of topography, geology and hydrology
- identify the floristic community types found within and around the site
- undertake searches of various State and Federal databases to identify the likely presence of declared rare or priority flora species and/or threatened or prioritiy ecological communities
- document results.

1.2 Site Location

The site is located at Lot 105A (now known as Lot 900) Brixton Street, Kenwick approximately 10 km south east of Perth Central District within the City of Gosnells (Figure 1).

Figure 1:
Location—Lot 105a Brixton Street, Kenwick

2.0 Site Characteristics

The flora and vegetation found at any location are directly influenced by several key factors including:

- climate
- soils
- topography
- disturbance processes, such as land clearing and weed infestation.

2.1 Regional Context

According to Interim Biogeographical Regionalisation of Australia (IBRA) descriptions, Perth is located within the Swan Coastal Plain region. The Swan Coastal Plain comprises two major divisions, the Swan Coastal Plain 1 - Dandaragan Plateau and Swan Coastal Plain 2 - Perth Coastal Plain (Mitchell, Williams and Desmond, 2002), with the survey site located in the latter.

2.2 Climate

The climate experienced in the area is Mediterranean, with dry, hot summers and cool, wet winters. According to the Bureau of Meteorology (Perth Airport, Station ID 009021, 2016):

- average rainfall is 771.6 mm pa, with the majority falling between May and August;
- average maximum temperature ranges from 17.9 ^{o}C in winter to 31.9 ^{o}C in summer, with the highest recorded maximum being 46.7 ^{o}C;
- average minimum temperatures range from 8.0 ^{o}C in winter to 17.5 ^{o}C in summer, with the lowest recorded minimum being -1.3 ^{o}C; and
- predominant wind directions include morning easterlies and westerly sea breezes during summer months, with an average wind speed of 23.8 km/h and gusts of more than 100 km/h.

2.3 Soils

According to the Shared Land Information Portal – Natural Resource Management maintained by the Department of Agriculture and Food (WA), the soil type of Lot 105A is EnvGeol Cs Phase (213Pj_Cs), which is sandy clay, white grey to brown, fine to coarse grained, sub angular to rounded sand, clay of moderate plasticity gravel and silt layers near scarp (Figure 2).

2.4 Topography

Topography at 105A Brixton Street is flat land, at an elevation of 9 m Australian Height Datum (AHD) (Figure 3).

Figure 2:
Soils — Lot 105a Brixton Street, Kenwick

Client: Rehoboth Christian College
Project: Lot 05a Brixton Street , Kenwick
Image Source: NearMap, 2016
Prepared by: Caitlyn White
Datum: GDA 94, Zone 50

Figure 3:
Contours— Lot 105a Brixton Street, Kenwick

N

Client: Rehoboth Christian College
Project: Lot 05a Brixton Street , Kenwick
Image Source: NearMap, 2016
Prepared by: Caitlyn White
Datum: GDA 94, Zone 50

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Metres

3.0 Flora and Vegetation Survey Methodology

3.1 Objectives

The objective of the flora and vegetation survey is to determine the flora and vegetation values at the site and use the outcomes to assist with the development process.

3.2 Desktop and Literature Review

The level 1 flora and vegetation survey was carried out in accordance with EPA Guidance Statement 51 – Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia (Environmental Protection Authority, 2004), and included a desktop review of literature and databases and ground-truthing information.

The desktop flora and vegetation survey was undertaken to determine the:

- current extent of native vegetation
- general floristic community types
- likely presence of threatened or priority flora species
- likely presence of any threatened or priority ecological communities.

The following databases were used to gather the above information:

- NatureMap (DPaW, 2016b)
- NRInfo (Department of Agriculture and Food, 2016)
- FloraBase (DPaW, 2016a)
- Protected Matters Search Tool (Department of the Environment and Energy (DEE), 2016b) (Cwlth).

The area nominated for each of the searches included a 2 km buffer around a central point within the site.

3.3 On-ground Methodology

Information obtained during the desktop activities was ground-truthed during a visit to the site on October 19, 2016. Natural Area botanist Sharon Hynes led the flora and vegetation assessments.

The team traversed the site on foot to assess vegetation type, conditions and species present; a list of flora species present (native and introduced) was compiled as seen. In addition, the following were assessed:

- native and introduced flora species present
- vegetation type and condition
- presence of declared rare or priority flora.

Key points of interest were recorded using MobileMap software loaded onto a Trimble GPS, the outcomes of which were used to provide graphical representation of results (Section 4). Samples were collected and/or photographs taken where species were not readily known, with various references including FloraBase reviewed to confirm identification.

3.3.1 Flora Species

Flora species were recorded on observation. The list of potential declared rare or priority flora species was used to guide targeted searches for those species. The species list was collated collectively from all site visits, and includes an indication of native and introduced species (weeds).

3.3.2 Vegetation Type

The vegetation type was determined using the structural classes described in Bush Forever Volume 2 (Government of Western Australia, 2000), and records dominant over storey, middle and understorey species. A description of the various structural classes is provided in Table 1.

Table 1: Vegetation structural classes

Life Form/Height Class	Canopy Percentage Cover			
	100 – 70%	**70 – 30%**	**30 - 10%**	**10 – 2 %**
Trees over 30 m	Tall closed forest	Tall open forest	Tall woodland	Tall open woodland
Trees 10 – 30 m	Closed forest	Open forest	Woodland	Open woodland
Trees under 10 m	Low closed forest	Low open forest	Low woodland	Low open woodland
Tree Mallee	Closed tree mallee	Tree mallee	Open tree mallee	Very open tree mallee
Shrub Mallee	Closed shrub mallee	Shrub mallee	Open shrub mallee	Very open shrub mallee
Shrubs over 2 m	Closed tall scrub	Tall open scrub	Tall shrubland	Tall open shrubland
Shrubs 1 – 2 m	Closed heath	Open heath	Shrubland	Open shrubland
Shrubs under 1 m	Closed low heath	Open low heath	Low shrubland	Low open shrubland
Grasses	Closed grassland	Grassland	Open grassland	Very open grassland
Herbs	Closed herbland	Herbland	Open herbland	Very open herbland
Sedges	Closed sedgeland	Sedgeland	Open sedgeland	Very open sedgeland

(Source: Government of Western Australia, 2000)

3.3.3 Vegetation Condition

Vegetation condition was assessed using the rating scale attributed to Keighery in Bush Forever Volume 2 (Government of Western Australia, 2000). A description of the rating scale is provided in Table 2.

Table 2: Vegetation condition ratings

Category		Description
1	Pristine	Pristine or nearly so, no obvious signs of disturbance.
2	Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
3	Very Good	Vegetation structure altered obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
4	Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
5	Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
6	Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

(Source: Government of Western Australia, 2000)

3.4 Limitations

While the surveys were carried out at the optimum time to enable identification of the majority of species present, a number of limitations associated with both desktop and on-site flora surveys remain. These include:

- database searches only provide an indication of what flora species may be present, with on ground surveys required to confirm those actually present
- the differing databases are reliant on information submitted via various reporting mechanisms, so all records of a particular flora species or ecological communities within a specified area may not be complete
- information on flora species provided on some databases include out-of-date species names, meaning that names need to be checked for currency
- herbarium records are largely limited to vouchered specimens
- on-ground surveys indicate species present at the time of the assessment, with species flowering at different times are not always able to be identified
- not all species flower every year.

Despite the various survey limitations, Natural Area estimates that 85 – 90% of species at the Lot 105A site have been recorded.

4.0 Flora and Vegetation Results

4.1 Desktop Review Process

4.1.1 Flora Species

A search of NatureMap (Department of Parks and Wildlife, 2014b) indicated the potential for 517 flora species within a 2 km distance of the Lot 105A site. This included 289 dicotyledons, 222 monocotyledons, 2 Bryopsid (moss), 1 Gymnosperm and 3 Pteridophytes (fern). A copy of the NatureMap Search Report is provided in Attachment 1.

4.1.2 Threatened and Priority Flora Species – State

A search of NatureMap indicated the potential presence of thirty seven threatened or priority flora species listed under the *Wildlife Conservation Act 1950* (WA). When the habitat types of each were reviewed, it was considered that twenty had the potential to occur in or around the site. A list of potential threatened or priority species is provided in Attachment 2, and an explanation of conservation codes in Attachment 3

4.1.3 Threatened Flora Species – Commonwealth

The Protected Matters Search Report indicated that potential for eighteen threatened flora species listed under the *EPBC Act* 1999 (Cwlth) (Department of Environment, 2014a) as potentially being present or having habitat within 2 km of Lot 105A. When the habitat types of each were reviewed, it was considered that six had the potential to occur in or around the site (Attachment 2). A copy of the Protected Matters Search Tool Report is provided in Attachment 4.

4.2 Site Assessment Activities

4.2.1 Flora Species

A total of 48 species were recorded in the survey area from 20 families, of which 22 are monocotyledons and 26 are dicotyledons. This included 16 native and 33 weed species. A list of species identified is provided in Appendix 5. See Appendix 3 for a full description of the requirements of classification for Priority 2 taxa.

4.2.2 Significant Flora

No threatened or priority flora species were found on site during the 2016 spring flora survey.

4.2.3 Vegetation Type

The vegetation type at the site is described as *Melaleuca lateritia* and mixed Shrubland over *Chorizandra enodis* and *Chaetanthus aristatus* sedgeland, with scattered mixed herbs and weedy grasses (Figure 4).

Figure 4: *Melaleuca lateritia* Shrubland within Lot 105A

4.2.4 Vegetation Condition

Vegetation condition was assessed using the rating scale attributed to Keighery in Bush Forever Volume 2 (Government of Western Australia, 2000). Vegetated areas within Lot 105A was assessed as ranging from Completely Degraded to Very Good condition, with a high abundance of weeds throughout the area.

4.2.5 Introduced Flora

A high proportion of weeds were recorded within Lot 105A, with 33 species (68.7%) of the total flora being introduced. Majority of the weeds were Poaceae (grass) species and other understory herbs and geophytes.

Table 4: Examples of native flora species within the site

		
Chorizandra enodis (Black Bristlerush)	*Melaleuca lateritia* (Robin Redbreast Bush)	*Utricularia multifida*
		
Isolepis cernua (Nodding Club-rush)	*Tecticornia halocnemoides* (Shrubby Samphire)	*Chaetanthus aristatus*

Table 5: Examples of introduced flora species within the site

		
**Oenothera mollissima*	**Ehrharta calycina* (Perennial Veldt Grass)	* *Trifolium angustifolium*

5.0 Implications of Results

One vegetation type *Melaleuca lateritia* Shrubland is present throughout Lot 105A, and the vegetation condition ranges from Completely Degraded to Very Good. A high proportion of the 48 species recorded were weeds (68.7%). No declared rare or priority flora species were found on site during the 2016 spring flora survey. There has been *Lepidosperma rostratum* found within the adjacent wetland area, but none was recorded within Lot 105A during survey activities. These outcomes indicate that the proposed clearing of Lot 105A for development would not have significant impacts on the wetland flora.

6.0 References

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Mitchell, Williams and Desmond, (2002), Swan Coastal Plain 2 (SWA2 – Swan Coastal Plain Subregion, available World Wide Web URL: http://www.dec.wa.gov.au/pdf/science/bio_audit/swan_coastal_plain02_p606-623.pdf, accessed October 2016.

Wildlife Conservation Act 1950 (WA)

Attachment 1: NatureMap Report

NatureMap
Mapping Western Australia's biodiversity

NatureMap Species Report

Created By Guest user on 06/12/2016

Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 115° 58' 34" E,32° 01' 51" S
Buffer 2km
Group By Species Group

Species Group	Species	Records
Amphibian	4	26
Bird	65	386
Bryopsid (Moss)	2	2
Dicotyledon	289	740
Fish	2	3
Fungus	15	23
Gymnosperm	1	3
Invertebrate	121	139
Mammal	6	16
Monocotyledon	222	578
Pteridophyte (Fern)	3	5
Reptile	20	50
Slime Mould	2	2
TOTAL	**752**	**1973**

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
Amphibian					
1.	25398	*Crinia georgiana (Quacking Frog)*			
2.	25400	*Crinia insignifera (Squelching Froglet)*			
3.	25410	*Heleioporus eyrei (Moaning Frog)*			
4.	25433	*Pseudophryne guentheri (Crawling Toadlet)*			
Bird					
5.	24260	*Acanthiza apicalis (Broad-tailed Thornbill, Inland Thornbill)*			
6.	24261	*Acanthiza chrysorrhoa (Yellow-rumped Thornbill)*			
7.	24265	*Acanthiza uropygialis (Chestnut-rumped Thornbill)*			
8.	24560	*Acanthorhynchus superciliosus (Western Spinebill)*			
9.	24316	*Anas superciliosa (Pacific Black Duck)*			
10.	24561	*Anthochaera carunculata (Red Wattlebird)*			
11.	24562	*Anthochaera lunulata (Western Little Wattlebird)*			
12.	41324	*Ardea modesta (Eastern Great Egret)*		IA	
13.	24340	*Ardea novaehollandiae (White-faced Heron)*			
14.		*Barnardius zonarius*			
15.	42307	*Cacomantis pallidus (Pallid Cuckoo)*			
16.	24731	*Calyptorhynchus banksii subsp. naso (Forest Red-tailed Black-Cockatoo)*		T	
17.	24734	*Calyptorhynchus latirostris (Carnaby's Cockatoo (short-billed black-cockatoo), Carnaby's Cockatoo)*		T	
18.	24321	*Chenonetta jubata (Australian Wood Duck, Wood Duck)*			
19.	24399	*Columba livia (Domestic Pigeon)*	Y		
20.	24361	*Coracina maxima (Ground Cuckoo-shrike)*			
21.	25568	*Coracina novaehollandiae (Black-faced Cuckoo-shrike)*			
22.	24363	*Coracina novaehollandiae subsp. subpallida (Black-faced Cuckoo-shrike)*			
23.	25592	*Corvus coronoides (Australian Raven)*			
24.	24417	*Corvus coronoides subsp. perplexus (Australian Raven)*			
25.	25595	*Cracticus tibicen (Australian Magpie)*			
26.	24422	*Cracticus tibicen subsp. dorsalis (White-backed Magpie)*			
27.	25596	*Cracticus torquatus (Grey Butcherbird)*			
28.	30901	*Dacelo novaeguineae (Laughing Kookaburra)*	Y		
29.		*Egretta novaehollandiae*			
30.		*Elanus axillaris*			
31.		*Eolophus roseicapillus*			
32.	25622	*Falco cenchroides (Australian Kestrel)*			
33.	24472	*Falco cenchroides subsp. cenchroides (Australian Kestrel)*			
34.		*Gallus gallus*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
35.	24271	*Gerygone fusca subsp. fusca (Western Gerygone)*			
36.	24443	*Grallina cyanoleuca (Magpie-lark)*			
37.	24295	*Haliastur sphenurus (Whistling Kite)*			
38.	24491	*Hirundo neoxena (Welcome Swallow)*			
39.	25629	*Hirundo nigricans (Tree Martin)*			
40.	24492	*Hirundo nigricans subsp. nigricans (Tree Martin)*			
41.	25661	*Lichmera indistincta (Brown Honeyeater)*			
42.	24551	*Malurus pulcherrimus (Blue-breasted Fairy-wren)*			
43.	24552	*Malurus splendens subsp. splendens (Splendid Fairy-wren)*			
44.	24583	*Manorina flavigula (Yellow-throated Miner)*			
45.	24598	*Merops ornatus (Rainbow Bee-eater)*		IA	
46.		*Microcarbo melanoleucos*			
47.	25680	*Pachycephala rufiventris (Rufous Whistler)*			
48.	25682	*Pardalotus striatus (Striated Pardalote)*			
49.	24628	*Pardalotus striatus subsp. murchisoni (Striated Pardalote)*			
50.	24648	*Pelecanus conspicillatus (Australian Pelican)*			
51.	24409	*Phaps chalcoptera (Common Bronzewing)*			
52.	24596	*Phylidonyris novaehollandiae (New Holland Honeyeater)*			
53.	24841	*Platalea flavipes (Yellow-billed Spoonbill)*			
54.		*Purpureicephalus spurius*			
55.	25614	*Rhipidura leucophrys (Willie Wagtail)*			
56.	30948	*Smicrornis brevirostris (Weebill)*			
57.	25589	*Streptopelia chinensis (Spotted Turtle-Dove)*	Y		
58.	25590	*Streptopelia senegalensis (Laughing Turtle-Dove)*	Y		
59.	24331	*Tadorna tadornoides (Australian Shelduck, Mountain Duck)*			
60.	24844	*Threskiornis molucca (Australian White Ibis)*			
61.	24845	*Threskiornis spinicollis (Straw-necked Ibis)*			
62.	25549	*Todiramphus sanctus (Sacred Kingfisher)*			
63.	25723	*Trichoglossus haematodus (Rainbow Lorikeet)*			
64.	24755	*Trichoglossus haematodus subsp. moluccanus (Rainbow Lorikeet)*	Y		
65.	24806	*Tringa glareola (Wood Sandpiper)*		IA	
66.	24808	*Tringa nebularia (Common Greenshank)*		IA	
67.	44611	*Tringa stagnatalis (Marsh Sandpiper)*		IA	
68.	24849	*Turnix varia subsp. varia (Painted Button-quail)*			
69.	25765	*Zosterops lateralis (Grey-breasted White-eye, Silvereye)*			
Bryopsid (Moss)					
70.	32330	*Bryum argenteum*			
71.	32376	*Gemmabryum dichotomum*			
Dicotyledon					
72.	19708	*Abutilon grandifolium*	Y		
73.	3374	*Acacia huegelii*			
74.	3409	*Acacia lasiocarpa (Panjang)*			
75.	11611	*Acacia lasiocarpa var. lasiocarpa*			
76.	17861	*Acacia longifolia*	Y		
77.	17860	*Acacia podalyriifolia*	Y		
78.	30032	*Acacia saligna subsp. saligna*			
79.	3541	*Acacia sessilis*			
80.	3557	*Acacia stenoptera (Narrow Winged Wattle)*			
81.	7811	*Acanthospermum hispidum (Starburr)*	Y		
82.	1775	*Adenanthos cygnorum (Common Woollybush)*			
83.	1732	*Allocasuarina humilis (Dwarf Sheoak)*			
84.	2648	*Alternanthera denticulata (Lesser Joyweed)*			
85.	2652	*Alternanthera nodiflora (Common Joyweed)*			
86.	7820	*Ambrosia artemisiifolia (Annual Ragweed, Bitterweed, Hay-feverweed, Hog-weed)*	Y		Y
87.	7821	*Ambrosia psilostachya (Perennial Ragweed)*	Y		
88.	6309	*Andersonia gracilis*		T	
89.	7833	*Angianthus preissianus*			
90.	12724	*Anthotium junciforme*			
91.	7838	*Arctotheca calendula (Cape Weed, African Marigold)*	Y		
92.	20350	*Astartea affinis*			
93.	6334	*Astroloma pallidum (Kick Bush)*			
94.	36441	*Babingtonia camphorosmae (Camphor Myrtle)*			
95.	45402	*Babingtonia urbana (Coastal Plain Babingtonia)*		P3	
96.	1800	*Banksia attenuata (Slender Banksia, Piara)*			
97.	32580	*Banksia dallanneyi var. dallanneyi*			
98.	1834	*Banksia menziesii (Firewood Banksia)*			
99.	1852	*Banksia telmatiaea (Swamp Fox Banksia)*			
100.	15037	*Bartsia trixago*	Y		
101.	5393	*Beaufortia squarrosa (Sand Beaufortia, Sand Bottlebrush, Puno)*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
102.	16636	*Boronia crenulata subsp. viminea*			
103.	4414	*Boronia cymosa (Granite Boronia)*			
104.	4438	*Boronia ramosa*			
105.	3710	*Bossiaea eriocarpa (Common Brown Pea)*			
106.	7867	*Brachyscome bellidioides*			
107.	2854	*Calandrinia granulifera (Pygmy Purslane)*			
108.	2856	*Calandrinia liniflora (Parakeelya)*			
109.	20096	*Calandrinia sp. Piawaning (A.C. Beauglehole 12257)*		P1	
110.	4717	*Callitriche stagnalis (Common Starwort)*	Y		
111.	5411	*Calothamnus hirsutus*			
112.	5439	*Calytrix angulata (Yellow Starflower)*			
113.	5441	*Calytrix aurea*			
114.	13653	*Calytrix breviseta subsp. breviseta*		T	
115.	5458	*Calytrix flavescens (Summer Starflower)*			
116.	11351	*Cassytha aurea var. hirta*			
117.	2951	*Cassytha flava (Dodder Laurel)*			
118.	2952	*Cassytha glabella (Tangled Dodder Laurel)*			
119.	2957	*Cassytha racemosa (Dodder Laurel)*			
120.	11799	*Cassytha racemosa forma racemosa*			
121.	6539	*Centaurium erythraea (Common Centaury)*	Y		
122.	6214	*Centella asiatica*			
123.	7918	*Centipeda cunninghamii (Common Sneezewood, Gukwonderuk, Old Man Weed)*			
124.	6543	*Cicendia filiformis (Slender Cicendia)*	Y		
125.	7370	*Citrullus lanatus (Pie Melon)*	Y		
126.	4550	*Comesperma calymega (Blue-spike Milkwort)*			
127.	4551	*Comesperma ciliatum*			
128.	14663	*Comesperma griffinii*		P2	
129.	4560	*Comesperma rhadinocarpum (Slender-fruited Comesperma)*		P2	
130.	15041	*Conospermum canaliculatum*			
131.	1875	*Conospermum huegelii (Slender Smokebush)*			
132.	1882	*Conospermum stoechadis (Common Smokebush)*			
133.	1885	*Conospermum triplinervium (Tree Smokebush)*			
134.	13999	*Conospermum undulatum*		T	
135.	6348	*Conostephium pendulum (Pearl Flower)*			
136.	20074	*Conyza sumatrensis*	Y		
137.	17104	*Corymbia calophylla (Marri)*			
138.	7945	*Cotula coronopifolia (Waterbuttons)*	Y		
139.	7947	*Cotula turbinata (Funnel Weed)*	Y		
140.	17701	*Crassula closiana*			
141.	3137	*Crassula colorata (Dense Stonecrop)*			
142.	3138	*Crassula decumbens (Rufous Stonecrop)*			
143.	3142	*Crassula natans*	Y		
144.	11021	*Cuscuta planiflora*	Y		
145.	7454	*Dampiera linearis (Common Dampiera)*			
146.	7462	*Dampiera pedunculata*			
147.	3805	*Daviesia decurrens (Prickly Bitter-pea)*			
148.	19747	*Daviesia decurrens subsp. decurrens*			
149.	3832	*Daviesia physodes*			
150.	7961	*Dittrichia graveolens (Stinkwort)*	Y		
151.	3095	*Drosera erythrorhiza (Red Ink Sundew)*			
152.	3097	*Drosera gigantea (Giant Sundew)*			
153.	15453	*Drosera gigantea subsp. gigantea*			
154.	3098	*Drosera glanduligera (Pimpernel Sundew)*			
155.	3101	*Drosera heterophylla (Swamp Rainbow)*			
156.	3109	*Drosera menziesii (Pink Rainbow)*			
157.	11853	*Drosera menziesii subsp. menziesii*			
158.	13216	*Drosera menziesii subsp. penicillaris*			
159.	3115	*Drosera occidentalis (Western Sundew)*			
160.	13191	*Drosera occidentalis subsp. occidentalis*		P4	
161.	8911	*Drosera rosulata*			
162.	3131	*Drosera stolonifera (Leafy Sundew)*			
163.	33500	*Dysphania ambrosioides (Mexican Tea)*	Y		
164.	17150	*Eremophila glabra subsp. chlorella*		T	
165.	6219	*Eryngium pinnatifidum (Blue Devils)*			
166.	41801	*Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459)*		P3	
167.	41810	*Eryngium sp. Subdecumbens (G.J. Keighery 5390)*		P3	
168.	5580	*Eucalyptus camaldulensis (River Gum, Yabalinyba)*			
169.	3872	*Euchilopsis linearis (Swamp Pea)*			
170.	3880	*Eutaxia virgata*			
171.	31532	*Fumaria muralis subsp. muralis*	Y		

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
172.		*Fumaria sp.*			
173.	20475	*Gastrolobium capitatum*			
174.	16311	*Gazania linearis*	Y		
175.	6587	*Gomphocarpus fruticosus (Narrowleaf Cottonbush)*	Y		
176.	3951	*Gompholobium marginatum*			
177.	3957	*Gompholobium tomentosum (Hairy Yellow Pea)*			
178.	6159	*Gonocarpus nodulosus*			
179.	6160	*Gonocarpus paniculatus*			
180.	6161	*Gonocarpus pithyoides*			
181.	29362	*Goodenia coerulea*			
182.	12551	*Goodenia micrantha*			
183.	7538	*Goodenia pulchella*			
184.	19284	*Goodenia pulchella subsp. Coastal Plain B (L.W. Sage 2336)*			
185.	14282	*Gratiola pubescens*			
186.	1964	*Grevillea bipinnatifida (Fuchsia Grevillea)*			
187.	19628	*Grevillea bipinnatifida subsp. bipinnatifida*			
188.	15839	*Grevillea preissii subsp. preissii*			
189.	13439	*Grevillea thelemanniana subsp. thelemanniana (Spider Net Grevillea)*		T	
190.	2136	*Hakea candolleana*			
191.	2158	*Hakea erinacea (Hedge-hog Hakea)*			
192.	2166	*Hakea incrassata (Marble Hakea)*			
193.	2175	*Hakea lissocarpha (Honey Bush)*			
194.	2197	*Hakea prostrata (Harsh Hakea)*			
195.	31793	*Hakea sp. Eastern coastal plain (G.J. Keighery 8014)*			
196.	2212	*Hakea sulcata (Furrowed Hakea)*			
197.	2214	*Hakea trifurcata (Two-leaf Hakea)*			
198.	3016	*Heliophila pusilla*	Y		
199.	6839	*Hemiandra pungens (Snakebush)*			
200.	5112	*Hibbertia aurea*			
201.	5134	*Hibbertia huegelii*			
202.	5135	*Hibbertia hypericoides (Yellow Buttercups)*			
203.	45534	*Hibbertia hypericoides subsp. hypericoides*			
204.	5148	*Hibbertia mylnei*			
205.	5162	*Hibbertia racemosa (Stalked Guinea Flower)*			
206.	12859	*Hovea trisperma var. trisperma*			
207.	12741	*Hyalosperma cotula*			
208.	6223	*Hydrocotyle alata*			
209.	6226	*Hydrocotyle callicarpa (Small Pennywort)*			
210.	6229	*Hydrocotyle diantha*			
211.	6233	*Hydrocotyle lemnoides (Aquatic Pennywort)*		P4	
212.	5817	*Hypocalymma angustifolium (White Myrtle, Kudjid)*			
213.	5825	*Hypocalymma robustum (Swan River Myrtle)*			
214.	8086	*Hypochaeris glabra (Smooth Catsear)*	Y		
215.	2221	*Isopogon asper*			
216.	2229	*Isopogon dubius (Pincushion Coneflower)*			
217.	7398	*Isotoma pusilla (Small Isotome)*			
218.	16317	*Isotropis cuneifolia subsp. glabra*		P2	
219.	3998	*Jacksonia angulata*			
220.	4010	*Jacksonia floribunda (Holly Pea)*			
221.	4044	*Kennedia prostrata (Scarlet Runner)*			
222.	5832	*Kunzea ericifolia (Spearwood, Pondil)*			
223.	5835	*Kunzea micrantha*			
224.	17461	*Kunzea micrantha subsp. micrantha*			
225.	6374	*Leucopogon conostephioides*			
226.	6445	*Leucopogon squarrosus*			
227.	40803	*Leucopogon squarrosus subsp. squarrosus*			
228.	7676	*Levenhookia pusilla (Midget Stylewort)*			
229.	7677	*Levenhookia stipitata (Common Stylewort)*			
230.	4363	*Linum trigynum (French Flax)*	Y		
231.	36160	*Liparophyllum capitatum*			
232.	8564	*Lotus subbiflorus*	Y		
233.	36375	*Lysimachia arvensis (Pimpernel)*	Y		
234.	36373	*Lysimachia minima*	Y		
235.	6456	*Lysinema ciliatum (Curry Flower)*			
236.	34736	*Lysinema pentapetalum*			
237.	5281	*Lythrum hyssopifolia (Lesser Loosestrife)*	Y		
238.	4079	*Medicago polymorpha (Burr Medic)*	Y		
239.	37580	*Melaleuca acutifolia*			
240.	5881	*Melaleuca brevifolia*			
241.	5926	*Melaleuca lateritia (Robin Redbreast Bush)*			

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242.	5932	*Melaleuca leucadendra*			
243.	20297	*Melaleuca osullivanii*			
244.	5987	*Melaleuca viminea (Mohan)*			
245.	4516	*Melia azedarach (White Cedar)*			
246.	8106	*Millotia tenuifolia (Soft Millotia)*			
247.	7410	*Monopsis debilis*	Y		
248.	37440	*Monopsis debilis var. depressa*	Y		
249.	19585	*Monotaxis grandiflora var. grandiflora*			
250.	14187	*Myriocephalus occidentalis*			
251.	6189	*Myriophyllum crispatum*			
252.	6193	*Myriophyllum echinatum*		P3	
253.	2401	*Nuytsia floribunda (Christmas Tree, Mudja)*			
254.	6138	*Oenothera drummondii (Beach Evening Primrose)*	Y		
255.	16347	*Oenothera laciniata*	Y		
256.	6140	*Oenothera mollissima*	Y		
257.	14292	*Oenothera stricta subsp. stricta*	Y		
258.	8127	*Olearia axillaris (Coastal Daisybush)*			
259.	18255	*Opercularia vaginata (Dog Weed)*			
260.	36200	*Ornduffia submersa*		P4	
261.	4352	*Oxalis glabra*	Y		
262.	4356	*Oxalis pes-caprae (Soursob)*	Y		
263.	4358	*Oxalis purpurea (Largeflower Wood Sorrel)*	Y		
264.	7089	*Parentucellia latifolia (Common Bartsia)*	Y		
265.	7090	*Parentucellia viscosa (Sticky Bartsia)*	Y		
266.	16478	*Pericalymma ellipticum var. floridum*			
267.	2255	*Persoonia angustiflora*			
268.	2262	*Persoonia elliptica (Spreading Snottygobble)*			
269.	20391	*Petrophile juncifolia*			
270.	2299	*Petrophile linearis (Pixie Mops)*			
271.	18529	*Philotheca spicata (Pepper and Salt)*			
272.	11404	*Pimelea imbricata var. major*			
273.	7303	*Plantago lanceolata (Ribwort Plantain)*	Y		
274.	8175	*Podolepis gracilis (Slender Podolepis)*			
275.	8182	*Podotheca angustifolia (Sticky Longheads)*			
276.	8188	*Pogonolepis stricta*			
277.	2416	*Polygonum arenastrum (Sand Wireweed)*	Y		
278.	2419	*Polygonum aviculare (Wireweed)*	Y		
279.	4691	*Poranthera microphylla (Small Poranthera)*			
280.	2884	*Portulaca oleracea (Purslane, Wakati)*			
281.	2716	*Ptilotus declinatus (Curved Mulla Mulla)*			
282.	2720	*Ptilotus esquamatus*			
283.	2742	*Ptilotus manglesii (Pom Poms, Mulamula)*			
284.	2753	*Ptilotus pyramidatus*		T	Y
285.	13312	*Rhodanthe pyrethrum*			
286.	17020	*Robinia pseudoacacia*	Y		
287.	2432	*Rumex conglomeratus (Clustered Dock)*	Y		
288.	6483	*Samolus junceus*			
289.	7368	*Scabiosa atropurpurea (Purple Pincushion)*	Y		
290.	7613	*Scaevola glandulifera (Viscid Hand-flower)*			
291.	7619	*Scaevola lanceolata (Long-leaved Scaevola)*			
292.	6263	*Schoenolaena juncea*			
293.	6033	*Scholtzia involucrata (Spiked Scholtzia)*			
294.	20663	*Senecio multicaulis subsp. multicaulis*			
295.	2909	*Silene gallica (French Catchfly)*	Y		
296.	8225	*Siloxerus humifusus (Procumbent Siloxerus)*			
297.	8231	*Sonchus oleraceus (Common Sowthistle)*	Y		
298.	2316	*Stirlingia latifolia (Blueboy)*			
299.	2317	*Stirlingia simplex*			
300.	18564	*Stylidium aceratum*		P2	
301.	30278	*Stylidium androsaceum*			
302.	7693	*Stylidium brunonianum (Pink Fountain Triggerplant)*			
303.	7696	*Stylidium calcaratum (Book Triggerplant)*			
304.	7712	*Stylidium despectum (Dwarf Triggerplant)*			
305.	7713	*Stylidium dichotomum (Pins-and-needles)*			
306.	7716	*Stylidium diuroides (Donkey Triggerplant)*			
307.	7717	*Stylidium divaricatum (Daddy-long-legs)*			
308.	7721	*Stylidium emarginatum (Biddy-four-legs)*			
309.	7734	*Stylidium guttatum (Dotted Triggerplant)*			
310.	7742	*Stylidium inundatum (Hundreds and Thousands)*			
311.	7756	*Stylidium longitubum (Jumping Jacks)*		P4	

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312.	7768	*Stylidium obtusatum (Pinafore Triggerplant)*			
313.	7771	*Stylidium periscelianthum (Pantaloon Triggerplant)*		P3	
314.	7773	*Stylidium petiolare (Horn Triggerplant)*			
315.	7774	*Stylidium piliferum (Common Butterfly Triggerplant)*			
316.	7782	*Stylidium pulchellum (Thumbelina Triggerplant)*			
317.	7785	*Stylidium repens (Matted Triggerplant)*			
318.	7790	*Stylidium roseoalatum (Pink-wing Triggerplant)*			
319.	45594	*Stylidium tenue subsp. majusculum (Showy Fountain Triggerplant)*			
320.	23511	*Stylidium thesioides (Delicate Triggerplant)*			
321.	7806	*Stylidium utricularioides (Pink Fan Triggerplant)*			
322.	6476	*Styphelia tenuiflora (Common Pinheath)*			
323.	2321	*Synaphea acutiloba (Granite Synaphea)*			
324.	2324	*Synaphea petiolaris (Synaphea)*			
325.	16864	*Synaphea petiolaris subsp. petiolaris*			
326.	18590	*Synaphea sp. Fairbridge Farm (D. Papenfus 696)*		T	
327.	4256	*Templetonia retusa (Cockies Tongues)*			
328.	6280	*Trachymene pilosa (Native Parsnip)*			
329.	4383	*Tribulus terrestris (Caltrop)*	Y		
330.	8251	*Trichocline spathulata (Native Gerbera)*			
331.	17145	*Trifolium angustifolium var. angustifolium*	Y		
332.	4291	*Trifolium arvense (Hare's Foot Clover)*	Y		
333.	4292	*Trifolium campestre (Hop Clover)*	Y		
334.	4295	*Trifolium dubium (Suckling Clover)*	Y		
335.	4737	*Tripterococcus brunonis (Winged Stackhousia)*			
336.	1139	*Trithuria bibracteata*			
337.	1141	*Trithuria submersa*			
338.	8255	*Ursinia anthemoides (Ursinia)*	Y		
339.	38388	*Ursinia anthemoides subsp. anthemoides*	Y		
340.	7138	*Utricularia inaequalis*			
341.	7148	*Utricularia multifida*			
342.	7153	*Utricularia tenella*			
343.	7665	*Velleia trinervis*			
344.	6070	*Verticordia acerosa*			
345.	15431	*Verticordia acerosa var. acerosa*			
346.	12388	*Verticordia acerosa var. preissii*			
347.	6076	*Verticordia densiflora (Compacted Featherflower)*			
348.	15432	*Verticordia densiflora var. densiflora*			
349.	6088	*Verticordia huegelii (Variegated Featherflower)*			
350.	15433	*Verticordia huegelii var. huegelii*			
351.	14714	*Verticordia lindleyi subsp. lindleyi*		P4	
352.	6107	*Verticordia pennigera*			
353.	6110	*Verticordia plumosa (Plumed Featherflower)*			
354.	12449	*Verticordia plumosa var. brachyphylla*			
355.	4322	*Vicia sativa (Common Vetch)*	Y		
356.	12070	*Vicia sativa subsp. sativa*	Y		
357.	4325	*Viminaria juncea (Swishbush, Koweda)*			
358.	7384	*Wahlenbergia capensis (Cape Bluebell)*	Y		
359.	7389	*Wahlenbergia preissii*			
360.	6289	*Xanthosia huegelii*			
Fish					
361.	34028	*Galaxias occidentalis (Western Minnow)*			
362.		*Nannoperca vittata*			
Fungus					
363.	45014	*Amanita quenda*		P1	
364.	43542	*Amanita wadjukiorum*		P3	
365.	38757	*Amanita xanthocephala*			
366.		*Colus pusillus*			
367.	38774	*Cortinarius archeri*			
368.		*Cortinarius sublargus*			Y
369.	38784	*Descomyces albus*			
370.		*Gymnopilus purpuratus*			
371.		*Hygrocybe astatogala*			Y
372.	38804	*Lactarius eucalypti*			
373.		*Phytophthora cinnamomi*			
374.	38825	*Pluteus pauperculus*			
375.		*Pycnoporus coccineus*			
376.		*Scleroderma cepa*			
377.		*Tubaria rufofulva*			

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Gymnosperm					
378.	36600	*Callitris pyramidalis (Swamp Cypress)*			
Invertebrate					
379.		*Agraptocorixa parvipunctata*			
380.		*Ainudrilus nharna*			
381.		*Alboa worooa*			
382.		*Allodessus bistrigatus*			
383.		*Alona affinis*			
384.		*Alona cf. guttata*			
385.		*Alona rigidicaudis*			
386.		*Alona setigera*			
387.		*Alonella clathratula*			
388.		*Aname tepperi*			
389.		*Anisops thienemanni*			
390.		*Anopheles annulipes s.l.*			
391.		*Apsectrotanypus nr maculosa*			
392.		*Arrenurus (Micruracarus) sp. 1 (SAP)*			
393.		*Artoria linnaei*			
394.		*Austracantha minax*			
395.		*Austrolestes analis*			
396.		*Austrolestes io*			
397.		*Bennelongia sp.*			
398.		*Berosus approximans*			
399.		*Berosus australiae*			
400.		*Bezzia sp.*			
401.		*Bezzia sp. 2 (SAP)*			
402.		*Boeckella bispinosa*			
403.		*Brachionus quadridentatus*			
404.		*Candonocypris novaezelandiae*			
405.		*Ceinidae sp.*			
406.		*Cephalodella gibba*			
407.		*Ceratopogonidae sp.*			
408.		*Ceriodaphnia sp.*			
409.		*Chaoboridae sp.*			
410.		*Cherax destructor*			
411.		*Cherax quinquecarinatus*			
412.		*Chironominae sp.*			
413.		*Chydorus sp.*			
414.		*Coenagrionidae sp.*			
415.		*Corixidae sp.*			
416.		*Cormocephalus aurantiipes*			
417.		*Cormocephalus strigosus*			
418.		*Corynoneura sp. (V49) (SAP)*			
419.		*Cricotopus 'brevicornis'*			
420.		*Cryptochironomus griseidorsum*			
421.		*Culex (Culex) annulirostris*			
422.		*Culicoides sp.*			
423.		*Cypretta sp.*			
424.		*Cyprinotus cingalensis*			
425.		*Diaphanosoma sp.*			
426.		*Diptera sp.*			
427.		*Dolichopodidae sp.*			
428.		*Dunhevedia crassa*			
429.		*Dytiscidae sp.*			
430.		*Ephydridae sp.*			
431.		*Euchlanis sp.*			
432.		*Eylais sp.*			
433.		*Glacidorbidae sp.*			Y
434.		*Glyptophysa sp*			
435.		*Gripopterygidae sp.*			
436.		*Haliplus gibbus*			
437.		*Hebridae sp.*			
438.		*Hemianax papuensis*			
439.		*Hemicordulia tau*			
440.		*Hemicorduliidae sp.*			
441.		*Hydrophilidae sp.*			
442.		*Ilyocryptus sp.*			
443.		*Ilyodromus sp.*			
444.		*Isidorella sp.*			
445.		*Lacrimicypris "drummondi" n.sp. (SAP)*			

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446.		*Latonopsis brehmi*			
447.		*Leberis aenigmatosa*			
448.	33981	*Leioproctus bilobatus (bee)*		P2	
449.	33983	*Leioproctus douglasiellus (bee)*		T	
450.		*Leptoceridae sp.*			
451.		*Libellulidae sp.*			
452.		*Limbodessus shuckhardi*			
453.		*Limnadia sp.*			
454.		*Limnochares australica*			
455.		*Limnophyes vestitus (V41)*			
456.		*Lynceus sp.*			
457.		*Macrothrix sp.*			
458.		*Maraura macracantha (formerly Alona macrocantha)*			
459.		*Megaporus sp.*			
460.		*Mesocyclops brooksi*			
461.		*Microcyclops varicans*			
462.		*Microvelia sp.*			
463.		*Missulena granulosa*			
464.		*Mitzoruga insularis*			
465.		*Monohelea sp. 1 (SAP)*			
466.		*Monohelea sp. 2 (SAP)*			
467.		*Nematoda sp.*			
468.		*Notonectidae sp.*			
469.		*Oligochaeta sp.*			
470.		*Onychohydrus sp.*			
471.		*Oribatida sp.*			
472.		*Orthocladiinae sp.*			
473.		*Orthocladiinae sp. C = V44 Gymnometriocnemus (SAP)*			
474.		*Palaemonidae sp.*			
475.		*Paramerina levidensis*			
476.		*Paramphisopus palustris*			
477.		*Phreatoicidae sp.*			
478.		*Phryganoporus gausapatus subsp. occidentalis*			Y
479.		*Physidae sp.*			
480.		*Planicirclus alticarinatus*			
481.		*Planorbidae sp.*			
482.		*Procladius paludicola*			
483.		*Procladius sp. (normal claws)*			
484.		*Rhantus suturalis*			
485.		*Simocephalus elizabethae*			
486.		*Simuliidae sp.*			
487.		*Spencerhydrus sp.*			Y
488.		*Sternopriscus sp.*			
489.		*Tabanidae sp.*			
490.		*Tanypodinae sp.*			
491.		*Tanytarsus fuscithorax*			
492.		*Tasmanicosa leuckartii*			
493.		*Testudinella patina*			
494.		*Tipulidae sp.*			
495.		*Trichocerca similis*			
496.		*Triplectides australis*			
497.		*Turbellaria sp.*			
498.		*Urodacus novaehollandiae*			
499.		*Venator immansueta*			
Mammal					
500.	24092	*Dasyurus geoffroii (Chuditch, Western Quoll)*		T	
501.	24041	*Felis catus (Cat)*	Y		
502.	25478	*Isoodon obesulus (Southern Brown Bandicoot)*		P5	
503.	24153	*Isoodon obesulus subsp. fusciventer (Quenda, Southern Brown Bandicoot)*		P5	
504.	24099	*Phascogale tapoatafa subsp. tapoatafa (Southern Brush-tailed Phascogale, Wambenger)*		T	
505.	24167	*Tarsipes rostratus (Honey Possum, Noolbenger)*			
Monocotyledon					
506.	1205	*Acanthocarpus canaliculatus*			
507.	23474	*Agrostocrinum hirsutum*			
508.	1261	*Agrostocrinum scabrum (Blue Grass Lily)*			
509.	23501	*Agrostocrinum scabrum subsp. scabrum*			
510.	184	*Aira caryophyllea (Silvery Hairgrass)*	Y		
511.	185	*Aira cupaniana (Silvery Hairgrass)*	Y		

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512.	13380	*Amphibromus nervosus*			
513.	197	*Amphipogon debilis*			
514.	200	*Amphipogon turbinatus*			
515.	1058	*Anarthria gracilis*			
516.	11470	*Anigozanthos bicolor subsp. bicolor*			
517.	1411	*Anigozanthos manglesii (Mangles Kangaroo Paw, Kurulbrang)*			
518.	11261	*Anigozanthos manglesii subsp. manglesii*			
519.	1416	*Anigozanthos viridis (Green Kangaroo Paw, Kurulbardang)*			
520.	11566	*Anigozanthos viridis subsp. viridis*			
521.	1117	*Aphelia cyperoides*			
522.	1118	*Aphelia drummondii*			
523.	43548	*Aphelia sp. Albany (B.G. Briggs 596)*			
524.	141	*Aponogeton hexatepalus (Stalked Water Ribbons)*		P4	
525.	1364	*Asphodelus fistulosus (Onion Weed)*	Y		
526.	17234	*Austrostipa compressa*			
527.	17257	*Austrostipa variabilis*			
528.	233	*Avena barbata (Bearded Oat)*	Y		
529.	18279	*Babiana angustifolia*	Y		
530.	740	*Baumea arthrophylla*			
531.	1272	*Borya scirpoidea*			
532.	1273	*Borya sphaerocephala (Pincushions)*			
533.	244	*Briza maxima (Blowfly Grass)*	Y		
534.	245	*Briza minor (Shivery Grass)*	Y		
535.	249	*Bromus diandrus (Great Brome)*	Y		
536.	1366	*Bulbine semibarbata (Leek Lily)*			
537.	12770	*Burchardia congesta*			
538.	1385	*Burchardia multiflora (Dwarf Burchardia)*			
539.	1277	*Caesia occidentalis*			
540.	1590	*Caladenia ferruginea (Rusty Spider Orchid)*			
541.	1592	*Caladenia flava (Cowslip Orchid)*			
542.	17760	*Caladenia nobilis*			
543.	15503	*Caladenia paludosa*			
544.	1213	*Calectasia cyanea (Blue Tinsel Lily)*		T	
545.	1214	*Calectasia grandiflora (Blue Tinsel Lily)*			
546.	19309	*Calectasia narragara*			
547.	41564	*Cenchrus clandestinus (Kikuyu Grass)*	Y		
548.	1121	*Centrolepis aristata (Pointed Centrolepis)*			
549.	1125	*Centrolepis drummondiana*			
550.	1129	*Centrolepis glabra (Smooth Centrolepis)*			
551.	17685	*Chaetanthus aristatus*			
552.	1280	*Chamaescilla corymbosa (Blue Squill)*			
553.	19338	*Chamaescilla gibsonii*		P3	
554.	1513	*Chasmanthe floribunda (African Cornflag)*	Y		
555.	763	*Chorizandra enodis (Black Bristlerush)*			
556.	764	*Chorizandra multiarticulata*			
557.	11695	*Conostylis festucacea subsp. festucacea*			
558.	1436	*Conostylis juncea*			
559.	11388	*Conostylis pauciflora subsp. euryrhipis*		P4	
560.	1454	*Conostylis setigera (Bristly Cottonhead)*			
561.	768	*Cyathochaeta avenacea*			
562.	769	*Cyathochaeta clandestina*			
563.	40661	*Cycnogeton lineare*			
564.	283	*Cynodon dactylon (Couch)*	Y		
565.	815	*Cyperus tenellus (Tiny Flatsedge)*	Y		
566.	816	*Cyperus tenuiflorus (Scaly Sedge)*	Y		
567.	17692	*Cytogonidium leptocarpoides*			
568.	1218	*Dasypogon bromeliifolius (Pineapple Bush)*			
569.	17691	*Desmocladus fasciculatus*			
570.	11049	*Diuris corymbosa*			
571.	1634	*Diuris laxiflora (Bee Orchid)*			
572.	1637	*Diuris purdiei (Purdie's Donkey Orchid)*		T	
573.	328	*Echinochloa colona (Awnless Barnyard Grass)*	Y		
574.	11105	*Echinochloa crus-galli*	Y		
575.	329	*Echinochloa crus-pavonis (South American Barnyard Grass)*	Y		
576.	347	*Ehrharta calycina (Perennial Veldt Grass)*	Y		
577.	349	*Ehrharta longiflora (Annual Veldt Grass)*	Y		
578.	822	*Eleocharis acuta (Common Spikerush)*			
579.	17605	*Eleocharis keigheryi*		T	
580.	352	*Eleusine coracan*	Y		
581.	353	*Eleusine indica (Crowsfoot Grass)*	Y		

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
582.	376	*Eragrostis curvula (African Lovegrass)*	Y		
583.	379	*Eragrostis elongata (Clustered Lovegrass)*			
584.	907	*Gahnia trifida (Coast Saw-sedge)*			
585.	1520	*Gladiolus caryophyllaceus (Wild Gladiolus)*	Y		
586.	1468	*Haemodorum laxum*			
587.	1469	*Haemodorum loratum*		P3	
588.	1472	*Haemodorum simplex*			
589.	1474	*Haemodorum sparsiflorum*			
590.	1526	*Hesperantha falcata*	Y		
591.	452	*Hyparrhenia hirta (Tambookie Grass)*	Y		
592.	1070	*Hypolaena exsulca*			
593.	910	*Isolepis cernua (Nodding Club-rush)*			
594.	20199	*Isolepis cernua var. cernua*			
595.	20200	*Isolepis cernua var. setiformis*			
596.	912	*Isolepis cyperoides*			
597.	14540	*Isolepis hystrix*	Y		
598.	917	*Isolepis marginata (Coarse Club-rush)*			
599.	919	*Isolepis oldfieldiana*			
600.	1298	*Johnsonia pubescens (Pipe Lily)*			
601.	1180	*Juncus capitatus (Capitate Rush)*	Y		
602.	1221	*Kingia australis (Kingia, Pulonok)*			
603.	20019	*Lachnagrostis filiformis*			
604.	19955	*Lachnagrostis plebeia*			
605.	1307	*Laxmannia ramosa (Branching Lily)*			
606.	11911	*Laxmannia ramosa subsp. ramosa*			
607.	11464	*Laxmannia sessiliflora subsp. australis*			
608.	1309	*Laxmannia squarrosa*			
609.	925	*Lepidosperma angustatum*			
610.	937	*Lepidosperma longitudinale (Pithy Sword-sedge)*			
611.	940	*Lepidosperma pubisquameum*			
612.	942	*Lepidosperma rostratum*		T	
613.	944	*Lepidosperma scabrum*			
614.		*Lepidosperma sp.*			
615.	29150	*Lepidosperma sp. Margaret River (B.J. Lepschi 1841)*			
616.	118	*Lepilaena australis (Austral Water Mat)*			
617.	1653	*Leporella fimbriata (Hare Orchid)*			
618.	1077	*Leptocarpus canus (Hoary Twine-rush)*			
619.	1078	*Leptocarpus coangustatus*			
620.	19241	*Lepyrodia curvescens*		P2	
621.	1085	*Lepyrodia glauca*			
622.	1088	*Lepyrodia macra (Large Scale Rush)*			
623.	1090	*Lepyrodia muirii*			
624.	475	*Lolium multiflorum (Italian Ryegrass)*	Y		
625.	11073	*Lolium x hybridum*	Y		
626.	1223	*Lomandra caespitosa (Tufted Mat Rush)*			
627.	1228	*Lomandra hermaphrodita*			
628.	1229	*Lomandra integra*			
629.	1232	*Lomandra micrantha (Small-flower Mat-rush)*			
630.	14542	*Lomandra micrantha subsp. micrantha*			
631.	1234	*Lomandra nigricans*			
632.	1236	*Lomandra odora (Tiered Matrush)*			
633.	1243	*Lomandra sericea (Silky Mat Rush)*			
634.	1246	*Lomandra suaveolens*			
635.	1097	*Lyginia barbata*			
636.	14985	*Melinis repens*	Y		
637.	955	*Mesomelaena pseudostygia*			
638.	957	*Mesomelaena tetragona (Semaphore Sedge)*			
639.	485	*Microlaena stipoides (Weeping Grass)*			
640.	15419	*Microtis media subsp. media*			
641.	19179	*Moraea flaccida (One-leaf Cape Tulip)*	Y		
642.	19178	*Moraea lewisiae*	Y		
643.	19438	*Moraea ochroleuca*	Y		
644.	492	*Neurachne alopecuroidea (Foxtail Mulga Grass)*			
645.	1381	*Nothoscordum gracile*	Y		
646.	168	*Ottelia ovalifolia (Swamp Lily)*			
647.	14531	*Ottelia ovalifolia subsp. ovalifolia*			
648.	527	*Paspalum dilatatum*	Y		
649.	1550	*Patersonia occidentalis (Purple Flag, Koma)*			
650.	43761	*Pauridia occidentalis var. occidentalis*			
651.	40422	*Pentameris pallida*	Y		

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
652.	20460	*Pheladenia deformis*			
653.	1172	*Philydrella drummondii*			
654.	1173	*Philydrella pygmaea (Butterfly Flowers)*			
655.	1479	*Phlebocarya filifolia*			
656.	571	*Poa annua (Winter Grass)*	Y		
657.	582	*Polypogon monspeliensis (Annual Beardgrass)*	Y		
658.	583	*Polypogon tenellus*			
659.	1670	*Prasophyllum drummondii (Swamp Leek Orchid)*			
660.	1698	*Pterostylis vittata (Banded Greenhood)*			
661.	1556	*Romulea rosea (Guildford Grass)*	Y		
662.	11151	*Rostraria pumila*	Y		
663.	40431	*Rytidosperma acerosum*			
664.	40425	*Rytidosperma caespitosum*			
665.	971	*Schoenus andrewsii*			
666.	974	*Schoenus benthamii*		P3	
667.	975	*Schoenus bifidus*			
668.	978	*Schoenus brevisetis*			
669.	980	*Schoenus capillifolius*		P3	
670.	984	*Schoenus curvifolius*			
671.	985	*Schoenus discifer*			
672.	986	*Schoenus efoliatus*			
673.	987	*Schoenus elegans*			
674.	991	*Schoenus grammatophyllus*			
675.	994	*Schoenus humilis*			
676.	996	*Schoenus laevigatus*			
677.	999	*Schoenus loliaceus*		P2	
678.	1003	*Schoenus natans (Floating Bog-rush)*		P4	
679.	1006	*Schoenus odontocarpus*			
680.	1007	*Schoenus pedicellatus*			
681.	1008	*Schoenus pennisetis*		P3	
682.	1011	*Schoenus rigens*			
683.	1013	*Schoenus sculptus (Gimlet Bog-rush)*			
684.	16280	*Schoenus sp. Beaufort (G.J. Keighery 6291)*		P1	
685.	17731	*Schoenus sp. Waroona (G.J. Keighery 12235)*		P3	
686.	1017	*Schoenus subbulbosus*			
687.	1018	*Schoenus subfascicularis*			
688.	17409	*Schoenus variicellae*			
689.	1558	*Sparaxis bulbifera*	Y		
690.	635	*Sporobolus virginicus (Marine Couch)*			
691.	1036	*Tetraria octandra*			
692.	1701	*Thelymitra antennifera (Vanilla Orchid)*			
693.	1707	*Thelymitra flexuosa (Twisted Sun Orchid)*			
694.	1715	*Thelymitra spiralis (Curlylocks)*			
695.	1718	*Thelymitra villosa (Custard Orchid)*			
696.	1319	*Thysanotus arenarius*			
697.	1338	*Thysanotus manglesianus (Fringed Lily)*			
698.	1348	*Thysanotus rectantherus*			
699.	1351	*Thysanotus sparteus*			
700.	1354	*Thysanotus tenellus*			
701.	1357	*Thysanotus thyrsoideus*			
702.	1358	*Thysanotus triandrus*			
703.	17684	*Tremulina tremula*			
704.	11112	*Tribolium uniolae*	Y		
705.	1481	*Tribonanthes australis*			
706.	1482	*Tribonanthes brachypetala*			
707.	1483	*Tribonanthes longipetala*			
708.	1485	*Tribonanthes violacea*			
709.	1361	*Tricoryne elatior (Yellow Autumn Lily)*			
710.	1362	*Tricoryne humilis*			
711.	33676	*Triglochin calcitrapa*			
712.	147	*Triglochin mucronata*			
713.	148	*Triglochin muelleri*			
714.	18587	*Triglochin nana*			
715.	150	*Triglochin stowardii*			
716.	722	*Vulpia bromoides (Squirrel Tail Fescue)*	Y		
717.	724	*Vulpia myuros (Rat's Tail Fescue)*	Y		
718.	13103	*Watsonia borbonica*	Y		
719.	1566	*Watsonia marginata*	Y		
720.	18108	*Watsonia meriana var. bulbillifera*	Y		
721.	18118	*Watsonia meriana var. meriana*	Y		

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
722.	1569	*Watsonia versfeldii*	Y		
723.	12072	*Wurmbea dioica subsp. alba*			
724.	1251	*Xanthorrhoea brunonis*			
725.	14544	*Xanthorrhoea brunonis subsp. brunonis*			
726.	1256	*Xanthorrhoea preissii (Grass tree, Palga)*			
727.	1049	*Zantedeschia aethiopica (Arum Lily)*	Y		
Pteridophyte (Fern)					
728.	4	*Phylloglossum drummondii (Pigmy Clubmoss)*			
729.	78	*Pilularia novae-hollandiae (Austral Pillwort)*			
730.	6	*Selaginella gracillima (Tiny Clubmoss)*			
Reptile					
731.	42368	*Acritoscincus trilineatus (Western Three-lined Skink)*			
732.	24991	*Aprasia repens (Sand-plain Worm-lizard)*			
733.	42381	*Brachyurophis semifasciatus (Southern Shovel-nosed Snake)*			
734.	30893	*Cryptoblepharus buchananii*			
735.	25027	*Ctenotus australis*			
736.	25766	*Delma fraseri (Fraser's Legless Lizard)*			
737.	25296	*Demansia psammophis subsp. reticulata (Yellow-faced Whipsnake)*			
738.	24939	*Diplodactylus polyophthalmus*			
739.	25133	*Lerista elegans*			
740.	25005	*Lialis burtonis*			
741.	25184	*Menetia greyii*			
742.	25248	*Neelaps bimaculatus (Black-naped Snake)*			
743.	25252	*Notechis scutatus (Tiger Snake)*			
744.	24907	*Pogona minor subsp. minor (Dwarf Bearded Dragon)*			
745.	25261	*Pseudechis australis (Mulga Snake)*			
746.	25259	*Pseudonaja affinis subsp. affinis (Dugite)*			
747.	24983	*Underwoodisaurus milii (Barking Gecko)*			
748.	25218	*Varanus gouldii (Bungarra or Sand Monitor)*			
749.	25225	*Varanus rosenbergi (Heath Monitor)*			
750.	25526	*Varanus tristis (Racehorse Monitor)*			
Slime Mould					
751.	38969	*Arcyria minuta*			
752.	39030	*Enerthenema papillatum*			

Conservation Codes
T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

[1] For NatureMap's purposes, species flagged as endemic are those whose records are wholely contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

Attachment 2: Potential Declared Rare and Priority Flora Species

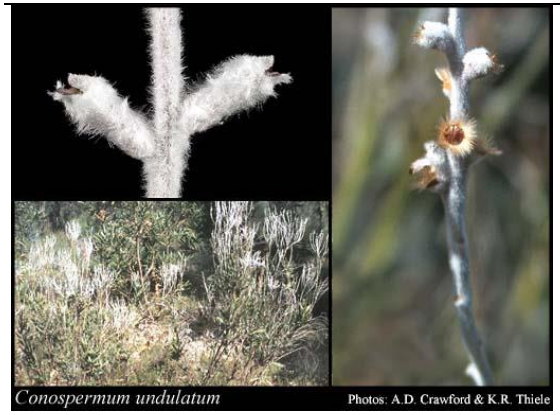
[1] = Conservation code from Nature Map Species Report (West Australian)
[2] = Conservation code from Protect Matters Report (Commonwealth)
[3] = Conservation code from FloraBase (West Australian)

Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
Flora							
		Slender erect or open straggly shrub up to 0.5 m high, Fl. White-pink-purple	September to November	White/grey sand, sandy clay and gravelly loam	T[1,3], En[2]	Y	Soil types suitable. Species recorded in the City of Gosnells

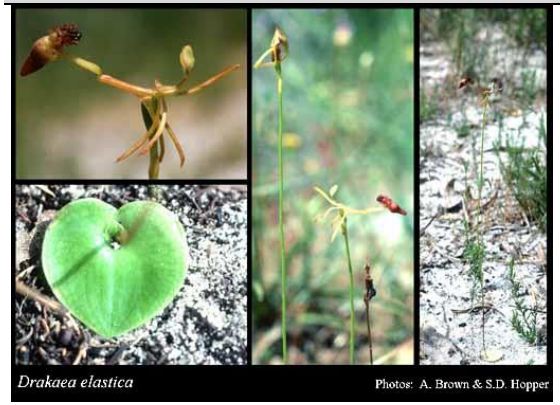
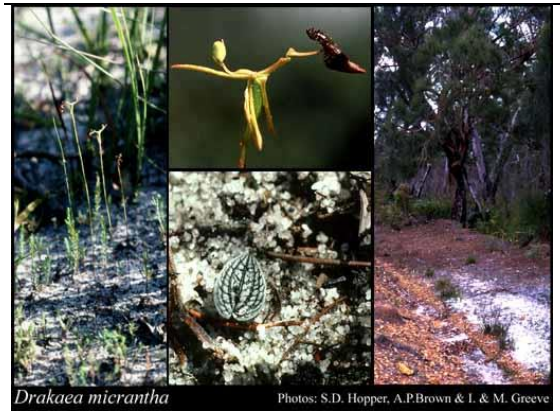
Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
	Stalked water ribbons	Rhizomatous or cormous auatic perennial herb with floating leaves. Fl. Green - white	July to October	Mud and freshwater in ponds rivers and claypans	P4[1,3]	N	Area is only seasonally wet
Babingtonia urbana	Coastal Plain Babingtonia	Information unavailable	Information unavailable	Information unavailable	P3[1,3]	N	
	Summer Honeypot	Prostrate, lignotuberous shrub, up to 0.4 m high. Fl. Yellow-brown	December or January to February	White grey sand over laterite or sandy loam	En[2], T[3]	N	Soil type unsuitable

Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
	Grand Spider Orchid	Tuberous, perennial herb, 0.25 – 0.6m high. Green, cream and red flowers.	September to October.	Grey or brown sand, clay loam.	En[2], T[3]	Y	Soil type is suitable and site is within the species natural distribution
		Decumbent to erect annual herb, Fl. Pink	October	Brown/grey silty sandy loam over granite, near pools, small rises within large saline valley flats and in disturbed shrubland	P1[1,3]	Y	Soil type is suitable and site is within the species natural distribution

Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
	Blue Tinsel Lily	Rhizomatous, clump forming, woody perennial herb 0.1-0.6 m high. Fl. Blue/purple	June to October	White, grey or yellow sand and gravel	T[1,3]	N	Soil type unsuitable and species natural distribution is to the north and south of the site
	Swamp Starflower	Shrub 0.4-1m high Fl. Purple-blue	October to November	Sandy clay and swampy flats	T[1,3], En[2]	Y	Soil type is suitable and site is within the species natural distribution
Chamaescilla gibsonii		Clumped tuberous herb Fl. Blue	September	Clay to sandy clay in winter wet flats and shallow waterfilled claypans	P3[1,3]	Y	Soil type is suitable and site is within the species natural distribution

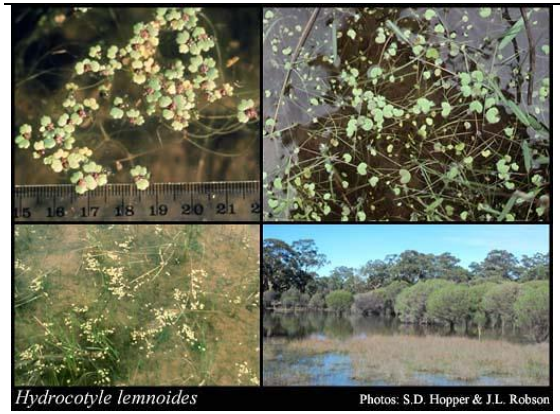
Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
Comesperma griffinii		Annual or perennial herb, up to 0.15 m high. Fl. Pink	October	Yellow or grey sands	P2[1,3]	N	Soil types unsuitable
Comesperma rhadinocarpum	Slender-fruited Comesperma	Perennial herb, Fl. Blue	October to November	Sandy soils	P2[1,3]	N	Soil types unsuitable
		Erect, compact shrub 0.6-2m high, Fl. white	May to October	Grey or yellow-orange clayey sand	T[1,3], Vu[2]	Y	Soil type is suitable and site is within the species natural distribution
		Rhizomatous, stoloniferous perennial, grass-like or herb, 0.06-0.18 m high. Fl. yellow	August to October	White, grey or yellow sand in consolidated dunes	P4[1,3]	N	Soil types unsuitable. Species recorded further north

Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
	Dwarf Bee-orchid	Tuberous, perennial, herb, 0.3-0.6 m high. Fl. yellow & brown.	September to October.	Brown loamy clay. Winter-wet swamps, in shallow water.	Vu[2], T[3]	N	Soil types suitable but species recorded in Kwinana and further south.
	Purdie's Donkey Orchid	Tuberous, perennial, herb, 0.15-0.35 m high. Fl. yellow	September to October.	Grey-black sand, moist. Winter-wet swamps.	T[1,3], En[2]	N	Soil types suitable but species recorded in Kwinana and further south.

Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
	Glossy-leaved Hammer Orchid	Tuberous, perennial, herb, 0.12-0.3 m high. Fl. red & green & yellow.	October to November.	White or grey sand. Low-lying situations adjoining winter-wet swamps	En[2], T[3]	N	Soil type is suitable but site is outside of the species natural distribution
	Dwarf Hammer Orchid	Tuberous, perennial, herb, 0.15-0.3 m high. Fl. red & yellow.	September to October.	White-grey sand.	Vu[2], T[3]	N	Soil type is suitable but site is outside of the species natural distribution
Drosera occidentalis subsp. *occidentalis*		Small rosette perennial, Fl. Pink/white	November to December	Sandy and clayey soils in swamps and wet depressions	P4[1,3]	Y	Soil type is suitable and site is within the species natural distribution

Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
	Keighery's Eleocaheris	Rhizomatous clumped perennial up to 0.4 m Fl. green	August to November	Clay and sandy loam in the emgegent zone of freshwater areas including creeks and claypans	Vu[2], T[3]	Y	Soil type is suitable and site is within the species natural distribution
		Prostrate or spreading shrub, 0.2-1 m high. Fl. Yellow-green	July to November	Sandy clay in winter wet depressions	T[1,3]	Y	Soil type is suitable and site is within the species natural distribution

Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
Eryngium pinnatifidum subsp. *Palustre*		Information unavailable	Information unavailable	Information unavailable	P3[1,3]	N	
Eryngium sp. Subdecumbens		Information unavailable	Information unavailable	Information unavailable	P3[1,3]	N	
	Cadda Road Mallee	Mallee up to 5 m with rough flaky bark. Fl. White	October to December	Sandy soils with lateritic gravel	En[2], T[3]	N	Soil type unsuitable, species natural distribution falls north and south of the site
	Narrow curved-leaf Grevillea	Prostrate to erect shrub 0.1-0.25 m high. Fl. White-cream	August to September	Sand to sandy loam in winter wet heath	En[2], T3	N	Soil type unsuitable, species natural distribution falls north of the site

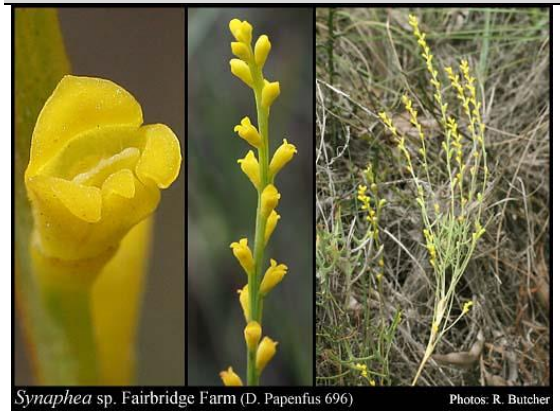
Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
Grevillea thelemanniana subsp. *thelemanniana*	Spider Net Grevillea	Information unavailable	Information unavailable	Information unavailable	T[1,3]	N	
Haemodorum loratum		Bulbasceous perennial herb, 0.45 – 1.2 m high, Fl. Black/brown – black/green	November	Grey or yellow sands and gravel	P3[1,3]	N	Soil type unsuitable, species natural distribution falls north of the site
	Aquatic Pennywort	Aquatic floating annual. Fl. Purple	August to October	Swamps	P4[1,3]	Y	Soil type is suitable and site is within the species natural distribution
Isotropis cuneifolia subsp. *glabra*		Prostrate to ascending spreading perennial. Fl. Yellow/orange and red	September	Sand and clay loam in winter wet flats	P2[1,3]	Y	Soil type is suitable and site is within the species natural distribution

Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
Lepidosperma rostratum	Beaked Lepidosperma	Rhizomatous tufted perennial sedge, 0.5 m high. Fl. Brown		Peaty sand and clay	T[1,3], En[2]	Y	Species located in adjacent lot
Lepyrodia curvescens		Dioecious, creeping, tuted herb with rhizomes on the surface or to 1 cm deep.	September to November	Sand or laterite in seasonally inundated swampland	P2[1,3]	Y	Soil type is suitable and site is within the species natural distribution
	Keighery's Macarthuria	Erect or spreading perennial herb, up to 0.4 m high.	September to December or February to March	White or grey sand	En[2], T[3]	N	Soil type suitable but species distribution is further north
Myriophyllum echinatum		Erect annual herb Fl. Red	November	Clay in winter wet flats	P3[1,3]	Y	Soil type is suitable and site is within the species natural distribution

Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
Ornduffia submersa		Information unavailable	Information unavailable	Information unavailable	P4[1,3]	N	
Ptilotus pyramidatus		Small herb Fl. White	Information unavailable	Information unavailable	T[1,3]	N	
Schoenus benthamii		Tufted perennial sedge. Fl. Brown	October to November	White, grey sand or sandy clay in winter wet flats and swamps	P3[1,3]	Y	Soil type is suitable and site is within the species natural distribution
Schoenus capillifolius		Semi aquatic tufted annual sedge Fl. Green	October to November	Brown mud in claypans	P3[1,3]	N	Soil type unsuitable
Schoenus loliaceus		Annual grass like sedge up to 0.06m high	August to November	Sandy soils in winter wet depressions	P2[1,3]	Y	Soil type is suitable and site is within the species natural distribution

Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
	Floating bog rush	Aquatic annual grass like sedge. Fl. Brown	October	Winter wet depressions	P4[1,3]	Y	Soil type is suitable and site is within the species natural distribution
Schoenus pennisetis		Tufted annual grass like sedge Fl. Purple-black	August to September	Greay or peaty sand and sandy clay in swamps and winter wet depressions	P3[1,3]	Y	Soil type is suitable and site is within the species natural distribution
Schoenus sp. Beaufort		Annual grass like sedge Fl. Green		Mud in winter wet claypans	P1[1,3]	N	Soil type unsuitable
Schoenus sp. Waroona		Tufted annual sedge Fl. Brown-red-green	October to November	Clay or sandy clay in winter wet flats	P3[1,3]	Y	Soil type is suitable and site is within the species natural distribution

Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
Stylidium aceratum		Annual herb, 0.05-0.09 m high with spathulata leaves. Fl. Pink/white	October to November	Sandy soils in swamp heathland	P2[1,3]	Y	Soil type is suitable and site is within the species natural distribution
	Jumping Jacks	Erect annual (ephemeral) herb 0.05-0.12 m high Fl. Pink	October to December	Sandy clay and clay	P4[1,3]	Y	Soil type is suitable and site is within the species natural distribution
Stylidium periscelianthum	Pantaloon Triggerplant	Bulb forming perennial herb 0.07-0.15 m high Fl. Pink	September to October	Loamy clay and moist soil pockets in wet flats and low granitic hills	P3[1,3]	N	Soil type is unsuitable

Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
	Selena's Synaphea	A dense clumped shrub up to 0.3 m high and 0.4m wide Fl. Yellow	October	Sandy areas with lateritic pebbles near winter wet flats, commonly found in low woodland with weedy grasses	$T^{1,3}$, Cr^{2}	N	Soil is unsuitable
	Dwellingup Synaphea	Caespitose shrub, up to 0.45 m high Fl. Yellow	August to October	Sandy or sandy clay soils in winter wet flats or granite	En^{2}, T^{3}	N	Soils are suitable but species distribution is further south

Picture	Common Name	Description	Flowering Period	Habitat Type	Cons Code	Likelihood (Y/N)	Comment
	Star Sun Orchid	Tuberous perennial up to 0.25 m high, Fl. Yellow and brown	October to November	Sand, gravel and lateritic loam,	En[2], T[3]	N	Soils are suitable but the site is not in the species natural distribution
		Erect shrub 0.2-0.75 m high. Fl. Pink	May or November to December or January	Sand or sandy clay in winter wet depressions	P4[1,3]	Y	Soil type is suitable and site is within the species natural distribution

Attachment 3: Description of Conservation Codes

Western Australia

Conservation Code	Name	Description
T	Threatened	Flora or fauna that is rare or likely to become extinct (Schedule 1 of the *Wildlife Conservation Act* 1950)
X	Presumed Extinct	Flora or fauna that is presumed to be extinct in the wild (Schedule 2 of the *Wildlife Conservation Act* 1950)
IA	International Agreement	Birds protected under international agreement (Schedule 3 of the *Wildlife Conservation Act* 1950)
S	Specially Protected	Other specially protected fauna (Schedule 4 of the *Wildlife Conservation Act* 1950)
Schedule 1 species are ranked by DPaW according to their level of threat using IUCN Red List criteria		
CR	Critically endangered	Species considered to be facing an extremely high risk of extinction within the wild
EN	Endangered	Species considered to be facing a very high risk of extinction within the wild
VU	Vulnerable	Species considered to be facing a high risk of extinction in the wild
Species that have not been adequately surveyed for listing under Schedule 1 or 2 of the Wildlife Protection Act		
1	Priority One	Poorly known species – known from one or a few collections or sight records (generally <5), on all lands not managed for conservation, such as road verges, urban areas, farmland, active mineral lease and under threat of habitat destruction or degradation.
2	Priority Two	Poorly known species – known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, such as national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves and similar.
3	Priority Three	Poorly known species – known collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat.
4	Priority Four	Rare or near threatened and other species in need of monitoring.
5	Priority Five	Conservation dependent species that are not threatened but are subject to a specific conservation program, the cessation of which would result in them becoming threatened within five years.

(Source: Department of Parks and Wildlife, 2016a)

Commonwealth

Category	Description
Critically Endangered	Species facing an extremely high risk of extinction in the wild in the immediate future
Endangered	Species facing a very high risk of extinction in the wild in the near future
Vulnerable	Species facing a high risk of extinction in the wild in the medium term

(Source: Department of the Environment, 2016a)

Attachment 4: Protected Matters Search Tool Report

Australian Government
Department of the Environment and Energy

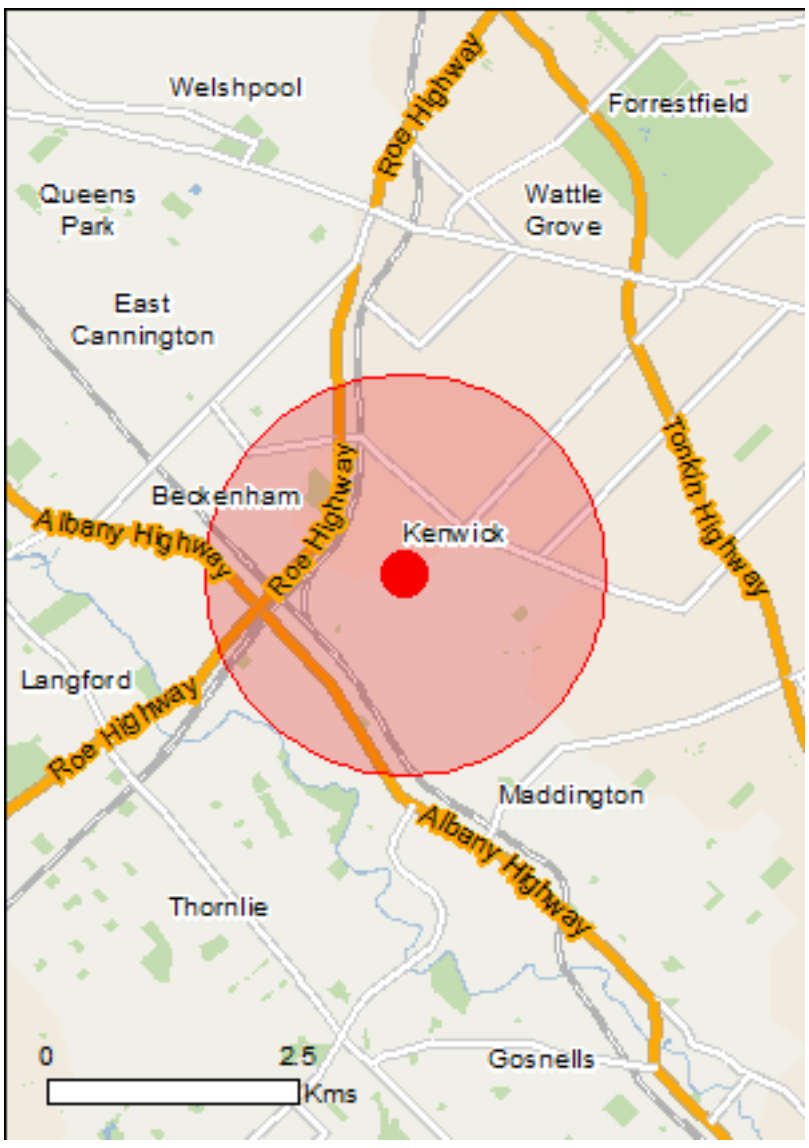
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

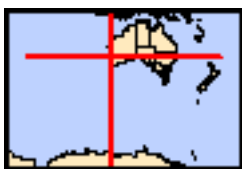
Report created: 06/12/16 17:23:02



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

Coordinates

Buffer: 2.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	30
Listed Migratory Species:	6

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	12
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	1
Regional Forest Agreements:	None
Invasive Species:	37
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Banksia Woodlands of the Swan Coastal Plain	Endangered	Community may occur within area
Claypans of the Swan Coastal Plain	Critically Endangered	Community likely to occur within area
Corymbia calophylla - Kingia australis woodlands on heavy soils of the Swan Coastal Plain	Endangered	Community known to occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat likely to occur within area
Calyptorhynchus baudinii Baudin's Cockatoo, Baudin's Black-Cockatoo, Long-billed Black-Cockatoo [769]	Vulnerable	Roosting known to occur within area
Calyptorhynchus latirostris Carnaby's Black-Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Species or species habitat known to occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Insects		
Leioproctus douglasiellus a short-tongued bee [66756]	Critically Endangered	Species or species habitat known to occur within area
Mammals		

Name	Status	Type of Presence
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area
Pseudocheirus occidentalis Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Vulnerable	Species or species habitat may occur within area
Setonix brachyurus Quokka [229]	Vulnerable	Species or species habitat may occur within area
Plants		
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat known to occur within area
Banksia mimica Summer Honeypot [82765]	Endangered	Species or species habitat likely to occur within area
Caladenia huegelii King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat likely to occur within area
Calytrix breviseta subsp. breviseta Swamp Starflower [23879]	Endangered	Species or species habitat known to occur within area
Conospermum undulatum Wavy-leaved Smokebush [24435]	Vulnerable	Species or species habitat likely to occur within area
Diuris micrantha Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat likely to occur within area
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat known to occur within area
Drakaea elastica Glossy-leafed Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat likely to occur within area
Drakaea micrantha Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat may occur within area
Eleocharis keigheryi Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat known to occur within area
Eucalyptus balanites Cadda Road Mallee, Cadda Mallee [24264]	Endangered	Species or species habitat may occur within area
Grevillea curviloba subsp. incurva Narrow curved-leaf Grevillea [64909]	Endangered	Species or species habitat may occur within area
Lepidosperma rostratum Beaked Lepidosperma [14152]	Endangered	Species or species habitat likely to occur within area
Macarthuria keigheryi Keighery's Macarthuria [64930]	Endangered	Species or species habitat likely to occur within area
Ptilotus pyramidatus Pyramid Mulla-mulla [18216]	Critically Endangered	Species or species habitat known to occur within area

Name	Status	Type of Presence
Synaphea sp. Fairbridge Farm (D.Papenfus 696)		
Selena's Synaphea [82881]	Critically Endangered	Species or species habitat likely to occur within area
Synaphea stenoloba		
Dwellingup Synaphea [66311]	Endangered	Species or species habitat may occur within area
Thelymitra stellata		
Star Sun-orchid [7060]	Endangered	Species or species habitat likely to occur within area

Listed Migratory Species [Resource Information]		
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Motacilla cinerea		
Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus		
Osprey [952]		Species or species habitat may occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species [Resource Information]		
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba		
Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis		
Cattle Egret [59542]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Thinornis rubricollis Hooded Plover [59510]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves [Resource Information]

Name	State
Kenwick Wetlands	WA

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species

Name	Status	Type of Presence
		habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Funambulus pennantii Northern Palm Squirrel, Five-striped Palm Squirrel [129]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Brachiaria mutica Para Grass [5879]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Genista linifolia Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Olea europaea Olive, Common Olive [9160]		Species or species habitat may occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area
Reptiles		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area

Nationally Important Wetlands	[Resource Information]
Name	State
Brixton Street Swamps	WA

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-32.03104 115.97677

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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Attachment 5: Flora Survey Species List

Flora list sorted by species name
* Denotes an introduced species

Family	Species	Common name
FABACEAE	*Acacia lasiocarpa* var. *lasiocarpa*	
CASUARINACEAE	*Allocasuarina fraseriana*	Sheoak
ASTERACEAE	**Arctotheca calendula*	Cape Weed
MYRTACEAE	*Astartea fascicularis*	
POACEAE	**Avena barbata*	Bearded Oat
POACEAE	**Briza maxima*	Blowfly Grass
POACEAE	**Briza minor*	Shivery Grass
POACEAE	**Bromus hordeaceus*	Soft Brome
RESTIONACEAE	*Chaetanthus aristatus*	
CYPERACEAE	*Chorizandra enodis*	Black Bristlerush
GENTIANACEAE	**Cicendia filiformis*	Slender Cicendia
ASTERACEAE	**Cotula turbinata*	Funnel Weed
POACEAE	**Cynodon dactylon*	Couch
POACEAE	**Ehrharta calycina*	Perennial Veldt Grass
POACEAE	**Eragrostis curvula*	African Lovegrass
EUPHORBIACEAE	**Euphorbia terracina*	Geraldton Carnation Weed
IRIDACEAE	**Freesia alba × leichtlinii*	
ARALIACEAE	*Hydrocotyle alata*	
POACEAE	**Hyparrhenia hirta*	Tambookie Grass
ASTERACEAE	**Hypochaeris glabra*	Smooth Cats-ear
CYPERACEAE	*Isolepis cernua*	Nodding Club-rush
CYPERACEAE	*Isolepis marginata*	Coarse Club-rush
JUNCACEAE	**Juncus articulatus*	Jointed Rush
JUNCACEAE	*Juncus pallidus*	Pale Rush
ASTERACEAE	**Leontodon rhagadioloides*	Cretan Weed
RESTIONACEAE	*Leptocarpus canus*	Hoary Twine-rush
POACEAE	**Lolium multiflorum*	Italian Ryegrass
FABACEAE	**Lotus angustissimus*	Narrowleaf Trefoil

Family	Species	Common name
FABACEAE	**Lupinus cosentinii*	
PRIMULACEAE	**Lysimachia arvensis*	Pimpernel
MYRTACEAE	*Melaleuca lateritia*	Robin Redbreast Bush
FABACEAE	** Melilotus indicus*	
CAMPANULACEAE	**Monopsis debilis*	
IRIDACEAE	**Moraea flaccida*	One-leaf Cape Tulip
ASTERACEAE	*Myriocephalus occidentalis*	
ONAGRACEAE	**Oenothera mollissima*	
OXALIDACEAE	**Oxalis glabra*	
OXALIDACEAE	**Oxalis pes-caprae*	Soursob
OROBANCHACEAE	**Parentucellia latifolia*	Common Bartsia
IRIDACEAE	**Romulea rosea*	Guildford Grass
ASTERACEAE	**Sonchus asper*	Rough Sowthistle
IRIDACEAE	**Sparaxis bulbifera*	
CHENOPODIACEAE	*Tecticornia halocnemoides*	Shrubby Samphire
HAEMODORACEAE	*Tribonanthes brachypetala*	
FABACEAE	**Trifolium angustifolium*	
FABACEAE	**Trifolium campestre*	Hop Clover
LENTIBULARIACEAE	*Utricularia multifida*	
FABACEAE	**Vicia sativa*	Common Vetch
IRIDACEAE	**Watsonia meriana*	Bulbil Watsonia

Appendix 2: ALS Environmental Groundwater Certificate of Analysis

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EP1611199**	Page	: 1 of 3
Client	: **NATURAL AREA CONSULTING**	Laboratory	: Environmental Division Perth
Contact	: SUE BRAND	Contact	: Customer Services EP
Address	: 99C LORD STREET WHITEMAN WESTERN AUSTRALIA 6068	Address	: 10 Hod Way Malaga WA Australia 6090
Telephone	: 08 9209 2767	Telephone	: +61-8-9209 7655
Project	: Rehoboth Christian College	Date Samples Received	: 22-Nov-2016 13:07
Order number	:	Date Analysis Commenced	: 22-Nov-2016
C-O-C number	: ----	Issue Date	: 29-Nov-2016 16:45
Sampler	: Sharon Hynes		
Site	: Rehoboth Christian College		
Quote number	: ----		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Efua Wilson	Metals Chemist	Perth Inorganics, Malaga, WA
Jeremy Truong	Laboratory Manager	Perth Inorganics, Malaga, WA
Tyrone Cole	Inorganics Preparation Supervisor	Perth Inorganics, Malaga, WA

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EK061G/EK067G (TKN/TP): LOR for sample 'MB3' raised due to possible sample matrix interference.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Client sample ID	MB1	MB2	MB3	----	----
				Client sampling date / time	22-Nov-2016 09:50	22-Nov-2016 09:34	22-Nov-2016 09:16	----	----
Compound	CAS Number	LOR	Unit		EP1611199-001	EP1611199-002	EP1611199-003	--------	--------
					Result	Result	Result	----	----
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**8.05**	**7.86**	**7.23**	----	----
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**8740**	**3240**	**3400**	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L		**15**	**6**	**10400**	----	----
ED038A: Acidity									
Acidity as CaCO3	----	1	mg/L		**26**	**8**	**67**	----	----
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	**0.16**	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Iron	7439-89-6	0.05	mg/L		<0.05	<0.05	**0.23**	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.27**	**0.04**	**0.07**	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	**0.03**	**0.03**	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	**0.03**	**0.03**	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		**1.0**	**0.4**	<1.0	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		**1.0**	**0.4**	<1.0	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.02**	<0.01	**0.31**	----	----