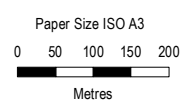
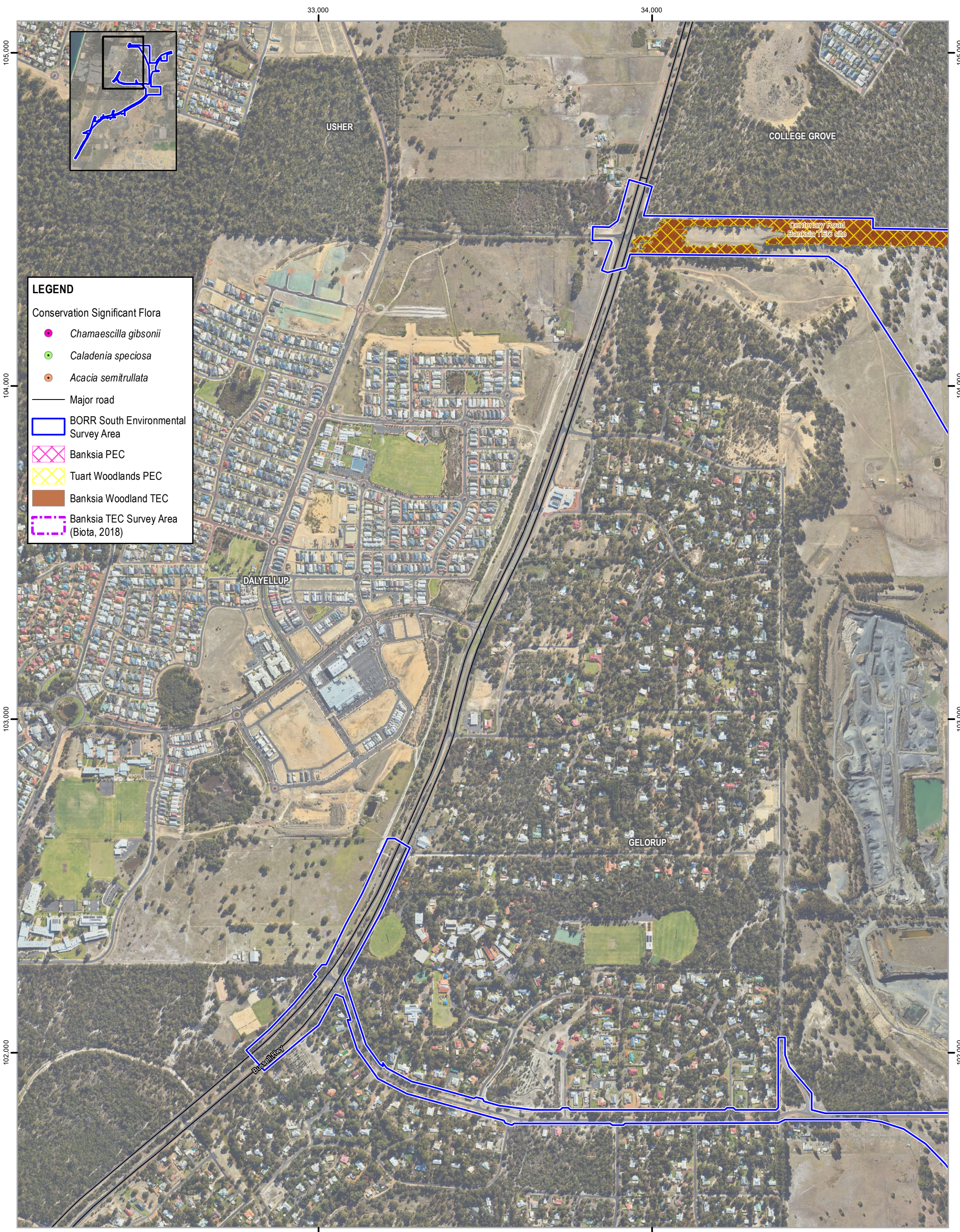


Bunbury Outer Ring Road Southern Section Vegetation and Flora Study (BORR IPT 2019a)

- Part 9 of 12



Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 Perth Coastal Grid 1994



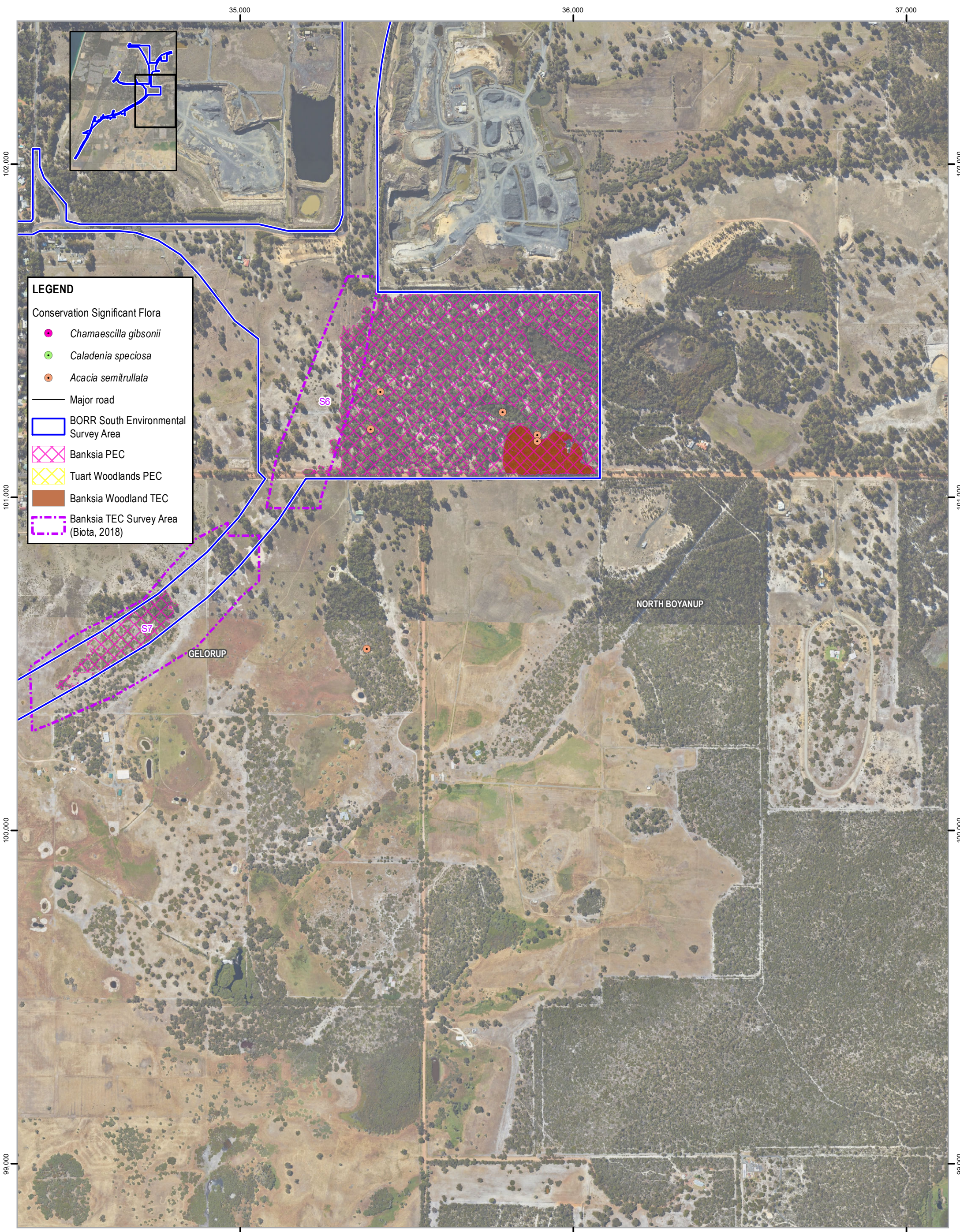
Main Roads Western Australia
 Bunbury Outer Ring Road,
 Southern Section

Project No. 61-37041
 Revision No. 0
 Date 13 Sep 2019

**Conservation and Other Significant
 Ecological Communities and Flora**

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 Print date: 13 Sep 2019 - 16:45

Data source: BORR team: South environmental survey area - 20180730, TEC/PEC - 20190219, Landgate: Roads - 201805, Imagery - 20181016 (accessed 20190228). Created by: mmikonen



LEGEND

Conservation Significant Flora

- *Chamaescilla gibsonii*
- *Caladenia speciosa*
- *Acacia semitrullata*

— Major road

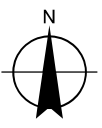
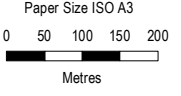
BORR South Environmental Survey Area

Banksia PEC

Tuart Woodlands PEC

Banksia Woodland TEC

Banksia TEC Survey Area (Biota, 2018)



Paper Size ISO A3
 Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 Perth Coastal Grid 1994



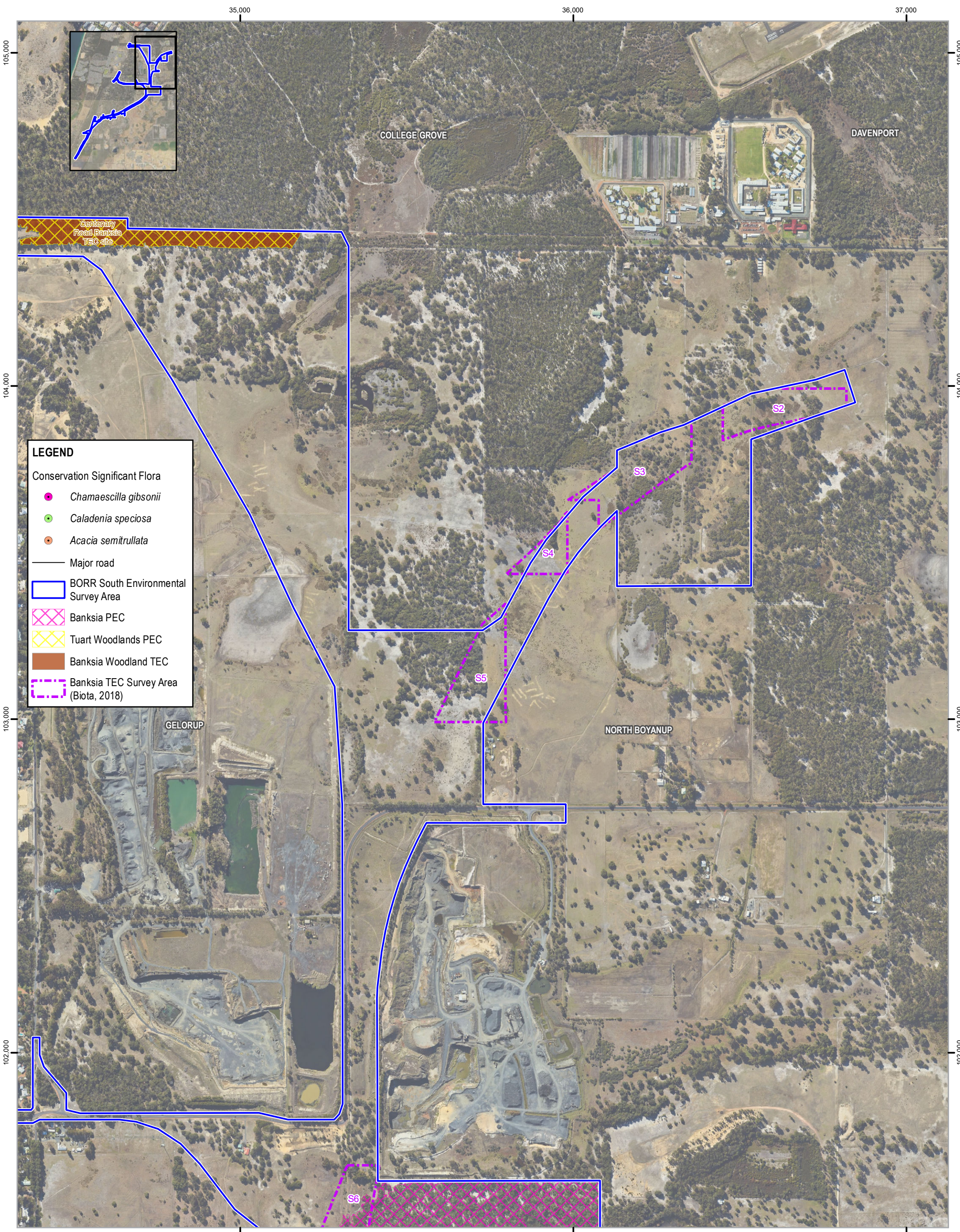
Main Roads Western Australia
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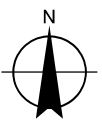
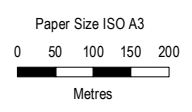
▭ BORR South Environmental Survey Area

▨ Banksia PEC

▨ Tuart Woodlands PEC

▨ Banksia Woodland TEC

▨ Banksia TEC Survey Area (Biota, 2018)



Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 Perth Coastal Grid 1994



Main Roads Western Australia
Bunbury Outer Ring Road,
Southern Section

Project No. 61-37041
Revision No. 0
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**Conservation and Other Significant
Ecological Communities and Flora**

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Data source: BORR team: South environmental survey area - 20180730, TEC/PEC - 20190219, Landgate: Roads - 201805, Imagery - 20181016 (accessed 20190228). Created by: mmikonen

Conservation Codes and Vegetation Condition Rating Scale

Relevant legislation

Federal *Environment Protection and Biodiversity Conservation Act 1999*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Federal Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places, which are defined in the EPBC Act as Matters of National Environmental Significance (MNES).

The biological aspects listed as MNES include:

- Nationally threatened flora and fauna species and ecological communities
- Migratory species

A person must not undertake an action that has, will have, or is likely to have a significant impact (direct or indirect) on MNES, without approval from the Federal Minister for the Environment.

The EPBC Act is administered by the Department of the Environment and Energy (DEE).

State *Environmental Protection Act 1986*

The *Environmental Protection Act 1986* (EP Act) is the primary legislative Act dealing with the protection of the environment in Western Australia. The Act allows the Environmental Protection Authority (EPA), to prevent, control and abate pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment and for matters incidental to or connected with the foregoing. Part IV of the EP Act is administered by the EPA and makes provisions for the EPA to undertake environmental impact assessment of significant proposals, strategic proposals and land use planning schemes.

The Department of Water and Environment Regulation (DWER) is responsible for administering the clearing provisions of the EP Act (Part V). Clearing of native vegetation in Western Australia requires a permit from the DWER, unless exemptions apply. Applications for clearing permits are assessed by the Department and decisions are made to grant or refuse th

for determining whether the TEC is present e application in accordance with the Act. When making a decision the assessment considers clearing against the ten clearing principles as specified in Schedule 5 of the EP Act:

- a) Native vegetation should not be cleared if it comprises a high level of biodiversity.
- b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a significance habitat for fauna indigenous to Western Australia.
- c) Native vegetation should not be cleared if it includes, or is necessary, for the continued existence of rare flora.
- d) Native vegetation should not be cleared if it comprises the whole or part of native vegetation in an area that has been extensively cleared.
- e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.
- f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
- g) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.
- h) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

- i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.
- j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.

Exemptions for clearing include clearing that is a requirement of a written law or authorised under certain statutory processes (listed in Schedule 6 of the EP Act) and exemptions for prescribed low impact day-to-day activities (prescribed in the Environmental Protection (Clearing of Native Vegetation) Regulations 2004); these exemptions do not apply in environmentally sensitive areas (ESAs).

State Biodiversity and Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) provides for the conservation, protection and promotion of the ecologically sustainable use of biodiversity components in Western Australia. The BC Act replaced both the *Wildlife Conservation Act 1950* (WC Act) and the *Sandalwood Act 1929* (Sandalwood Act) as of 1 January 2016. To attain the objectives of the BC Act, principles of ecological sustainable development have been established:

- Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations
- If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
- The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations
- The conservation of biodiversity and ecological integrity should be a fundamental consideration in decision-making
- Improved valuation, pricing and incentive mechanisms should be promoted

The BC Act is administered by the Department of Biodiversity Conservation and Attractions (DBCA)

State Biosecurity and Agriculture Management Act 2007

The *Biosecurity and Agriculture Management Act 2007* (BAM Act) and associated regulations are administered by the Department of Primary Industries and Regional Development (DPIRD) and replace the repealed *Agriculture and Related Resources Protection Act 1976*. The main purposes of the BAM Act and its regulations are to:

- Prevent new animal and plant pests (vermin and weeds) and diseases from entering WA
- Manage the impact and spread of those pests already present in the state
- Safely manage the use of agricultural and veterinary chemicals
- Increased control over the sale of agricultural products that contain violative chemical residues

The Western Australian Organism List (WAOL) provides the status of organisms which have been categorised under the BAM Act. A Declared Pest is a prohibited organism or an organism for which a declaration under Section 22(2) of the Act is in force. Declared Pests may be assigned a control category including: C1 (exclusion), C2 (eradication) and C3 (management). The category may apply to the whole of the State, LGAs, districts, individual properties or even paddocks, and all landholders are obliged to comply with the specific category of control. Categories of control are defined below.

DPIRD Categories for Declared Pests under the BAM Act

Control class code	Description
C1 (Exclusion)	Pests will be assigned to this category if they are not established in Western Australia and control measures are to be taken, including border checks, in order to prevent them entering and establishing in the State.
C2 (Eradication)	Pests will be assigned to this category if they are present in Western Australia in low enough numbers or in sufficiently limited areas that their eradication is still a possibility.
C3 (Management)	Pests will be assigned to this category if they are established in Western Australia but it is feasible, or desirable, to manage them in order to limit their damage. Control measures can prevent a C3 pest from increasing in population size or density or moving from an area in which it is established into an area which currently is free of that pest.

Background information

Environmentally Sensitive Areas

Environmentally Sensitive Areas (ESAs) are declared by the Minister for Environment under Section 51B of the EP Act. The Table below outlines the aspects of areas declared as ESA in the Environmental Protection (Environmentally Sensitive Areas) Notice 2005.

Aspects of ESAs

Aspects of Environmentally Sensitive Areas
A declared World Heritage property as defined in Section 13 of the EPBC Act.
An area that is included on the Register of the National Estate (RNE), because of its natural values, under the <i>Australian Heritage Commission Act 1975</i> of the Commonwealth (the RNE was closed in 2007 and is no longer a statutory list – all references to the RNE were removed from the EPBC Act on 19 February 2012).
A defined wetland and the area within 50 m of the wetland. Defined wetlands include Ramsar wetlands, conservation category wetlands and nationally important wetlands.
The area covered by vegetation within 50 m of rare flora, to the extent to which the vegetation is continuous with the vegetation in which the rare flora is located.
The area covered by a Threatened Ecological Community.
A Bush Forever Site listed in “Bush Forever” Volumes 1 and 2 (2000), published by the Western Australia Planning Commission, except to the extent to which the site is approved to be developed by the Western Australia Planning Commission.
The areas covered by the <i>Environmental Protection (Gnangara Mound Crown Land) Policy 1992</i> .
The areas covered by the <i>Environmental Protection (Western Swamp Tortoise Habitat) Policy 2002</i> .
The areas covered by the lakes to which the <i>Environmental Protection (Swan Coastal Plain Lakes) Policy 1992</i> (EPP Lakes) applies.
Protected wetlands as defined in the <i>Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998</i> .

Reserves and conservation areas

Bush Forever

Bush Forever, which was released in December 2000 and proclaimed in 2010, is a Government initiative aimed to retain and protect regionally significant bushland on the Swan Coastal Plain within the Perth Metropolitan Region. Bush Forever aims to protect more than 51,000 hectares of regionally significant bushland within 287 sites across the metropolitan portion of the Swan Coastal Plain (Government of Western Australia (GoWA) 2000). Bush Forever sites constitute ESAs as declared by a notice under Section 51B of the EP Act.

Department of Biodiversity, Conservation and Attractions managed lands and waters

DBCA manages lands and waters throughout Western Australia to conserve ecosystems and species, and to provide for recreation and appreciation of the natural environment. DBCA managed lands and waters include national parks, conservation parks and reserves, marine parks and reserves, regional parks, nature reserves, State forest and timber reserves. DBCA managed conservation estate, is

vested with the Conservation Commission of Western Australia. Access to, or through, some areas of DBCA managed lands may require a permit or could be restricted due to management activities. Proposed land use changes and development proposals that abut DBCA managed lands will generally be referred to DBCA throughout the assessment process.

Wetlands

Wetlands include not only lakes with open water, but areas of seasonally, intermittently or permanently waterlogged soil. Approximately 25 percent of the Swan Coastal Plain between Moore River and Mandurah is classified as wetland (Hill et al. 1996).

Though extensive in area, not all wetlands retain significant ecological values due to the concentration of urban and agricultural development in the region. Most wetlands have been cleared, filled or developed over, leaving only 20 percent of all the wetlands that were present on the Swan Coastal Plain prior to European settlement. Of these, an estimated 15 percent of the wetland area has retained high ecological values (Hill et al. 1996).

Ramsar Listed Wetlands

The Convention of Wetlands of International Importance was signed in 1971 at the Iranian town of Ramsar. The Convention has since been referred to as the Ramsar Convention. Ramsar Listed wetlands are “sites containing representative, rare or unique wetlands, or wetlands that are important for conserving biological diversity ... because of their ecological, botanical, zoological, limnological or hydrological importance” (DEE 2018b). Once a Ramsar Listed Wetland is designated, the country agrees to manage its conservation and ensure its wise use. Under the Convention, wise use is broadly defined as “maintaining the ecological character of a wetland” (DEE 2018b).

Nationally important wetlands

Wetlands of national significance are listed under the Directory of Important Wetlands in Australia. Nationally important wetlands are wetlands which meet at least one of the following criteria (DEE 2018a):

- It is a good example of a wetland type occurring within a biogeographic region in Australia
- It is a wetland which plays an important ecological or hydrological role in the natural functioning of a major wetland system/complex
- It is a wetland which is important as the habitat for animal taxa at a vulnerable stage in their life cycles, or provides a refuge when adverse conditions such as drought prevail
- The wetland supports one percent or more of the national populations of any native plant or animal taxa
- The wetland supports native plant or animal taxa or communities which are considered endangered or vulnerable at the national level
- The wetland is of outstanding historical or cultural significance

Geomorphic wetlands

Categorisation of wetlands has been conducted by Hill et al. (1996), delineating Swan Coastal Plain wetlands into levels of protection and management categories. Conservation Category Wetlands are wetlands that support high levels of attributes and functions. Resource Enhancement Wetlands are those that have been partly modified but still support substantial functions and attributes. Multiple Use Wetlands are classified as those wetlands with few attributes that still provide important wetland functions. Multiple Use wetlands have few important ecological attributes and functions remaining.

The Geomorphic Wetlands Swan Coastal Plain dataset displays the location, boundary, geomorphic classification (wetland type) and management category of wetlands on the Swan Coastal Plain.

Vegetation extent and status

The National Objectives and Targets for Biodiversity Conservation 2001–2005 (Commonwealth of Australia 2001) recognise that the retention of 30 percent or more of the pre-clearing extent of each ecological community is necessary if Australia’s biological diversity is to be protected. This is the threshold level below which species loss appears to accelerate exponentially and loss below this level should not be permitted. This level of recognition is in keeping with the targets recommended in the review of the National Strategy for the Conservation of Australia’s Biological Diversity (ANZECC 2000).

The extent of remnant native vegetation in WA has been assessed by Shepherd et al. (2002) and the GoWA (2018), based on broadscale vegetation association mapping by Beard (various publications). The GoWA produces Statewide Vegetation Statistics Reports that are used for a number of purposes including conservation planning, land use planning and when assessing development applications. The reports are updated at least every two years.

Within the Swan Coastal Plain, EPA Position Statement No. 9 (EPA 2006) identifies vegetation complexes with 30 percent or less of their pre-clearing extent remaining in a bioregion, or 10 percent or less of their pre-clearing extent remaining in constrained areas (i.e. areas of urban development in cities and major town) on the Swan Coastal Plain, to be critical assets.

Vegetation condition

The vegetation condition can be assessed in accordance with the vegetation condition rating scale for the South West and Interzone Botanical Provinces (EPA 2016a). The scale recognises the intactness of vegetation and consists of six rating levels as outlined below.

Vegetation condition rating scale for the South West and Interzone Botanical Provinces

Condition	South West and Interzone Botanical Provinces description
Pristine	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. Damage to trees caused by fire, the presence of non-aggressive weeds and occasional vehicle tracks.
Very Good	Vegetation structure altered, obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing.

Condition	South West and Interzone Botanical Provinces description
Completely Degraded	The structure of 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.

Conservation codes

Species of significant flora, fauna and communities are protected under both Federal and State Acts. The Federal EPBC Act provides a legal framework to protect and manage nationally important flora and communities. The State WC Act is the primary wildlife conservation legislation in Western Australia. Information on the conservation codes is summarised in the following sections.

Ecological communities

Conservation significant communities

Ecological communities are defined as naturally occurring biological assemblages that occur in a particular type of habitat (English and Blyth 1997). Federally listed Threatened Ecological Communities (TECs) are protected under the EPBC Act. The BC Act provides for the statutory listing of TECs by the Minister. The new legislation also describes statutory processes for preparing recovery plans for TECs, the registration of their critical habitat, and penalties for unauthorised modification of TECs. TECs are ecological communities that have been assessed and assigned to one of four categories related to the status of the threat to the community, i.e. Presumed Totally Destroyed, Critically Endangered, Endangered and Vulnerable.

Possible TECs that do not meet survey criteria are added to the DBCA Priority Ecological Community (PEC) List under Priorities 1, 2 and 3. These are ecological communities that are adequately known; are rare but not threatened, or meet criteria for Near Threatened. PECs that have been recently removed from the threatened list are placed in Priority 4. These ecological communities require regular monitoring. Conservation dependent ecological communities are placed in Priority 5. PECs are not listed under any formal Federal or State legislation, however, may be listed as TECs under the EPBC Act and/ or BC Act.

Conservation codes and definitions for TECs listed under the EPBC Act and/ or BC Act

Categories	Definition
Federal Government Conservation Categories (EPBC Act)	
Critically Endangered (CR)	An ecological community if, at that time, is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria (as outlined in Environment Protection and Biodiversity Conservation Regulations 2000)
Endangered (EN)	An ecological community if, at that time: A) is not critically endangered; and B) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria (as outlined in Environment Protection and Biodiversity Conservation Regulations 2000)
Vulnerable (VU)	An ecological community if, at that time: A) is not critically endangered or endangered; and B) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria (as outlined in Environment Protection and Biodiversity Conservation Regulations 2000)
Western Australia Conservation Categories	
Presumed Totally Destroyed (PD)	An ecological community that has been adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future.

Categories	Definition
Critically Endangered (CR)	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated.
Endangered (EN)	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future.
Vulnerable (VU)	An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range.

Conservation categories and definitions for PECS as listed by the DBCA

Category	Description
Priority 1	<p>Poorly known ecological communities.</p> <p>Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤ 5 occurrences or a total area of ≤ 100 ha). Occurrences are believed to be under threat either due to limited extent, or being on lands under immediate threat (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) or for which current threats exist. May include communities with occurrences on protected lands. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range.</p>
Priority 2	<p>Poorly known ecological communities.</p> <p>Communities that are known from few occurrences with a restricted distribution (generally ≤ 10 occurrences or a total area of ≤ 200 ha). At least some occurrences are not believed to be under immediate threat of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.</p>
Priority 3	<p>Poorly known ecological communities.</p> <p>(i) Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or:</p> <p>(ii) communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or;</p> <p>(iii) communities made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, and inappropriate fire regimes.</p> <p>Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them.</p>

Category	Description
Priority 4	<p>Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.</p> <p>(i) Rare. Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These communities are usually represented on conservation lands.</p> <p>(ii) Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.</p> <p>(iii) Ecological communities that have been removed from the list of threatened communities during the past five years.</p>
Priority 5	<p>Conservation Dependent ecological communities.</p> <p>Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.</p>

Banksia Woodlands of the Swan Coastal Plain TEC

The Banksia Woodlands of the Swan Coastal Plain was listed in September 2016 as an Endangered TEC under the EPBC Act. The Commonwealth TEC encompasses a number of FCTs, some of which area also listed as State TECs/PECs. The TSSC (2016) provides guidance for determining whether the TEC is present. These criteria are listed below

Diagnostic characteristics and condition thresholds to determine Banksia Woodlands TEC

Diagnostics characteristics / condition thresholds	Criteria
Floristic Community Type	<p>Location and physical environment:</p> <ul style="list-style-type: none"> Occurs in the SCP IBRA bioregion <p>Soil and landform:</p> <ul style="list-style-type: none"> Typically occurs on well drained, low nutrient soils on sandplain landforms, particularly in deep Bassendean and Spearwood sands and occasionally on Quindalup sands. <p>Structure:</p> <ul style="list-style-type: none"> The community is a low woodland to forest, but may also include shrubland, open woodland or forest under some classification systems. The percentage canopy cover is more than 2% and typically less than 50%. The structure and appearance may also vary due to disturbance history. <p>Composition:</p> <ul style="list-style-type: none"> The canopy is commonly dominated by <i>Banksia attenuata</i> and or <i>B. menziesii</i>. Other <i>Banksia</i> species that dominate include <i>B. prionotes</i> or <i>B. ilicifolia</i>. The patch must include at least one of these diagnostic species.

Diagnostics characteristics / condition thresholds	Criteria
Vegetation condition ¹ and minimum patch size	<ul style="list-style-type: none"> • Pristine – no minimum • Excellent – 0.5 ha • Very Good – 1 ha • Good – 2 ha
Surrounding context	<p>A patch is a discrete and mostly continuous area of ecological community. A patch may include small scale (<30 m) variations, gaps and disturbances, such as tracks, that do not significantly alter the overall functionality of the ecological community. Such breaks are generally included in patch size calculations. The landscape and position of the patch including its position relative to surrounding vegetation also influences how important it is in the broader landscape.</p>

Other significant vegetation

Vegetation may be significant for a range of reasons other than a statutory listing. The EPA (2016b) states that significant vegetation may include vegetation that includes the following:

- Restricted distribution
- Degree of historical impact from threatening processes
- Local endemism in restricted habitats
- Novel combinations of taxa
- A role as a refuge
- A role as a key habitat for Threatened species or large population representing a significant proportion of the local to regional total population of a species
- Being representative of a vegetation unit in 'pristine' condition in a highly cleared landscape, recently discovered range extensions, or isolated outliers of the main range)
- Being poorly reserved

This may apply at a number of levels, so the unit may be significant when considered at the fine-scale (intra-locality), intermediate-scale (locality or inter-locality) or broad-scale (local to region).

Flora and fauna

Conservation significant flora and fauna

Species of significant flora are protected under both Federal and State legislation. Any activities that are deemed to have a significant impact on species that are recognised by the EPBC Act, and/or the BC Act can warrant referral to the DEE and/or the EPA.

The Federal conservation level of flora and fauna species and their significance status is assessed under the EPBC Act. The significance levels for fauna used in the EPBC Act are those recommended by the International Union for Conservation of Nature (IUCN).

¹ As per the Keighery (1994) condition scale presented in Bush Forever (Government of Western Australia 2000).

Under the BC Act aligns with the EPBC Act in that flora and fauna can be Specially Protected, listed as Threatened (Critically Endangered, Endangered or Vulnerable) or Extinct in Western Australia. Threatened species are those are species which have been adequately searched for and are deemed to be, in the wild, either rare, under identifiable threat of extinction, or otherwise in need of special protection, and have been gazetted as such.

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened flora or fauna.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

For the purposes of this assessment, all species listed under the EPBC Act, BC Act and DBCA Priority species are considered conservation significant.

Conservation categories and definitions for EPBC Act and BC Act listed flora and fauna species

Conservation category	Definition
Extinct	There is no reasonable doubt that the last member of the species has died.
Extinct in the Wild	A) A species known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or B) A species that has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
Critically Endangered	A species facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria (as outlined in Environment Protection and Biodiversity Conservation Regulations 2000).
Endangered	A) A species not critically endangered; and B) A species facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
Vulnerable	A) A species not critically endangered or endangered; and B) A species facing a high risk of extinction in the wild in the medium-term, as determined in accordance with the prescribed criteria.

Conservation category	Definition
Conservation Dependent	<p>A) The species is the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered; or</p> <p>B) The following subparagraphs are satisfied:</p> <ul style="list-style-type: none"> (i) the species is a species of fish; (ii) the species is the focus of a plan of management that Section 180 provides for management actions necessary to stop the decline of, and support the recovery of, the species so that its chances of long term survival in nature are maximised; (iii) the plan of management is in force under a law of the Commonwealth or of a State or Territory; (iv) cessation of the plan of management would adversely affect the conservation status of the species.

Conservation codes for DBCA listed Priority flora and fauna

Priority category	Definition
Priority 1	<p>Poorly-known taxa</p> <p>Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.</p>
Priority 2	<p>Poorly-known taxa</p> <p>Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.</p>
Priority 3	<p>Poorly-known taxa</p> <p>Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.</p>
Priority 4	<p>Rare, Near Threatened and other taxa in need of monitoring</p> <p>A. Rare: Taxa that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.</p> <p>B. Near Threatened. Taxa that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.</p>

Priority category	Definition
	C. Taxa that have been removed from the list of threatened taxa during the past five years for reasons other than taxonomy.

Other significant flora

Flora species, subspecies, varieties, hybrids and ecotypes may be significant for a range of reasons, other than a statutory listing. The EPA (2016b) states that significant flora may include taxa that have:

- A keystone role in a particular habitat for threatened or Priority flora or fauna species, or large populations representing a considerable proportion of the local or regional total population of a species
- Relictual status, being representation of taxonomic or physiognomic groups that no longer occur widely in the broader landscape
- Anomalous features that indicate a potential new discovery
- Being representative of the range of a species (particularly, at the extremes of range, recently discovered range extensions, or isolated outliers of the main range)
- The presence of restricted subspecies, varieties, or naturally occurring hybrids
- Local endemism (a restricted distribution) or association with a restricted habitat type (e.g. surface water or groundwater dependent ecosystems)
- Being poorly reserved

Introduced plants (weeds)

Declared Pests

Information on species considered to be Declared Pests is provided under *State Biosecurity and Agriculture Management Act 2007*.

Weeds of National Significance

The spread of weeds across a range of land uses or ecosystems is important in the context of socio-economic and environmental values. The assessment of Weeds of National Significance (WoNS) is based on four major criteria:

- Invasiveness
- Impacts
- Potential for spread
- Socio-economic and environmental values

Australian state and territory governments have identified thirty-two Weeds of National Significance (WoNS); a list of 20 WoNS was endorsed in 1999 and a further 12 were added in 2012.

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Desktop Searches

NatureMap Species Report

Created By Guest user on 01/08/2018

Kingdom Plantae
Current Names Only Yes
Core Datasets Only Yes
Method 'By Line'
Vertices 33° 23' 09" S,115° 41' 08" E 33° 24' 05" S,115° 39' 34" E 33° 24' 36" S,115° 39' 32" E 33° 25' 30" S,115° 39' 27" E 33° 25' 51" S,115° 37' 37" E 33° 26' 12" S,115° 36' 57" E 33° 27' 20" S,115° 36' 14" E
Group By Family

Family	Species	Records
Aizoaceae	2	2
Amaranthaceae	2	2
Amaryllidaceae	1	1
Anarthriaceae	3	6
Apiaceae	9	32
Apocynaceae	1	1
Apodanthaceae	1	3
Aponogetonaceae	1	3
Araceae	1	1
Araliaceae	5	18
Areschouggiaceae	1	1
Asparagaceae	19	63
Asphodelaceae	1	2
Asteraceae	32	70
Boryaceae	1	1
Brassicaceae	3	4
Campanulaceae	4	9
Caprifoliaceae	1	2
Caryophyllaceae	5	8
Casuarinaceae	1	2
Celastraceae	2	2
Centrolepidaceae	4	10
Chenopodiaceae	6	7
Colchicaceae	3	6
Commelinaceae	1	3
Convolvulaceae	1	1
Crassulaceae	2	3
Cyperaceae	39	74
Dasyopogonaceae	1	6
Dennstaedtiaceae	1	1
Dicranaceae	1	1
Dilleniaceae	10	42
Droseraceae	12	17
Elaeocarpaceae	3	10
Ericaceae	12	27
Euphorbiaceae	4	8
Fabaceae	70	188
Funariaceae	1	1
Geraniaceae	4	7
Goodeniaceae	15	23
Haemodoraceae	13	25
Haloragaceae	3	5
Hemerocallidaceae	9	20
Hydatellaceae	3	3
Hydrocharitaceae	1	1
Hypoxidaceae	5	5
Iridaceae	5	19
Isoetaceae	1	2
Juncaceae	4	6
Juncaginaceae	5	5
Lamiaceae	1	5
Lauraceae	3	6
Lentibulariaceae	1	1
Loganiaceae	2	2
Loranthaceae	1	2
Malvaceae	1	8
Marsileaceae	1	2
Menyanthaceae	3	4
Montiaceae	1	1
Myrtaceae	28	61
Onagraceae	1	2
Orchidaceae	50	136
Orobanchaceae	3	7
Oxalidaceae	4	6
Phacelocarpaceae	1	1
Phyllanthaceae	1	8
Plantaginaceae	2	3
Poaceae	39	102
Podocarpaceae	1	1
Polygalaceae	2	2
Polygonaceae	2	2
Posidoniaceae	1	3
Potamogetonaceae	1	1
Pottiaceae	2	2

Primulaceae	3	4
Proteaceae	18	48
Ranunculaceae	2	4
Restionaceae	9	19
Rhamnaceae	2	3
Rubiaceae	7	11
Rutaceae	5	16
Santalaceae	5	7
Scrophulariaceae	2	2
Selaginellaceae	1	1
Solanaceae	2	3
Stylidiaceae	15	31
Thymelaeaceae	2	3
Urticaceae	1	5
Violaceae	1	1
Xanthorrhoeaceae	4	11
Zamiaceae	1	7
Zygophyllaceae	1	1
TOTAL	568	1304

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
Aizoaceae				
1.	2798 <i>Carpobrotus virescens</i> (Coastal Pigface, Kolboko, Bain)			
2.	2820 <i>Tetragonia decumbens</i> (Sea Spinach)	Y		
Amaranthaceae				
3.	25840 <i>Amaranthus blitum</i>	Y		
4.	2668 <i>Amaranthus powellii</i> (Powell's Amaranth)	Y		
Amaryllidaceae				
5.	1489 <i>Amaryllis belladonna</i> (Belladonna Lily)	Y		
Anarthriaceae				
6.	1062 <i>Anarthria prolifera</i>			
7.	1097 <i>Lyginia barbata</i>			
8.	18049 <i>Lyginia imberbis</i>			
Apiaceae				
9.	6203 <i>Actinotus glomeratus</i>			
10.	6218 <i>Daucus glochidiatus</i> (Australian Carrot)			
11.	6219 <i>Eryngium pinnatifidum</i> (Blue Devils)			
12.	15446 <i>Eryngium pinnatifidum</i> subsp. <i>pinnatifidum</i>			
13.	6222 <i>Homalosciadium homalocarpum</i>			
14.	6249 <i>Platysace compressa</i> (Tapeworm Plant)			
15.	11132 <i>Platysace ramosissima</i>		P3	
16.	6263 <i>Schoenolaena juncea</i>			
17.	6289 <i>Xanthosia huegelii</i>			
Apocynaceae				
18.	6565 <i>Alyxia buxifolia</i> (Dysentery Bush)			
Apodanthaceae				
19.	2408 <i>Pilostyles hamiltonii</i>			
Aponogetonaceae				
20.	141 <i>Aponogeton hexatepalus</i> (Stalked Water Ribbons)		P4	
Araceae				
21.	1049 <i>Zantedeschia aethiopica</i> (Arum Lily)	Y		
Araliaceae				
22.	6223 <i>Hydrocotyle alata</i>			
23.	6225 <i>Hydrocotyle bonariensis</i>	Y		
24.	6229 <i>Hydrocotyle diantha</i>			
25.	11546 <i>Hydrocotyle pilifera</i> var. <i>glabrata</i>			
26.	6280 <i>Trachymene pilosa</i> (Native Parsnip)			
Areschougiaceae				
27.	26854 <i>Gigartina disticha</i>			
Asparagaceae				
28.	1208 <i>Acanthocarpus preissii</i>			
29.	1287 <i>Dichopogon capillipes</i>			
30.	11464 <i>Laxmannia sessiliflora</i> subsp. <i>australis</i>			
31.	1223 <i>Lomandra caespitosa</i> (Tufted Mat Rush)			
32.	1228 <i>Lomandra hermaphrodita</i>			
33.	1232 <i>Lomandra micrantha</i> (Small-flower Mat-rush)			
34.	1234 <i>Lomandra nigricans</i>			
35.	1239 <i>Lomandra preissii</i>			
36.	1240 <i>Lomandra purpurea</i> (Purple Mat Rush)			
37.	1243 <i>Lomandra sericea</i> (Silky Mat Rush)			
38.	1246 <i>Lomandra suaveolens</i>			
39.	20664 <i>Ornithogalum longibracteatum</i>	Y		
40.	1312 <i>Sowerbaea laxiflora</i> (Purple Tassels)			
41.	1319 <i>Thysanotus arenarius</i>			
42.	1339 <i>Thysanotus multiflorus</i> (Many-flowered Fringe Lily)			
43.	1343 <i>Thysanotus patersonii</i>			
44.	1351 <i>Thysanotus sparteus</i>			
45.	1354 <i>Thysanotus tenellus</i>			
46.	1357 <i>Thysanotus thyrsoides</i>			
Asphodelaceae				
47.	1368 <i>Trachyandra divaricata</i>	Y		
Asteraceae				

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
48.	7829 <i>Angianthus drummondii</i>		P3	
49.	7833 <i>Angianthus preissianus</i>			
50.	7838 <i>Arctotheca calendula</i> (Cape Weed, African Marigold)	Y		
51.	7851 <i>Asteridea pulverulenta</i> (Common Bristle Daisy)			
52.	7925 <i>Chondrilla juncea</i> (Skeleton Weed)	Y		
53.	7944 <i>Cotula bipinnata</i> (Ferny Cotula)	Y		
54.	7947 <i>Cotula turbinata</i> (Funnel Weed)	Y		
55.	13354 <i>Craspedia variabilis</i>			
56.	29054 <i>Crepis foetida</i> subsp. <i>foetida</i> (Stinking Hawksbeard)	Y		
57.	15137 <i>Euchiton sphaericus</i>			
58.	12016 <i>Helianthus debilis</i> subsp. <i>cucumerifolius</i>	Y		
59.	16759 <i>Hyalosperma simplex</i> subsp. <i>simplex</i>			
60.	8086 <i>Hypochoeris glabra</i> (Smooth Catsear)	Y		
61.	8105 <i>Millotia myosotidifolia</i>			
62.	8127 <i>Olearia axillaris</i> (Coastal Daisybush)			
63.	8133 <i>Olearia elaeophila</i>			
64.	14371 <i>Picris angustifolia</i>			
65.	8160 <i>Picris squarrosa</i>			
66.	42281 <i>Pithocarpa cordata</i>			
67.	8175 <i>Podolepis gracilis</i> (Slender Podolepis)			
68.	8179 <i>Podolepis nutans</i> (Nodding Podolepis)			
69.	8189 <i>Pseudognaphalium luteoalbum</i> (Jersey Cudweed)			
70.	13300 <i>Rhodanthe citrina</i>			
71.	20663 <i>Senecio multicaulis</i> subsp. <i>multicaulis</i>			
72.	20161 <i>Senecio pinnatifolius</i>			
73.	8225 <i>Siloxerus humifusus</i> (Procumbent Siloxerus)			
74.	9367 <i>Sonchus hydrophilus</i> (Native Sowthistle)			
75.	8231 <i>Sonchus oleraceus</i> (Common Sowthistle)	Y		
76.	8255 <i>Ursinia anthemoides</i> (Ursinia)	Y		
77.	38388 <i>Ursinia anthemoides</i> subsp. <i>anthemoides</i>	Y		
78.	8257 <i>Vellereophyton dealbatum</i> (White Cudweed)	Y		
79.	8282 <i>Waitzia suaveolens</i> (Fragrant Waitzia)			
Boryaceae				
80.	1272 <i>Borya scirpoidea</i>			
Brassicaceae				
81.	3000 <i>Brassica tournefortii</i> (Mediterranean Turnip)	Y		
82.	3002 <i>Cakile maritima</i> (Sea Rocket)	Y		
83.	19403 <i>Stenopetalum gracile</i>			
Campanulaceae				
84.	37500 <i>Grammatotheca bergiana</i> var. <i>bergiana</i>	Y		
85.	7408 <i>Lobelia tenuior</i> (Slender Lobelia)			
86.	37440 <i>Monopsis debilis</i> var. <i>depressa</i>	Y		
87.	7389 <i>Wahlenbergia preissii</i>			
Caprifoliaceae				
88.	7366 <i>Centranthus macrosiphon</i>	Y		
Caryophyllaceae				
89.	2889 <i>Cerastium glomeratum</i> (Mouse Ear Chickweed)	Y		
90.	2891 <i>Corrigiola litoralis</i> (Strapwort)	Y		
91.	19825 <i>Petrohragia dubia</i>	Y		
92.	2909 <i>Silene gallica</i> (French Catchfly)	Y		
93.	15972 <i>Silene gallica</i> var. <i>gallica</i>	Y		
Casuarinaceae				
94.	1732 <i>Allocasuarina humilis</i> (Dwarf Sheoak)			
Celastraceae				
95.	4733 <i>Stackhousia monogyna</i>			
96.	4737 <i>Tripterococcus brunonis</i> (Winged Stackhousia)			
Centrolepidaceae				
97.	1117 <i>Aphelia cyperoides</i>			
98.	1121 <i>Centrolepis aristata</i> (Pointed Centrolepis)			
99.	1125 <i>Centrolepis drummondiana</i>			
100.	1134 <i>Centrolepis polygyna</i> (Wiry Centrolepis)			
Chenopodiaceae				
101.	2483 <i>Chenopodium album</i> (Fat Hen)	Y		
102.	2491 <i>Chenopodium macrospermum</i>	Y		
103.	2578 <i>Rhagodia baccata</i> (Berry Saltbush)			
104.	11341 <i>Rhagodia baccata</i> subsp. <i>baccata</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
105.	11930 <i>Rhagodia baccata</i> subsp. <i>dioica</i> (Sea Berry Saltbush)			
106.	2644 <i>Threlkeldia diffusa</i> (Coast Bonefruit)			
Colchicaceae				
107.	12770 <i>Burchardia congesta</i>			
108.	1385 <i>Burchardia multiflora</i> (Dwarf Burchardia)			
109.	12072 <i>Wurmbea dioica</i> subsp. <i>alba</i>			
Commelinaceae				
110.	1162 <i>Cartonema philydroides</i>			
Convolvulaceae				
111.	6616 <i>Dichondra repens</i> (Kidney Weed)			
Crassulaceae				
112.	3137 <i>Crassula colorata</i> (Dense Stonecrop)			
113.	11563 <i>Crassula colorata</i> var. <i>colorata</i>			
Cyperaceae				
114.	743 <i>Baumea juncea</i> (Bare Twigrush)			
115.	748 <i>Baumea vaginalis</i> (Sheath Twigrush)			
116.	759 <i>Carex tereticaulis</i>		P3	
117.	43241 <i>Carex thecata</i>			
118.	768 <i>Cyathochaeta avenacea</i>			
119.	792 <i>Cyperus eragrostis</i> (Umbrella Sedge)	Y		
120.	822 <i>Eleocharis acuta</i> (Common Spikerush)			
121.	835 <i>Evandra pauciflora</i>			
122.	20216 <i>Ficinia nodosa</i> (Knotted Club Rush)			
123.	907 <i>Gahnia trifida</i> (Coast Saw-sedge)			
124.	20200 <i>Isolepis cernua</i> var. <i>setiformis</i>			
125.	912 <i>Isolepis cyperoides</i>			
126.	917 <i>Isolepis marginata</i> (Coarse Club-rush)			
127.	919 <i>Isolepis oldfieldiana</i>			
128.	925 <i>Lepidosperma angustatum</i>			
129.	42742 <i>Lepidosperma calcicola</i>			
130.	930 <i>Lepidosperma costale</i>			
131.	932 <i>Lepidosperma effusum</i> (Spreading Sword-sedge)			
132.	933 <i>Lepidosperma gladiatum</i> (Coast Sword-sedge, Kerbin)			
133.	937 <i>Lepidosperma longitudinale</i> (Pithy Sword-sedge)			
134.	940 <i>Lepidosperma pubisquamum</i>			
135.	<i>Lepidosperma</i> sp.			
136.	20398 <i>Lepidosperma</i> sp. Blackwood (R. Davis 7696)			
137.	29150 <i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)			
138.	945 <i>Lepidosperma squamatum</i>			
139.	946 <i>Lepidosperma striatum</i>			
140.	957 <i>Mesomelaena tetragona</i> (Semaphore Sedge)			
141.	973 <i>Schoenus asperocarpus</i> (Poison Sedge)			
142.	974 <i>Schoenus benthamii</i>		P3	
143.	986 <i>Schoenus efoliatus</i>			
144.	992 <i>Schoenus grandiflorus</i> (Large Flowered Bogrush)			
145.	996 <i>Schoenus laevigatus</i>			
146.	999 <i>Schoenus loliaceus</i>		P2	
147.	17614 <i>Schoenus plumosus</i>			
148.	1011 <i>Schoenus rigens</i>			
149.	1013 <i>Schoenus sculptus</i> (Gimlet Bog-rush)			
150.	1020 <i>Schoenus sublateralis</i>			
151.	17409 <i>Schoenus varicellae</i>			
152.	1036 <i>Tetragonia octandra</i>			
Dasypogonaceae				
153.	1218 <i>Dasypogon bromeliifolius</i> (Pineapple Bush)			
Dennstaedtiaceae				
154.	41651 <i>Pteridium esculentum</i> subsp. <i>esculentum</i>			
Dicranaceae				
155.	32338 <i>Campylopus introflexus</i>	Y		
Dilleniaceae				
156.	5109 <i>Hibbertia amplexicaulis</i>			
157.	5117 <i>Hibbertia cuneiformis</i> (Cutleaf Hibbertia)			
158.	5118 <i>Hibbertia cunninghamii</i>			
159.	20051 <i>Hibbertia diamesogenos</i>			
160.	5135 <i>Hibbertia hypericoides</i> (Yellow Buttercups)			
161.	45534 <i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
162.	5162 <i>Hibbertia racemosa</i> (Stalked Guinea Flower)			
163.	5172 <i>Hibbertia stellaris</i> (Orange Stars)			
164.	5173 <i>Hibbertia subvaginata</i>			
165.	5176 <i>Hibbertia vaginata</i>			
Droseraceae				
166.	3095 <i>Drosera erythrorhiza</i> (Red Ink Sundew)			
167.	13217 <i>Drosera erythrorhiza</i> subsp. <i>erythrorhiza</i>			
168.	3097 <i>Drosera gigantea</i> (Giant Sundew)			
169.	14298 <i>Drosera macrantha</i> subsp. <i>macrantha</i>			
170.	3108 <i>Drosera marchantii</i>			
171.	13209 <i>Drosera marchantii</i> subsp. <i>marchantii</i>			
172.	48710 <i>Drosera micrantha</i>			
173.	3118 <i>Drosera pallida</i> (Pale Rainbow)			
174.	8911 <i>Drosera rosulata</i>			
175.	13385 <i>Drosera stelliflora</i>			
176.	3131 <i>Drosera stolonifera</i> (Leafy Sundew)			
177.	13205 <i>Drosera tubaestylis</i>			
Elaeocarpaceae				
178.	4524 <i>Platytheca galioides</i>			
179.	4535 <i>Tetratheca hirsuta</i> (Black Eyed Susan)			
180.	48341 <i>Tetratheca hirsuta</i> subsp. <i>viminea</i>			
Ericaceae				
181.	6306 <i>Andersonia caerulea</i> (Foxtails)			
182.	6323 <i>Astroloma ciliatum</i> (Candle Cranberry)			
183.	6334 <i>Astroloma pallidum</i> (Kick Bush)			
184.	6348 <i>Conostephium pendulum</i> (Pearl Flower)			
185.	6360 <i>Leucopogon australis</i> (Spiked Beard-heath)			
186.	6374 <i>Leucopogon conostephioides</i>			
187.	6375 <i>Leucopogon cordatus</i>			
188.	6427 <i>Leucopogon parviflorus</i> (Coast Beard-heath)			
189.	6436 <i>Leucopogon propinquus</i>			
190.	6440 <i>Leucopogon racemosus</i>			
191.	29492 <i>Leucopogon</i> sp. <i>Busselton</i> (D. Cooper 243)		P2	
192.	34736 <i>Lysinema pentapetalum</i>			
Euphorbiaceae				
193.	4585 <i>Amperea ericoides</i>			
194.	4636 <i>Euphorbia paralias</i> (Sea Spurge)	Y		
195.	4666 <i>Monotaxis occidentalis</i>			
196.	20537 <i>Stachystemon virgatus</i>			
Fabaceae				
197.	3207 <i>Acacia alata</i> (Winged Wattle)			
198.	15466 <i>Acacia applanata</i>			
199.	3262 <i>Acacia cochlearis</i> (Rigid Wattle)			
200.	3282 <i>Acacia cyclops</i> (Coastal Wattle)			
201.	3331 <i>Acacia extensa</i> (Wiry Wattle)			
202.	3339 <i>Acacia flagelliformis</i>		P4	
203.	3374 <i>Acacia huegelii</i>			
204.	3383 <i>Acacia incurva</i>			
205.	17861 <i>Acacia longifolia</i>	Y		
206.	3442 <i>Acacia microbotrya</i> (Manna Wattle, Kalyang)			
207.	17860 <i>Acacia podalyriifolia</i>	Y		
208.	3502 <i>Acacia pulchella</i> (Prickly Moses)			
209.	15481 <i>Acacia pulchella</i> var. <i>glaberrima</i>			
210.	15482 <i>Acacia pulchella</i> var. <i>goadbyi</i>			
211.	3504 <i>Acacia pycnantha</i> (Golden Wattle)	Y		
212.	3527 <i>Acacia saligna</i> (Orange Wattle, Kudjong)			
213.	30036 <i>Acacia saligna</i> subsp. <i>stolonifera</i>			
214.	3537 <i>Acacia semitrullata</i>		P4	
215.	3557 <i>Acacia stenoptera</i> (Narrow Winged Wattle)			
216.	3576 <i>Acacia tetragonocarpa</i>			
217.	3602 <i>Acacia willdenowiana</i> (Grass Wattle)			
218.	3688 <i>Aotus gracillima</i>			
219.	3692 <i>Aotus procumbens</i>			
220.	3710 <i>Bossiaea eriocarpa</i> (Common Brown Pea)			
221.	8971 <i>Chorizema cordatum</i>			
222.	3793 <i>Daviesia angulata</i>			
223.	19747 <i>Daviesia decurrens</i> subsp. <i>decurrens</i>			
224.	3807 <i>Daviesia divaricata</i> (Marmo)			

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225.	3832 <i>Daviesia physodes</i>			
226.	3835 <i>Daviesia preissii</i>			
227.	3872 <i>Euchilopsis linearis</i> (Swamp Pea)			
228.	3876 <i>Eutaxia epacridoides</i>			
229.	3880 <i>Eutaxia virgata</i>			
230.	20475 <i>Gastrolobium capitatum</i>			
231.	19190 <i>Gastrolobium cuneatum</i>			
232.	20473 <i>Gastrolobium ebracteolatum</i>			
233.	20474 <i>Gastrolobium whicherense</i>		P2	
234.	3948 <i>Gompholobium capitatum</i>			
235.	3956 <i>Gompholobium shuttleworthii</i>			
236.	3957 <i>Gompholobium tomentosum</i> (Hairy Yellow Pea)			
237.	3961 <i>Hardenbergia comptoniana</i> (Native Wisteria)			
238.	3964 <i>Hovea chorizemifolia</i> (Holly-leaved Hovea)			
239.	3968 <i>Hovea trisperma</i> (Common Hovea)			
240.	12859 <i>Hovea trisperma</i> var. <i>trisperma</i>			
241.	3992 <i>Isotropis cuneifolia</i> (Granny Bonnets)			
242.	4012 <i>Jacksonia furcellata</i> (Grey Stinkwood)			
243.	4017 <i>Jacksonia horrida</i>			
244.	4029 <i>Jacksonia sternbergiana</i> (Stinkwood, Kapur)			
245.	37960 <i>Kennedia coccinea</i> subsp. <i>calcaria</i>			
246.	4044 <i>Kennedia prostrata</i> (Scarlet Runner)			
247.	<i>Kennedia rubicunda</i>			
248.	4052 <i>Latrobea tenella</i>			
249.	4059 <i>Lotus angustissimus</i> (Narrowleaf Trefoil)	Y		
250.	8564 <i>Lotus subbiflorus</i>	Y		
251.	4065 <i>Lupinus angustifolius</i> (Narrowleaf Lupin)	Y		
252.	4067 <i>Lupinus luteus</i> (Yellow Lupin)	Y		
253.	4079 <i>Medicago polymorpha</i> (Burr Medic)	Y		
254.	4085 <i>Melilotus indicus</i>	Y		
255.	4113 <i>Ornithopus compressus</i> (Yellow Serradella)	Y		
256.	3618 <i>Paraserianthes lophantha</i> (Albizia)			
257.	4183 <i>Pultenaea skinneri</i> (Skinner's Pea)		P4	
258.	19183 <i>Retama raetam</i>	Y		
259.	4292 <i>Trifolium campestre</i> (Hop Clover)	Y		
260.	4293 <i>Trifolium cernuum</i> (Drooping Flower Clover)	Y		
261.	4297 <i>Trifolium glomeratum</i> (Cluster Clover)	Y		
262.	4298 <i>Trifolium hirtum</i> (Rose Clover)	Y		
263.	4313 <i>Trifolium subterraneum</i> (Subterranean Clover)	Y		
264.	4320 <i>Vicia hirsuta</i> (Hairy Vetch)	Y		
265.	4322 <i>Vicia sativa</i> (Common Vetch)	Y		
266.	11474 <i>Vicia sativa</i> subsp. <i>nigra</i>	Y		
Funariaceae				
267.	32370 <i>Funaria hygrometrica</i>			
Geraniaceae				
268.	4332 <i>Erodium botrys</i> (Long Storksbill)	Y		
269.	4333 <i>Erodium cicutarium</i> (Common Storksbill)	Y		
270.	4339 <i>Geranium molle</i> (Dove's Foot Cranesbill)	Y		
271.	4340 <i>Geranium retrorsum</i>			
Goodeniaceae				
272.	12724 <i>Anthotium junciforme</i>			
273.	7428 <i>Dampiera coronata</i> (Wedge-leaved Dampiera)			
274.	7454 <i>Dampiera linearis</i> (Common Dampiera)			
275.	7462 <i>Dampiera pedunculata</i>			
276.	7505 <i>Goodenia eatoniana</i>			
277.	7517 <i>Goodenia incana</i> (Hoary Goodenia)			
278.	12551 <i>Goodenia micrantha</i>			
279.	7538 <i>Goodenia pulchella</i>			
280.	19286 <i>Goodenia pulchella</i> subsp. <i>Coastal Plain A</i> (M. Hislop 634)			
281.	19284 <i>Goodenia pulchella</i> subsp. <i>Coastal Plain B</i> (L.W. Sage 2336)			
282.	7572 <i>Lechenaultia expansa</i>			
283.	7595 <i>Scaevola anchusifolia</i>			
284.	7602 <i>Scaevola calliptera</i>			
285.	7606 <i>Scaevola crassifolia</i> (Thick-leaved Fan-flower)			
286.	7619 <i>Scaevola lanceolata</i> (Long-leaved Scaevola)			
Haemodoraceae				
287.	1411 <i>Anigozanthos manglesii</i> (Mangles Kangaroo Paw, Kurulbrang)			
288.	29487 <i>Anigozanthos manglesii</i> var. <i>x angustifolius</i>			

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289.	1416 <i>Anigozanthos viridis</i> (Green Kangaroo Paw, Kurulbardang)			
290.	1418 <i>Conostylis aculeata</i> (Prickly Conostylis)			
291.	11826 <i>Conostylis aculeata</i> subsp. <i>aculeata</i>			
292.	12118 <i>Conostylis aculeata</i> subsp. <i>gracilis</i>			
293.	12109 <i>Conostylis aculeata</i> subsp. <i>preissii</i>			
294.	1453 <i>Conostylis serrulata</i>			
295.	1472 <i>Haemodorum simplex</i>			
296.	1478 <i>Phlebocarya ciliata</i>			
297.	1481 <i>Tribonanthes australis</i>			
298.	1482 <i>Tribonanthes brachypetala</i>			
299.	1483 <i>Tribonanthes longipetala</i>			
Haloragaceae				
300.	6159 <i>Gonocarpus nodulosus</i>			
301.	6189 <i>Myriophyllum crispatum</i>			
302.	6199 <i>Myriophyllum tillaeoides</i>			
Hemerocallidaceae				
303.	1261 <i>Agrostocrinum scabrum</i> (Blue Grass Lily)			
304.	1276 <i>Caesia micrantha</i> (Pale Grass Lily)			
305.	1277 <i>Caesia occidentalis</i>			
306.	1285 <i>Corynotheca micrantha</i> (Sand Lily)			
307.	11283 <i>Corynotheca micrantha</i> var. <i>micrantha</i>			
308.	16326 <i>Dianella brevicaulis</i>			
309.	1259 <i>Dianella revoluta</i> (Blueberry Lily)			
310.	1295 <i>Johnsonia acaulis</i>			
311.	1361 <i>Tricoryne elatior</i> (Yellow Autumn Lily)			
Hydatellaceae				
312.	33019 <i>Trithuria australis</i>		P4	
313.	1139 <i>Trithuria bibracteata</i>			
314.	1141 <i>Trithuria submersa</i>			
Hydrocharitaceae				
315.	14531 <i>Ottelia ovalifolia</i> subsp. <i>ovalifolia</i>			
Hypoxidaceae				
316.	43763 <i>Pauridia glabella</i>			
317.	43760 <i>Pauridia occidentalis</i>			
318.	43761 <i>Pauridia occidentalis</i> var. <i>occidentalis</i>			
319.	43762 <i>Pauridia occidentalis</i> var. <i>quadriloba</i>			
320.	43782 <i>Pauridia vaginata</i> var. <i>vaginata</i>			
Iridaceae				
321.	18392 <i>Freesia alba</i> x <i>leichtlinii</i>	Y		
322.	19179 <i>Moraea flaccida</i> (One-leaf Cape Tulip)	Y		
323.	1537 <i>Orthrosanthus laxus</i> (Morning Iris)			
324.	1550 <i>Patersonia occidentalis</i> (Purple Flag, Koma)			
325.	1556 <i>Romulea rosea</i> (Guildford Grass)	Y		
Isoetaceae				
326.	11 <i>Isoetes drummondii</i> (Quillwort)			
Juncaceae				
327.	1178 <i>Juncus bufonius</i> (Toad Rush)	Y		
328.	1179 <i>Juncus caespiticus</i> (Grassy Rush)			
329.	1180 <i>Juncus capitatus</i> (Capitate Rush)	Y		
330.	1198 <i>Luzula meridionalis</i> (Field Woodrush)			
Juncaginaceae				
331.	40661 <i>Cynogeton lineare</i>			
332.	33276 <i>Triglochin isingiana</i>			
333.	147 <i>Triglochin mucronata</i>			
334.	18587 <i>Triglochin nana</i>			
335.	152 <i>Triglochin trichophora</i>			
Lamiaceae				
336.	6839 <i>Hemandra pungens</i> (Snakebush)			
Lauraceae				
337.	11501 <i>Cassytha glabella</i> forma <i>casuarinae</i>			
338.	2957 <i>Cassytha racemosa</i> (Dodder Laurel)			
339.	11799 <i>Cassytha racemosa</i> forma <i>racemosa</i>			
Lentibulariaceae				
340.	7145 <i>Utricularia menziesii</i> (Redcoats)			

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Loganiaceae				
341.	43201 <i>Adelphacme minima</i>		P3	
342.	16825 <i>Phyllangium divergens</i>			
Loranthaceae				
343.	2401 <i>Nuytsia floribunda</i> (Christmas Tree, Mudja)			
Malvaceae				
344.	5038 <i>Lasiopetalum membranaceum</i>		P3	
Marsileaceae				
345.	78 <i>Pitularia novae-hollandiae</i> (Austral Pillwort)			
Menyanthaceae				
346.	36160 <i>Liparophyllum capitatum</i>			
347.	36181 <i>Ornduffia parnassifolia</i>			
348.	36200 <i>Ornduffia submersa</i>		P4	
Montiaceae				
349.	2845 <i>Calandrinia brevipedata</i> (Short-stalked Purslane)			
Myrtaceae				
350.	5316 <i>Agonis flexuosa</i> (Peppermint, Wonil)			
351.	17202 <i>Agonis flexuosa</i> var. <i>flexuosa</i>			
352.	20350 <i>Astartea affinis</i> (West-coast Astartea)			
353.	20283 <i>Astartea scoparia</i> (Common Astartea)			
354.	42801 <i>Astartea zephyra</i>			
355.	5415 <i>Calothamnus lateralis</i>			
356.	35797 <i>Calothamnus lateralis</i> var. <i>lateralis</i>			
357.	5458 <i>Calytrix flavescens</i> (Summer Starflower)			
358.	5460 <i>Calytrix fraseri</i> (Pink Summer Calytrix)			
359.	5659 <i>Eucalyptus gomphocephala</i> (Tuart, Duart)			
360.	5708 <i>Eucalyptus marginata</i> (Jarrah, Djara)			
361.	5763 <i>Eucalyptus rudis</i> (Flooded Gum, Kulurda)			
362.	13512 <i>Eucalyptus rudis</i> subsp. <i>cratyantha</i>		P4	
363.	5817 <i>Hypocalymma angustifolium</i> (White Myrtle, Kudjid)			
364.	35070 <i>Hypocalymma angustifolium</i> subsp. <i>Swan Coastal Plain</i> (G.J. Keighery 16777)			
365.	5832 <i>Kunzea ericifolia</i> (Spearwood, Pondil)			
366.	17461 <i>Kunzea micrantha</i> subsp. <i>micrantha</i>			
367.	5841 <i>Kunzea recurva</i>			
368.	5926 <i>Melaleuca lateritia</i> (Robin Redbreast Bush)			
369.	20297 <i>Melaleuca osullivanii</i>			
370.	5946 <i>Melaleuca pauciflora</i>			
371.	5952 <i>Melaleuca preissiana</i> (Moonah)			
372.	5959 <i>Melaleuca rhapsiophylla</i> (Swamp Paperbark)			
373.	5978 <i>Melaleuca teretifolia</i> (Banbar)			
374.	5980 <i>Melaleuca thymoides</i>			
375.	6006 <i>Pericalymma ellipticum</i> (Swamp Teatree)			
376.	16477 <i>Pericalymma ellipticum</i> var. <i>ellipticum</i>			
377.	12392 <i>Verticordia attenuata</i>		P3	
Onagraceae				
378.	6140 <i>Oenothera mollissima</i>	Y		
Orchidaceae				
379.	15332 <i>Caladenia attingens</i> subsp. <i>atingens</i>			
380.	15579 <i>Caladenia chapmanii</i>			
381.	1586 <i>Caladenia discoidea</i> (Dancing Orchid)			
382.	1592 <i>Caladenia flava</i> (Cowslip Orchid)			
383.	15348 <i>Caladenia flava</i> subsp. <i>flava</i>			
384.	15352 <i>Caladenia georgei</i>			
385.	15354 <i>Caladenia hirta</i> subsp. <i>hirta</i>			
386.	1596 <i>Caladenia huegelii</i> (Grand Spider Orchid)		T	
387.	1599 <i>Caladenia latifolia</i> (Pink Fairy Orchid)			
388.	1602 <i>Caladenia longicauda</i> (Common White Spider Orchid)			
389.	13859 <i>Caladenia longicauda</i> subsp. <i>clivicola</i>			
390.	15371 <i>Caladenia nana</i> subsp. <i>nana</i>			
391.	17760 <i>Caladenia nobilis</i>			
392.	15503 <i>Caladenia paludosa</i>			
393.	18026 <i>Caladenia pendens</i> subsp. <i>pendens</i>			
394.	15377 <i>Caladenia reptans</i> subsp. <i>reptans</i>			
395.	13862 <i>Caladenia speciosa</i>		P4	
396.	18019 <i>Caladenia vulgata</i>			
397.	15114 <i>Cyanicula gemmata</i>			

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398.	15404 <i>Cyanicula sericea</i>			
399.	10916 <i>Cyrtostylis huegelii</i>			
400.	19649 <i>Disa bracteata</i>	Y		
401.	10796 <i>Diuris drummondii</i> (Tall Donkey Orchid)		T	
402.	48253 <i>Diuris porphyrochila</i>			
403.	11156 <i>Drakaea livida</i>			
404.	13635 <i>Drakaea micrantha</i>		T	
405.	1643 <i>Elythranthera brunonis</i> (Purple Enamel Orchid)			
406.	1646 <i>Eriochilus dilatatus</i> (White Bunny Orchid)			
407.	15412 <i>Eriochilus dilatatus</i> subsp. <i>multiflorus</i>			
408.	1653 <i>Leporella fimbriata</i> (Hare Orchid)			
409.	10954 <i>Microtis media</i> (Tall Mignonette Orchid)			
410.	15419 <i>Microtis media</i> subsp. <i>media</i>			
411.	1667 <i>Paracaleana nigrita</i> (Flying Duck Orchid)			
412.	1674 <i>Prasophyllum giganteum</i> (Bronze Leek Orchid)			
413.	10853 <i>Prasophyllum plumiforme</i>			
414.	44084 <i>Prasophyllum</i> sp. <i>early</i> (G. Brockman GBB 1626)			
415.	<i>Pterostylis</i> aff. <i>nana</i>			
416.	1685 <i>Pterostylis angusta</i>			
417.	15426 <i>Pterostylis aspera</i>			
418.	17267 <i>Pterostylis brevisepala</i>			
419.	11054 <i>Pterostylis hamiltonii</i> (Red-veined Shell Orchid)			
420.	11118 <i>Pterostylis pyramidalis</i> (Snail Orchid)			
421.	1693 <i>Pterostylis recurva</i> (Jug Orchid)			
422.	1694 <i>Pterostylis rogersii</i> (Curled-tongue Shell Orchid)			
423.	18655 <i>Pterostylis</i> sp. <i>crinkled leaf</i> (G.J. Keighery 13426)			
424.	1698 <i>Pterostylis vittata</i> (Banded Greenhood)			
425.	1705 <i>Thelymitra crinita</i> (Blue Lady Orchid)			
426.	1708 <i>Thelymitra fuscolutea</i> (Chestnut Sun Orchid)			
427.	20730 <i>Thelymitra paludosa</i>			
428.	1717 <i>Thelymitra variegata</i> (Queen of Sheba)		P2	
Orobanchaceae				
429.	7122 <i>Orobanche minor</i> (Lesser Broomrape)	Y		
430.	7089 <i>Parentucellia latifolia</i> (Common Bartsia)	Y		
431.	7090 <i>Parentucellia viscosa</i> (Sticky Bartsia)	Y		
Oxalidaceae				
432.	4352 <i>Oxalis glabra</i>	Y		
433.	4354 <i>Oxalis incarnata</i>	Y		
434.	4355 <i>Oxalis perennans</i>			
435.	4356 <i>Oxalis pes-caprae</i> (Soursob)	Y		
Phacelocarpaceae				
436.	27131 <i>Phacelocarpus alatus</i>			
Phyllanthaceae				
437.	4675 <i>Phyllanthus calycinus</i> (False Boronia)			
Plantaginaceae				
438.	14282 <i>Gratiola pubescens</i>			
439.	7108 <i>Veronica arvensis</i> (Wall Speedwell)	Y		
Poaceae				
440.	184 <i>Aira caryophyllea</i> (Silvery Hairgrass)	Y		
441.	186 <i>Aira elegantissima</i>	Y		
442.	13380 <i>Amphibromus nervosus</i>			
443.	200 <i>Amphipogon turbinatus</i>			
444.	202 <i>Anthoxanthum odoratum</i> (Sweet Vernal Grass)	Y		
445.	38480 <i>Austrostipa bronwenae</i>		T	
446.	17233 <i>Austrostipa campylachne</i>			
447.	17234 <i>Austrostipa compressa</i>			
448.	17240 <i>Austrostipa flavescens</i>			
449.	38481 <i>Austrostipa jacobiana</i>		T	
450.	17253 <i>Austrostipa semibarbata</i>			
451.	231 <i>Avellinia michelii</i>	Y		
452.	233 <i>Avena barbata</i> (Bearded Oat)	Y		
453.	234 <i>Avena fatua</i> (Wild Oat)	Y		
454.	244 <i>Briza maxima</i> (Blowfly Grass)	Y		
455.	245 <i>Briza minor</i> (Shivery Grass)	Y		
456.	247 <i>Bromus arenarius</i> (Sand Brome)			
457.	249 <i>Bromus diandrus</i> (Great Brome)	Y		
458.	48259 <i>Cortaderia selloana</i> subsp. <i>selloana</i>	Y		

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459.	299 <i>Deyeuxia quadriseta</i> (Reed Bentgrass)			
460.	306 <i>Dichelachne crinita</i> (Longhair Plumegrass)			
461.	347 <i>Ehrharta calycina</i> (Perennial Veldt Grass)	Y		
462.	349 <i>Ehrharta longiflora</i> (Annual Veldt Grass)	Y		
463.	376 <i>Eragrostis curvula</i> (African Lovegrass)	Y		
464.	444 <i>Holcus lanatus</i> (Yorkshire Fog)	Y		
465.	19955 <i>Lachnagrostis plebeia</i>			
466.	467 <i>Lagurus ovatus</i> (Hare's Tail Grass)	Y		
467.	478 <i>Lolium rigidum</i> (Wimmera Ryegrass)	Y		
468.	11073 <i>Lolium x hybridum</i>	Y		
469.	485 <i>Microlaena stipoides</i> (Weeping Grass)			
470.	573 <i>Poa drummondiana</i> (Knotted Poa)			
471.	577 <i>Poa poliformis</i> (Coastal Poa)			
472.	583 <i>Polypogon tenellus</i>			
473.	40426 <i>Rytidosperma occidentale</i>			
474.	625 <i>Spinifex longifolius</i> (Beach Spinifex)			
475.	636 <i>Stenotaphrum secundatum</i> (Buffalo Grass)	Y		
476.	722 <i>Vulpia bromoides</i> (Squirrel Tail Fescue)	Y		
477.	11137 <i>Vulpia fasciculata</i>	Y		
478.	724 <i>Vulpia myuros</i> (Rat's Tail Fescue)	Y		
Podocarpaceae				
479.	86 <i>Podocarpus drouynianus</i> (Wild Plum, Kula)			
Polygalaceae				
480.	4554 <i>Comesperma flavum</i>			
481.	4564 <i>Comesperma virgatum</i> (Milkwort)			
Polygonaceae				
482.	13911 <i>Persicaria decipiens</i>			
483.	2429 <i>Rumex acetosella</i> (Sorrel)	Y		
Posidoniaceae				
484.	122 <i>Posidonia angustifolia</i>			
Potamogetonaceae				
485.	110 <i>Potamogeton drummondii</i>			
Pottiaceae				
486.	32315 <i>Barbula calycina</i>			
487.	32439 <i>Syntrichia papillosa</i>			
Primulaceae				
488.	36375 <i>Lysimachia arvensis</i> (Pimpernel)	Y		
489.	6483 <i>Samolus junceus</i>			
490.	6484 <i>Samolus repens</i> (Creeping Brookweed)			
Proteaceae				
491.	1790 <i>Adenanthos meisneri</i>			
492.	1791 <i>Adenanthos obovatus</i> (Basket Flower)			
493.	1800 <i>Banksia attenuata</i> (Slender Banksia, Piara)			
494.	1822 <i>Banksia ilicifolia</i> (Holly-leaved Banksia)			
495.	1830 <i>Banksia littoralis</i> (Swamp Banksia, Pungura)			
496.	1863 <i>Conospermum capitatum</i>			
497.	1945 <i>Franklandia triaristata</i> (Lanoline Bush)		P4	
498.	19628 <i>Grevillea bipinnatifida</i> subsp. <i>bipinnatifida</i>			
499.	13427 <i>Grevillea manglesioides</i> subsp. <i>manglesioides</i>			
500.	2119 <i>Grevillea vestita</i>			
501.	2216 <i>Hakea varia</i> (Variable-leaved Hakea)			
502.	2267 <i>Persoonia longifolia</i> (Snottygobble)			
503.	2273 <i>Persoonia saccata</i> (Snottygobble)			
504.	2299 <i>Petrophile linearis</i> (Pixie Mops)			
505.	2316 <i>Stirlingia latifolia</i> (Blueboy)			
506.	16769 <i>Synaphea hians</i>		P3	
507.	2326 <i>Synaphea polymorpha</i> (Albany Synaphea, Pinda)			
508.	2331 <i>Xylomelum occidentale</i> (Woody Pear, Djandin)			
Ranunculaceae				
509.	2932 <i>Ranunculus colonorum</i> (Common Buttercup)			
510.	2935 <i>Ranunculus pumilio</i> (Smallflower Buttercup)			
Restionaceae				
511.	17691 <i>Desmocladus fasciculatus</i>			
512.	1070 <i>Hypolaena exsulca</i>			
513.	1071 <i>Hypolaena fastigiata</i>			



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: 30/07/18 18:47:57

[Summary](#)

[Details](#)

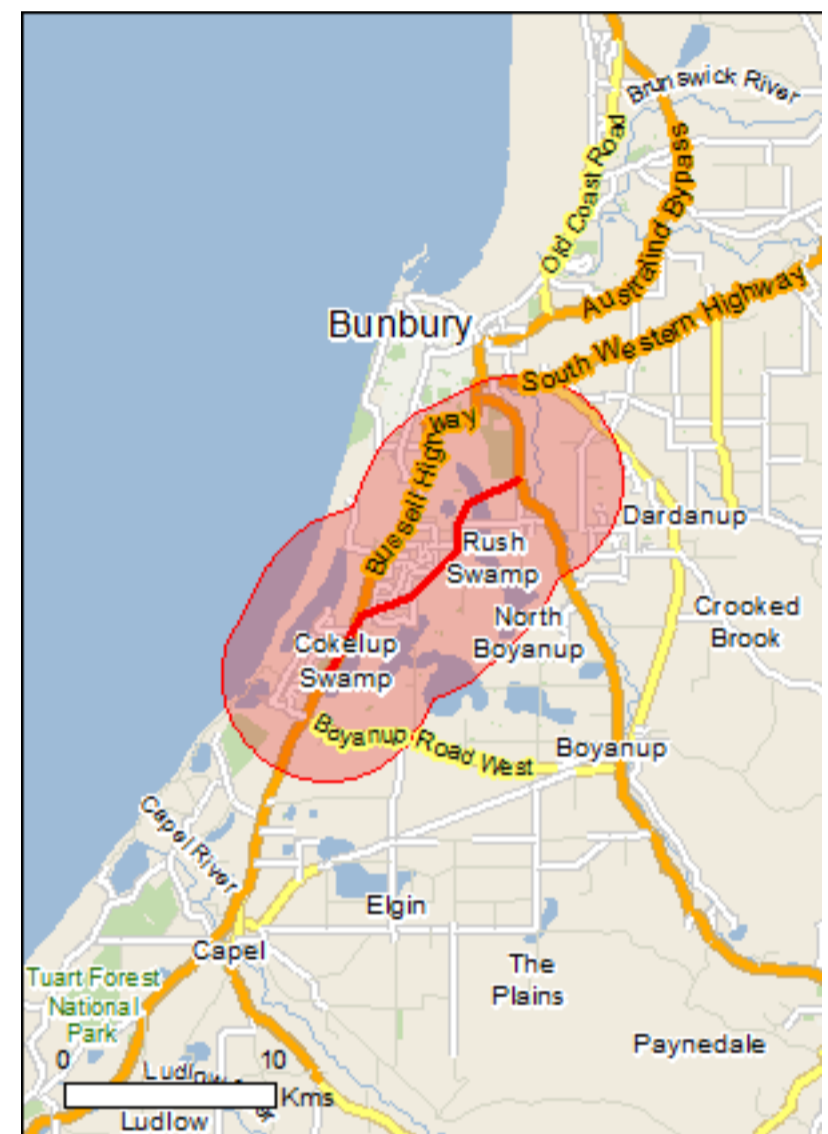
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

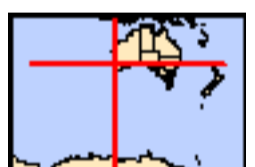
[Acknowledgements](#)



This map may contain data which are
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[Coordinates](#)

Buffer: 5.0Km



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:	2
Listed Threatened Species:	64
Listed Migratory Species:	42

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:	2
Commonwealth Heritage Places:	None
Listed Marine Species:	67
Whales and Other Cetaceans:	13
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	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:	2
Regional Forest Agreements:	None
Invasive Species:	31
Nationally Important Wetlands:	None
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 ecological community	Endangered	Community likely to occur within area
Clay Pans of the Swan Coastal Plain	Critically Endangered	Community likely to occur within area

Listed Threatened Species

[[Resource Information](#)]

Name	Status	Type of Presence
Birds		
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area
Calyptorhynchus baudinii Baudin's Cockatoo, Long-billed Black-Cockatoo [769]	Endangered	Breeding known to occur within area
Calyptorhynchus latirostris Carnaby's Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Species or species habitat known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or

Name	Status	Type of Presence
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	related behaviour likely to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat may occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat likely to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Breeding likely to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Thalassarche cauta cauta Shy Albatross, Tasmanian Shy Albatross [82345]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche cauta steadi White-capped Albatross [82344]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Fish		
Nannatherina balstoni Balston's Pygmy Perch [66698]	Vulnerable	Species or species habitat may occur within area
Mammals		
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species

Name	Status	Type of Presence
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	habitat likely to occur within area Species or species habitat likely to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Congregation or aggregation known to occur within area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Vulnerable	Species or species habitat may occur within area
Pseudocheirus occidentalis Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Breeding known to occur within area
Setonix brachyurus Quokka [229]	Vulnerable	Species or species habitat known to occur within area
Other		
Westralunio carteri Carter's Freshwater Mussel, Freshwater Mussel [86266]	Vulnerable	Species or species habitat known to occur within area
Plants		
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat may occur within area
Austrostipa bronwenae [87808]	Endangered	Species or species habitat known to occur within area
Austrostipa jacobsiana [87809]	Critically Endangered	Species or species habitat known to occur within area
Banksia nivea subsp. uliginosa Swamp Honeypot [82766]	Endangered	Species or species habitat may occur within area
Banksia squarrosa subsp. argillacea Whicher Range Dryandra [82769]	Vulnerable	Species or species habitat may occur within area
Brachyscias verecundus Ironstone Brachyscias [81321]	Critically Endangered	Species or species habitat may occur within area
Caladenia huegelii King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat known to occur within area
Chamelaucium sp. S coastal plain (R.D.Royce 4872) Royce's Waxflower [87814]	Vulnerable	Species or species habitat may occur within area
Diuris drummondii Tall Donkey Orchid [4365]	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 may occur within

Name	Status	Type of Presence 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 known to occur within area
Eleocharis keigheryi Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat likely to occur within area
Gastrolobium papilio Butterfly-leaved Gastrolobium [78415]	Endangered	Species or species habitat may occur within area
Lambertia echinata subsp. occidentalis Western Prickly Honeysuckle [64528]	Endangered	Species or species habitat may occur within area
Petrophile latericola Laterite Petrophile [64532]	Endangered	Species or species habitat may occur within area
Synaphea sp. Fairbridge Farm (D. Papenfus 696) Selena's Synaphea [82881]	Critically Endangered	Species or species habitat likely to occur within area
Synaphea sp. Serpentine (G.R. Brand 103) [86879]	Critically Endangered	Species or species habitat may occur within area
Synaphea stenoloba Dwellingup Synaphea [66311]	Endangered	Species or species habitat may occur within area
Verticordia densiflora var. pedunculata Long-stalked Featherflower [55689]	Endangered	Species or species habitat may occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sharks		
Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat known to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species

[[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
514.	17841 <i>Hypolaena pubescens</i>			
515.	1077 <i>Leptocarpus canus</i> (Hoary Twine-rush)			
516.	1078 <i>Leptocarpus coangustatus</i>			
517.	19833 <i>Leptocarpus laxus</i>			
518.	1082 <i>Leptocarpus tenax</i> (Slender Twine Rush)			
519.	46379 <i>Leptocarpus thysananthus</i>			
Rhamnaceae				
520.	13484 <i>Cryptandra arbutiflora</i> var. <i>tubulosa</i>			
521.	4828 <i>Spyridium globulosum</i> (Basket Bush)			
Rubiaceae				
522.	7321 <i>Galium divaricatum</i>	Y		
523.	7323 <i>Galium murale</i> (Small Goosegrass)	Y		
524.	25797 <i>Galium spurium</i>	Y		
525.	18254 <i>Opercularia apiciflora</i>			
526.	7348 <i>Opercularia hispidula</i> (Hispid Stinkweed)			
527.	18255 <i>Opercularia vaginata</i> (Dog Weed)			
528.	7362 <i>Sherardia arvensis</i> (Field Madder)	Y		
Rutaceae				
529.	4417 <i>Boronia dichotoma</i>			
530.	4441 <i>Boronia spathulata</i> (Boronia)			
531.	17804 <i>Boronia tetragona</i>		P3	
532.	4454 <i>Diplolaena dampieri</i> (Southern Diplolaena)			
533.	18529 <i>Philotheca spicata</i> (Pepper and Salt)			
Santalaceae				
534.	10907 <i>Exocarpos odoratus</i> (Scented Ballart)			
535.	10765 <i>Exocarpos sparteus</i> (Broom Ballart, Djuk)			
536.	2342 <i>Leptomeria cunninghamii</i>			
537.	17702 <i>Leptomeria furtiva</i>		P2	
538.	2353 <i>Leptomeria scrobiculata</i>			
Scrophulariaceae				
539.	7054 <i>Dischisma arenarium</i>	Y		
540.	17175 <i>Eremophila glabra</i> subsp. <i>albicans</i>			
Selaginellaceae				
541.	6 <i>Selaginella gracillima</i> (Tiny Clubmoss)			
Solanaceae				
542.	6949 <i>Anthocercis littorea</i> (Yellow Tailflower)			
543.	7022 <i>Solanum nigrum</i> (Black Berry Nightshade)	Y		
Stylidiaceae				
544.	7677 <i>Levenhookia stipitata</i> (Common Stylewort)			
545.	30278 <i>Stylidium androsaceum</i>			
546.	25831 <i>Stylidium araeophyllum</i> (Stilt Walker)			
547.	7693 <i>Stylidium brunonianum</i> (Pink Fountain Triggerplant)			
548.	7713 <i>Stylidium dichotomum</i> (Pins-and-needles)			
549.	25801 <i>Stylidium hesperium</i>			
550.	7745 <i>Stylidium junceum</i> (Reed Triggerplant)			
551.	7756 <i>Stylidium longitubum</i> (Jumping Jacks)		P4	
552.	19248 <i>Stylidium megacarpum</i>			
553.	7774 <i>Stylidium pilliferum</i> (Common Butterfly Triggerplant)			
554.	7785 <i>Stylidium repens</i> (Matted Triggerplant)			
555.	7798 <i>Stylidium schoenoides</i> (Cow Kicks)			
556.	<i>Stylidium</i> sp.			
557.	7806 <i>Stylidium utricularioides</i> (Pink Fan Triggerplant)			
558.	7808 <i>Stylidium violaceum</i> (Violet Triggerplant)			
Thymelaeaceae				
559.	11402 <i>Pimelea imbricata</i> var. <i>piligera</i>			
560.	5252 <i>Pimelea lanata</i>			
Urticaceae				
561.	1762 <i>Parietaria debilis</i> (Pellitory)			
Violaceae				
562.	5221 <i>Hybanthus floribundus</i>			
Xanthorrhoeaceae				
563.	1280 <i>Chamaescilla corymbosa</i> (Blue Squill)			
564.	19338 <i>Chamaescilla gibsonii</i>		P3	
565.	1251 <i>Xanthorrhoea brunonis</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
566.	1256 <i>Xanthorrhoea preissii</i> (Grass tree, Palga)			
Zamiaceae				
567.	85 <i>Macrozamia riedlei</i> (<i>Zamia</i> , Djiridji)			
Zygophyllaceae				
568.	4390 <i>Zygophyllum fruticosum</i> (Shrubby Twinleaf)			

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 wholly 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.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Hydroprogne caspia Caspian Tern [808]		Foraging, feeding or related behaviour known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Onychoprion anaethetus Bridled Tern [82845]		Foraging, feeding or related behaviour likely to occur within area
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Thalassarche cauta Tasmanian Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Migratory Marine Species		
Balaena glacialis australis Southern Right Whale [75529]	Endangered*	Breeding known to occur within area

Name	Threatened	Type of Presence
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat may occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Congregation or aggregation known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Migratory Terrestrial Species		
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to 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

Commonwealth Land [\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land - Defence - BUNBURY TRAINING DEPOT

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		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species

Name	Threatened	Type of Presence
Calidris melanotos Pectoral Sandpiper [858]		habitat likely to occur within area Species or species habitat may occur within area
Catharacta skua Great Skua [59472]		Species or species habitat may occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may 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 likely to occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within

Name	Threatened	Type of Presence area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
Puffinus assimilis Little Shearwater [59363]		Foraging, feeding or related behaviour known to occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Species or species habitat likely to occur within area
Sterna anaethetus Bridled Tern [814]		Foraging, feeding or related behaviour likely to occur within area
Sterna caspia Caspian Tern [59467]		Foraging, feeding or related behaviour known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Thalassarche cauta Tasmanian Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to 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
Fish		
Acentronura australe Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area
Campichthys galei Gale's Pipefish [66191]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area
Hippocampus subelongatus West Australian Seahorse [66722]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
Histiogamphelus cristatus Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish [66243]		Species or species habitat may occur within area
Lissocampus caudalis Australian Smooth Pipefish, Smooth Pipefish [66249]		Species or species habitat may occur within area
Lissocampus fatiloquus Prophet's Pipefish [66250]		Species or species habitat may occur within area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Mitotichthys meraculus Western Crested Pipefish [66259]		Species or species habitat may occur within area
Nannocampus subosseus Bonyhead Pipefish, Bony-headed Pipefish [66264]		Species or species habitat may occur within area
Phycodurus eques Leafy Seadragon [66267]		Species or species habitat may occur within area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Pugnaso curtirostris Pugnose Pipefish, Pug-nosed Pipefish [66269]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
Vanacampus phillipi Port Phillip Pipefish [66284]		Species or species habitat may occur within area
Vanacampus poecilolaemus Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish [66285]		Species or species habitat may occur within area
Mammals		
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Vulnerable	Species or species habitat may occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence
Mammals		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within area
Delphinus delphis Common Dophin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Congregation or aggregation known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves [\[Resource Information \]](#)

Name	State
Tuart Forest	WA
Unnamed WA40552	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 Resources Audit, 2001.

Name	Status	Type of Presence
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Birds

Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species 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

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

Name	Status	Type of Presence
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		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 rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		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
Asparagus declinatus Bridal Veil, Bridal Veil Creeper, Pale Berry Asparagus Fern, Asparagus Fern, South African Creeper [66908]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
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
Genista linifolia Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may 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

Name	Status	Type of Presence
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
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		Species or species habitat likely to occur within area

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

-33.386225 115.684895,-33.394538 115.663952,-33.402277 115.658802,-33.410301 115.659146,-33.419758 115.649189,-33.427782 115.63786,-33.434945 115.61726,-33.456144 115.603184

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.

Quadrat and Photo Point Data

Quadrat Species List

Row Labels	Status	GB 01	GB 02	GB 03	GB 04	GB 05	GB 06	GB 07	GB 08	GB 09	GB 10	GB 11	GB 12	GB 13	GB 14	GB 15	GB 16	GB 17	GB 18	GB 19	GB 20
<i>Acacia applanata</i>									1					1	1						
<i>Acacia extensa</i>			1																		
<i>Acacia huegelii</i>									1												
<i>Acacia longifolia</i>	*		1																		
<i>Acacia pulchella</i> var. <i>pulchella</i>			1												1						
<i>Acacia pulchella</i> var. <i>glaberrima</i>																			1	1	1
<i>Agonis flexuosa</i>					1		2	1				1	1	1			1				1
<i>Agrostocrinum scabrum</i>			1			1															
<i>Alyxia buxifolia</i>															1						
<i>Anthoxanthum odoratum</i>	*										1										
<i>Astartea scoparia</i>											1										
<i>Asteridea pulverulenta</i>					1	1															
<i>Astroloma pallidum</i>						1															
<i>Austrostipa campylachne</i>		1											1		1		1		1		
<i>Austrostipa flavescens</i>																				1	
<i>Austrostipa semibarbata</i>																					1
<i>Avena barbata</i>	*	1						1									1	1			
<i>Avena fatua</i>	*			1			1														
<i>Banksia attenuata</i>		1	1		1	1	1	1	1			1	1	1	1	1	1	1	1	1	1
<i>Banksia grandis</i>		1					1		1						1					1	
<i>Banksia ilicifolia</i>									1												1
<i>Baumea juncea</i>											1										
<i>Billardiera variifolia</i>															1						
<i>Bossiaea eriocarpa</i>		1			1	1			1										1		1
<i>Briza maxima</i>	*	1	1	1	1	1	1	1	1		1	1	1	1		1	1	1	1	1	1
<i>Briza minor</i>	*												1								