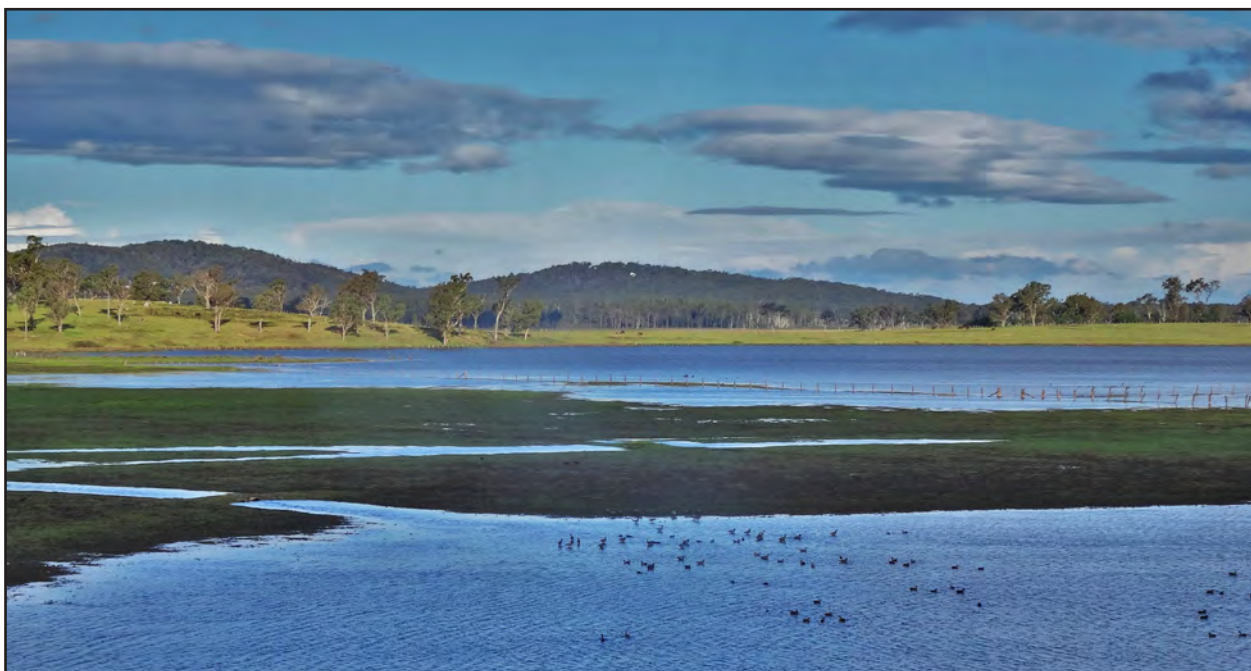


Appendix H Background searches

ps

PENOOKA SWAMP



Landscape—backswamps and swamps in Quaternary alluvium associated with Jellat Jellat Flat (**jj**) soil landscape. Elevation generally <50 m. Cleared.

Soils—deep (>150 cm), poorly drained Alluvial Soils and Black Earths (Ug5.1).

Variant psa—complex and highly variable stratigraphy with abundant sand layers in backswamps of Bega, Brogo, Bemboka and Murrah Rivers.

Variant psb—back lagoons generally with watertables above the ground surface.

Variant psc—complex and highly variable stratigraphy with abundant sand layers in backswamps of Bega, Brogo, Bemboka and Murrah Rivers, below tidal limit. Some subsoil materials may have properties similar to materials from Nelsons Lagoon (**nl**) soil landscape.

Limitations—infertile or non-cohesive erodible materials subject to flood hazard and waterlogging, with groundwater pollution hazard and foundation hazard.

LOCATION

Backswamps in Quaternary alluvium generally with watertables below the ground surface associated with Jellat Jellat Flat (**jj**) soil landscape. Bermagui - Nadgee Coastal Zone physiographic region. Type location is Penooka Swamp (Grid Ref. 7 60000E, 59 30000N).

LANDSCAPE

Geology and Regolith

Quaternary alluvium—medium clay to clay loam. Backswamps with through-flow during floods (landscape variants **psa**, **psb**, **psc**) have more complex stratigraphy, including sands. At Grid Ref. 7 58325E, 59 0750N, depth to bedrock is 29 m (Water Resources Commission quoted in Nott *et al.* 1991), although this figure may include some Tertiary sediments.

Topography

Backswamps and swamps in Quaternary alluvium. Shallow depressions generally with the watertable below the ground surface. Wetlands are large (2 x 2 km) to small (<50 x 50 m) and discontinuous (landscape variants **psa**, **psb**, **psc**). Elevation generally <50 m.

Vegetation

Cleared. Originally heath with *Melaleuca ericifolia* (swamp paperbark), *M. squarrosa* (scented paperbark), *Baeckea virgata* (tall heath-myrtle) and *Leptospermum lanigerum* (woolly tea-tree), with Cyperaceae spp. (sedges) in permanently wet sites.

Land Use

Freehold. Dairy cattle grazing when dry. Areas at Murrah River, Chinnock Lagoon and Richies Lagoon, and larger areas at Penooka-Betunga Swamp and Pambula Flat are designated State Environmental Planning Policy 14 wetlands.

Land Degradation

Substantial deposition of sands following floods (variant **psa**).

Landscape Variants

The areas marked **psa** on the map are backswamps of the Bega, Brogo, Bemboka and Murrah River floodplains. They frequently link back lagoons (variant **psb**) and together with these, form an elongated topographic low on floodplains which experience higher velocity flows than the rest of the floodplain. Complex and highly variable soil material stratigraphy with abundant sands occurs as a result. Some units are abandoned channels. Landscape variant **psa** is also a common included soil landscape in other lower energy systems such as the Wapengo, Sandy, Moncks and Sandy Beach Creeks, and the Yowaka River at Griegs Flat.

The areas marked **psb** on the map are lagoons. Horseshoe and Betunga Swamps, within the Penooka Swamp flat, expand considerably after flooding or local rain. This variant also includes small back lagoons on the Bega, Brogo, Bemboka and Murrah floodplains.

The areas marked **psc** on the map are backswamps below the tidal limit of the Murrah River, Nelson Creek and Bega River.

SOILS

Dominant Soil Materials

ps1—Brownish black clay (A horizon—topsoil)

Colour	brownish black (7.5YR 3/1, 10YR 3/1, 10YR 3/2) to black (10YR 2/1)
Texture	light to medium clay
Structure	moderately to strongly pedal, polyhedral, 5 - 10 mm
Fabric	smooth-faced peds, dense
Field pH	6.5 - 7.0
Exposed condition	dry: hardsetting and seasonally cracking; moist: moderately sticky and moderately to very plastic
Permeability	very slow through peds
Coarse fragments	none
Roots	generally few to very few, ex-ped
Type location	Murrah River floodplain (Grid Ref. 7 34300E, 59 52950N). Soil Data System card 134, 0 - 60 cm

ps2—Grey clay (subsoil)

Colour	light grey (10YR 7/1) to greyish yellow (2.5Y 7/2)
Texture	medium clay
Structure	moist: massive
Fabric	n/a
Field pH	6.5 - 7.0
Exposed condition	moist: moderate sticky and very plastic
Permeability	very slow
Coarse fragments	none
Roots	few
Type location	Reedy Swamp (Grid Ref 7 58750E, 59 34500N). Soil Data System card 214; 20 - 90 cm.

psa1—Brown clayey sand (subsoil)

Colour	brown (10YR 4/4) to brownish black (10YR 3/1)
Texture	clayey sand. Sand, coarse or very coarse
Structure	single-grained
Fabric	sandy
Field pH	7.0
Exposed condition	dry: loose; moist: not sticky and not plastic
Permeability	very rapid
Coarse fragments	variable amounts of quartz fine to coarse gravels
Roots	generally none
Type location	backswamp, 3 m inside fence (Grid Ref. 7 54550E, 59 37700N). Soil Data System card 112; 5 - 70 cm

Associated Soil Materials

The properties of materials present is highly dependent on the materials found in the catchment, the condition of the catchment and the geomorphic history of the floodplain. Materials may, therefore, be encountered which are not described herein. Site specific investigations should always be undertaken in alluvial soil landscapes.

Occurrence and Relationships

Swamps. Several metres of brownish black clay (**ps1**) (poorly drained Alluvial Soils and Black Earths (Ug5.1)) or grey clay (**ps2**) (poorly drained Grey Clays (Ug5.2)).

Soil Variants

The areas marked **psa** on the map are backswamps, often subject to high energy flows. They commonly have complex stratigraphy including **ps1** and **psa** sands, often separated by abrupt boundaries.

The areas marked **psb** on the map are back lagoons subject to high energy flows with complex stratigraphy. They have watertables above the ground surface.

The areas marked **psc** on the map are backswamps subject to high energy flows and have complex stratigraphy including **ps1** and **psa1**, often separated by abrupt boundaries. These areas are located below tidal limits and materials may have some chemical properties similar to materials of Nelsons Lagoon (**nl**) and Towamba River (**tr**) soil landscapes, such as salinity and sodicity.

Material **psa1** is found only within soil landscape variant **psa** as sand layers.

QUALITIES AND LIMITATIONS

Landscape Limitations

Flood hazard
Groundwater pollution hazard
Waterlogging
Permanently high watertables
Non-cohesive soils (**psa1**)
Foundation hazard

Soil Limitations

ps1	Moderate plasticity Low wet bearing strength Organic soil Strong sodicity Slow permeability Very highly saline
ps2	High plasticity Low wet bearing strength Sodicity Extremely low permeability Highly acid Low fertility
psa1	High erodibility Very high permeability Low available waterholding capacity Low fertility

Fertility

The general fertility of soil material **ps1** is low to moderate. Material **ps1** has high general fertility, with high CEC, moderate but deficient Ca due to very high Mg, very high K, but is also strongly sodic, has low P with moderately high P sorption and is saline. Suitability of the material as growth media is moderate for deep, poorly drained Black Earths and varies for stratified Alluvial Soils depending on the types and thickness of materials present, being very low for sands (**psa1**). Materials **ps2** may offer resistance to root penetration, especially when dry.

Erodibility

	K factor	Non-concentrated flows	Concentrated flows	Wind
ps1	0.035	moderate	moderate	very low
ps2	0.027	moderate	moderate	very low
psa1	0.025	moderate	high	moderate

Erosion Hazard

	Non-concentrated flows	Concentrated flows	Wind
ps			
grazing	very low	very low	low
cultivation	very low	low	low
urban	very low	low	low
Variants psa, psb, psc			
grazing	very low	high	low
cultivation	very low	high	low
urban	very low	high	low

Soil Conservation Earthwork Hazard

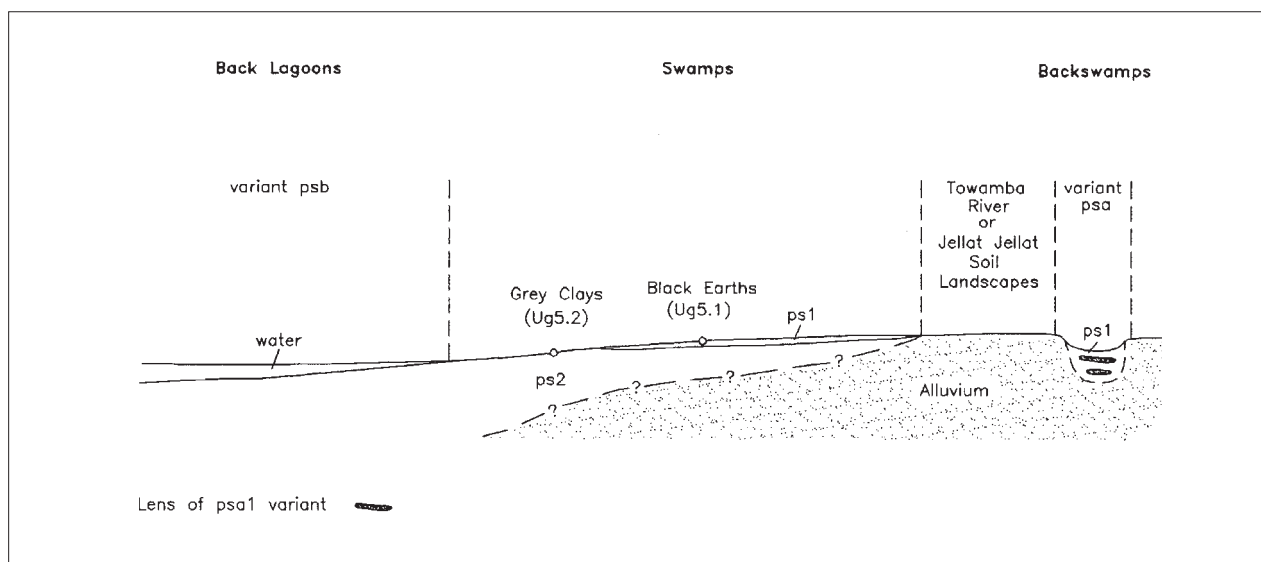
Variable limitations for earthworks depending on layer. Material **ps1** may have a tunnelling hazard. Material **psa1** has a leaking and slumping hazard. Site specific investigations should always be undertaken and soils tested before works are constructed in this soil landscape.

Septic Absorption Potential

Not suitable for septic effluent disposal due to poor drainage and proximity to waterbodies. Further, lateral movement of effluent through any sandy layers (**psa1**) present may lead to water pollution. See also *Septic Absorption Potential* in **Chapter 4, Urban Capability**.

Rural Capability and Sustainable Land Use Recommendations

Generally, moderate to high limitations for grazing and cultivation, high to extreme in poorly drained sites, depending on waterlogging. Machinery and stock should be kept off wet soil.



■ Distribution diagram of Penooka Swamp soil landscape illustrating the occurrence and relationship of dominant soil materials.

tr

TOWAMBA RIVER



Landscape—narrow, high energy floodplains of coarse Quaternary alluvium. Elevation 0 - 200 m; predominantly cleared tall open-forest.

Soils—deep (>150 cm), well-drained Alluvial Soils.

Variant—**trb**—extremely variable stratigraphy, generally thinly layered sands and gravels to clays with brackish/saline subsola on minor alluvial flats and deltas of small tributary creeks below 5 m above sea level.

Limitations—soils subject to flood hazard, high run-on, water (streambank) erosion hazard, groundwater pollution hazard and foundation hazard.

LOCATION

Floodplains of Quaternary alluvium. Bega Valley Rainshadow and Glenbog - Bondi Tableland Range physiographic regions. Examples along Towamba, Bemboka, Bega and Brogo Rivers and Tantawangalo/Mataganah Creeks. Type location is the Towamba River between Rocky Hall and New Buildings (Grid Ref. 7 26000E, 59 07700N).

LANDSCAPE

Geology and Regolith

Quaternary alluvium— coarse sand and sandy loams common, to sandy clay loams, with gravel and cobble layers common. Stratigraphy is complex, but commonly including thick (>1 m) layers of sand and gravels.

Topography

Generally, narrow (<100 m), occasionally to moderately broad (100 - 300 m), floodplains generally in mid to upper catchments, subject to high energy flows, but also found below 5 m above sea level (variant **trb**). Landform elements include floodplains, streambanks and backswamps. Elevation 0 - 22 m. Floodplain and river gradients commonly up to 3%.

Vegetation

Generally cleared. Originally tall open-forest (wet sclerophyll forest) to closed scrub— Communities 9 (i), 11 and 27 of Keith and Sanders (1990).

Land Use

Dairy and beef cattle and sheep grazing, mainly on cultivated, improved pastures.

Land Degradation

Extensive streambank erosion.

Included Soil Landscapes

Small areas of terraces (Milligandi variant **mga** soil landscape) are included. These soils have greater profile development and may not be inundated by major floods.

Landscape Variants

The areas marked **trb** on the map are minor alluvial flats and deltas of mostly small tributaries below 5 m above sea level.

SOILS

Dominant Soil Materials

tr1—Brownish black loam (A₁ horizon—topsoil, subsoil)

Colour	brownish black (7.5YR 2/2) or dark brown (7.5YR 3/3)
Texture	loamy, silty loam or sandy clay loam
Structure	weakly pedal, crumb, 2 - 5 mm to sub-angular blocky, 5 - 10 mm. Occasionally massive
Fabric	rough-faced peds, porous, to earthy
Field pH	6.5 - 5.5
Exposed condition	dry: hardsetting, crumbles with a very weak to moderately strong force; moist: not sticky to slightly sticky and not plastic to slightly plastic
Permeability	moderate to rapid
Coarse fragments	none to few (2 - 10%) fine quartz gravels
Roots	many, in-ped
Type location	Brogo River floodplain (Grid Ref. 7 53450E, 59 56450N). Soil Data System card 114; 0 - 15 cm

tr2—Brownish black sandy loam (topsoil, subsoil)

Colour	brownish black (10YR 2/2, 10YR 2/3, 7.5YR 2/2) to dark brown (7.5YR 3/3, 10YR 3/3)
Texture	sandy loam. Sand, fine
Structure	weakly pedal, crumb, 2 - 5 mm to massive
Fabric	rough-faced peds to earthy
Field pH	6.0 - 6.5
Exposed condition	dry: hardsetting to loose, brittle with a very weak to moderately weak force; moist: not sticky and not plastic
Permeability	moderate to rapid
Coarse fragments	generally none
Roots	common to few
Type location	Merimbula Caravan Park (Grid Ref. 7 58250E, 59 23800N). Soil Data System card 71; 0 - >200 cm

tr3—Dark brown sand (subsoil)

Colour	dark brown (7.5YR 3/3, 7.5YR 3/4, 10YR 3/3, 10YR 3/4) or brownish black (10YR 3/2)
Texture	sandy, loamy sand or clayey sand. Sand, coarse to fine
Structure	single-grained to massive
Fabric	sandy
Field pH	6.5 - 7.0
Exposed condition	dry: loose to brittle with a very weak force; moist: not sticky and not plastic
Permeability	rapid to very rapid
Coarse fragments	generally none
Roots	few to very few
Type location	Murrah River levee (Grid Ref. 7 68350E, 59 52350N). Soil Data System card 87; 20 - 40 cm

tr4—Dull yellowish brown sand (subsoil)

Colour	dull yellowish brown (10YR 5/4, 10YR 4/3), greyish brown (7.5YR 4/2), brown (7.5YR 4/3) to greyish yellow brown (10YR 4/2)
Texture	coarse sand to clayey sand
Structure	single-grained
Fabric	sandy
Field pH	6.0 - 7.0
Exposed condition	dry: loose; moist: not sticky and not plastic
Permeability	rapid or very rapid
Coarse fragments	generally none
Roots	few to very few
Type location	Bega (Grid Ref. 7 54550E, 59 37950N). Soil Data System card 111; 0 - 50 cm

Associated Soil Materials

The properties of materials present is highly dependent on the geology and soils found in the catchment and the condition of the catchment. Basaltic catchments, for example, are more likely to generate structured clays in downstream alluvial units; therefore, materials may be encountered which are not described herein. Site specific investigations should always be undertaken in alluvial soil landscapes.

Layers of gravels to cobbles are common. A **brownish black sandy clay to silty clay loam** may occur as thin (<50 cm) layers within floodplains otherwise dominated by sandy materials. These finer materials represent less competent flow conditions. Sandy channel materials within the present soil landscape should be regarded as soil material **br1** from Bega River (**br**) soil landscape.

Soil Variants

The areas marked **trb** on the map have extremely variable stratigraphy. Materials are generally thinly layered and range from sands and gravels to clays, with brackish/saline subsola.

Occurrence and Relationships

Stratigraphy is generally extremely complex, with thin (<30 cm) layers common. Thick (>100 cm) sandy and gravelly facies are common. Soil profile development has not occurred other than some accumulation of organic matter in the surface layer. Soil materials may be found additional to those described here. Brooks (1994) detailed information from cores in the vicinity of Bega.

Floodplains. Generally, several metres of variously layered Dominant Soil Materials overlie sands and rounded gravels and stones. Total depth of materials may be several metres (deep well-drained Alluvial Soils). For example, up to 30 cm brownish black loam (**tr1**), or brownish black sandy loam (**tr2**) frequently overlies (clear to diffuse boundary) up to several metres of dark brown sand (**tr3**) or dull yellowish brown sand (**tr4**).

QUALITIES AND LIMITATIONS

Landscape Limitations

Flood hazard
Groundwater pollution hazard
High run-on
Water erosion hazard
Foundation hazard

Soil Limitations

tr1 Low wet bearing strength
Organic soil
Stoniness (localised)
Erodibility
Hardsetting surfaces (localised)
High permeability (localised)
Acid
Low available waterholding capacity (localised)
Low fertility

tr2 Low wet bearing strength (localised)
Organic soil (localised)
Stoniness (localised)
High erodibility
High permeability
Hardsetting surfaces (localised)
Strongly or moderately acid (localised)
Low fertility
Low available waterholding capacity (localised)

tr3 Low wet bearing strength
Stoniness (localised)
High erodibility
Very high permeability
Low fertility
Very low available waterholding capacity

tr4 Stoniness (localised)
High erodibility
High permeability
Strongly acid
Low fertility
Low available waterholding capacity

Fertility

The fertility of the soils is generally moderate. **Topsoils** generally have moderate CEC, moderate Ca, high Mg, low K, are moderately acid with moderate to very low pH buffering capacity, have very high to moderate organic matter due to the previous forest cover and very low to moderate P, with moderate to high P sorption. **Subsoils** are generally moderately to strongly acid with moderate to very low pH buffering capacity, have variable organic matter and very low to moderate P, with moderate to high P sorption. Suitability of the soils as growth media is often high for the better structured and deeper Alluvial Soils, but may be low where **tr2**, **tr3** or **tr4** are near the soil surface. Soils in variant **trb** will commonly be sodic and saline, with acid sulfate potential. If potential acid sulfate soils are drained, suitability becomes extremely low regardless, causing acid scalds.

Erodibility

	K factor	Non-concentrated flows	Concentrated flows	Wind
tr1	0.021	moderate	moderate - high	moderate
tr2	0.023 - 0.029	moderate	high	moderate
tr3	0.007	very low	very high	very high
tr4	0.020	low	very high	moderate

Erosion Hazard

	Non-concentrated flows	Concentrated flows	Wind
tr			
grazing	very low	low	low - moderate
cultivation	very low	moderate	moderate
urban	very low	moderate	moderate
variant trb			
grazing	very low	low	low
cultivation	very low	low	low
urban	very low	low	low

Soil Acidity Hazard

Laboratory pH (1:5 Soil: 0.01mol CaCl₂) of topsoils ranges from 5.2 (moderately acid) to 4.7 (strongly acid). Expected buffer capacities range from moderate to very low. Soil materials in variant **trb** may be potential acid sulfate soils which may become extremely acid when drained and oxidized.

Soil Conservation Earthwork Hazard

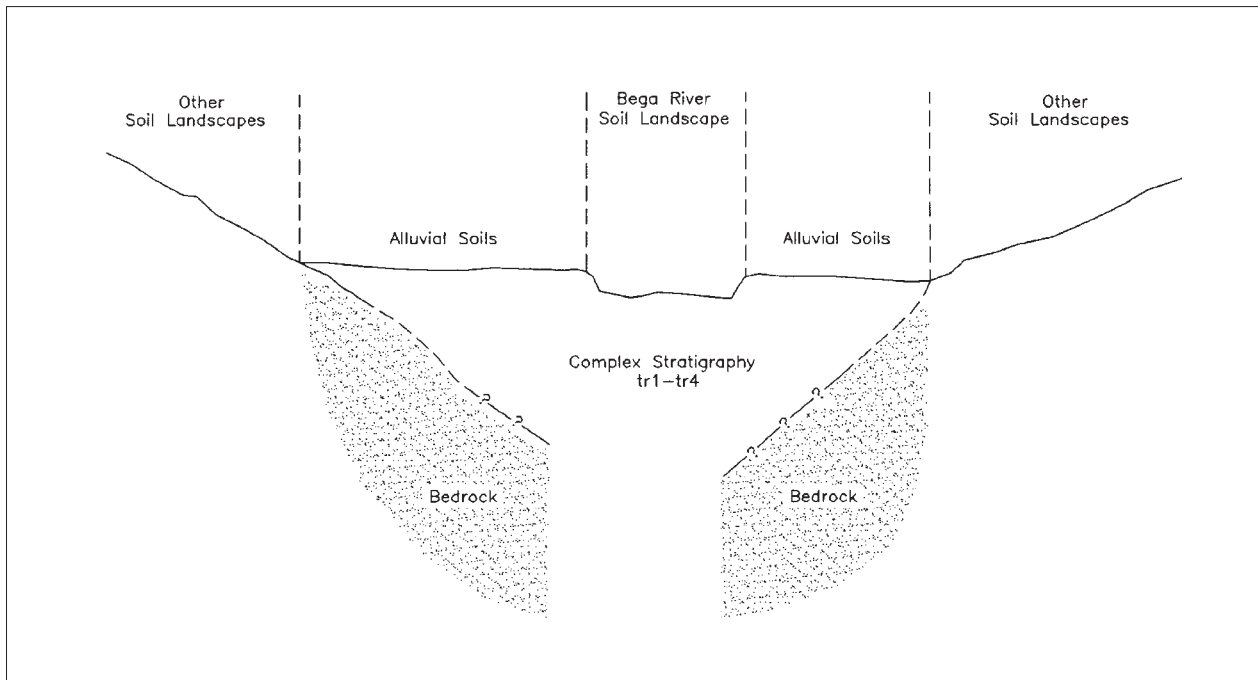
Generally, high limitations for earthworks, but very high for sandy layers (**tr2**, **tr3**, **tr4**). Materials **tr2**, **tr3** and **tr4** may have a leaking and slumping hazard. Site specific investigations should always be undertaken and soils tested before works are constructed in alluvial soil landscapes.

Septic Absorption Potential

Generally, not suitable for septic effluent disposal due to very high permeability of materials and proximity to watercourses. Site specific investigations should always be undertaken in alluvial soil landscapes. See also *Septic Absorption Potential* in **Chapter 4, Urban Capability**.

Rural Capability and Sustainable Land Use Recommendations

Low limitations for cultivation and grazing. Variant **trb** may have extreme limitations for cultivation due to exposure of potential acid sulfate soils. Streambanks should be fenced off, revegetated and rehabilitated with *Casuarina cunninghamiana* (river oak) and native understorey species. See also **Chapter 2, Land Use— Sustainable management and Agricultural lands**.



■ Distribution diagram of Towamba River soil landscape illustrating the occurrence and relationship of dominant soil materials.



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Pambula Estuarine Wetlands - NSW122

Level of importance: National - Directory

Location: 36 degrees 58'S, 149 degrees 54' E. Adjoining the Township of Pambula, 8 kilometres south of Merimbula, South Coast NSW.

Biogeographic region: South East Corner.

Shire:

Area: Approx. 200 hectares.

Elevation: 0-0.5 m ASL.

Other listed wetlands in same aggregation:

[Wetland type:](#) A6

[Criteria for inclusion:](#) 2, 3, 5, 6,

Site description:

Physical features:

Estuarine system with a backwater extending as a closed tributary to the Yowaka River. They are located upstream of Pambula lake at the fluvo-estuarine interface on the southern edge of the Pambula River

floodplain. The wetlands are located across a number of different land tenures including freehold, reserved and unreserved crown lands, and a small flora and fauna reserve.

Hydrological features:

The wetlands are subject to tidal influences and the waters are saline with dilution during run-off from the surrounding areas. Tidal attenuation is relatively minor. The mouth of the Pambula river is always open. The wetlands themselves consist of channels running through a flood plain which is subject to periodic inundation. The tidal limit has been reduced by at least 2 kms. due to sedimentation from the catchment.

Ecological features:

The area is habitat for a number of fauna including threatened species. Areas of exposed sandflats and Mangroves (*Avicennia marina*), saltmarsh and brackish/freshwater assemblages.

Significance:**Notable flora:**

Flora of regional significance include: Forest Red Gum (*Eucalyptus tereticornis*), River Buttercup (*Ranunculus inundatus*), Native Sea Lavender (*Limonium australe*), Coastal Saltbush (*Rhagodia candolleana*), and *Sclerostegia arbuscula*.

Notable fauna:

Fauna considered vulnerable at a state level (Sv) include the Yellow-bellied Glider (*Petaurus australis*), Eastern Freetail-bat (*Mormopterus norfolkensis*), Eastern False Pipistrelle (*Falsistrellus tasmaniensis*), Greater Broad-nosed Bat (*Scoteanax rueppellii*), and Large-footed Myotis (*Myotis adversus*).

Other Fauna:**Social and Cultural values:**

The area is a landmark to the local community. It is a developing icon for the community with strong recognition developing for its environmental and historical values. The community and Bega Valley shire council are working together to define a balance for the area between protection and potential recreational use. The area has significant historical values linked to use of part of the area as a race course.

Land tenure:

On site: Freehold, leasehold. Surrounding area: Freehold, leasehold.

Current land use:

On site: Disused race course, old farming area and natural reserves. Surrounding area: Pambula township and active dairy farming.

Disturbance or threat:

Past/present: Impact from inappropriate recreation development. Storm water runoff. Potential effluent disposal systems and siltation.

Potential: No information

Conservation measures taken:

SEPP 14 coastal wetlands are mapped for the area. Community planning and requests for NHT funding has been undertaken. Application in place for a Voluntary Conservation Agreement.

Management authority and jurisdiction:

Bega Valley Council and freehold.

References:

Pambula Estuarine Wetland Study: A Report Prepared for the Department of Land and Water Conservation and the Pambula area Planning & Progress Association, May 1998. (Currently in draft form).

Compiler & date:

Steve Dovey, Eden District, NSW National Parks and Wildlife Service, Eden District, 1999.

Drainage:

AWRC Division: South-East Coast

AWRC Region:

AWRC Basin:

Catchment:

Sub-catchment:

[Go to basic query form](#) | [Go to spatial query tool](#)

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Search results

Your search for:LGA: BEGA VALLEY SHIRE COUNCIL

Matched 7 notices relating to 3 sites.

Search Again

Refine Search

Suburb	Address	Site Name	Notices related to this site
BEGA	19-29 Upper STREET	Former Bega Gasworks	2 current
BEGA	Part of Upper, East, Gordon & Gloucester STREET	Lands Adjoining the Former Bega Gasworks	2 current
EDEN	80-82 Imlay STREET	Former Caltex Eden Depot	3 current

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29 November 2024

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☐ Fish Freshwater Threatened Species

☒ Supporting Data

☐  Blue Carbon Supporting Data

☐  Domestic Waterfront Structure

Strategy

☐ SEPP Resilience and Hazards 2021

☐ NSW Cadastre

☒ Topographic Features

☐ City

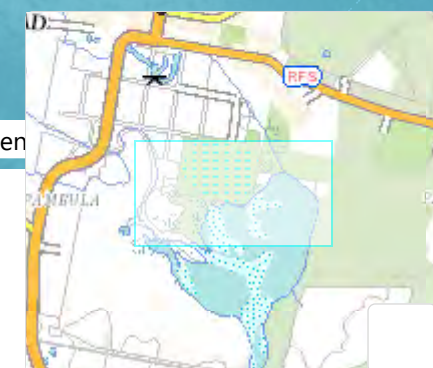
☐ Towns

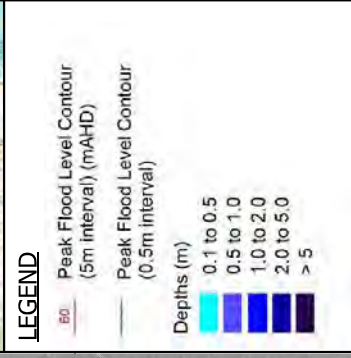
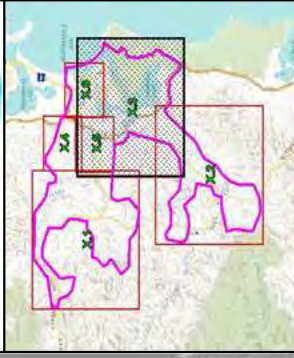
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Notes:
Aerial photograph: Google Satellite 2019
Only areas subject to inundation depths of more than 0.1 metres are displayed

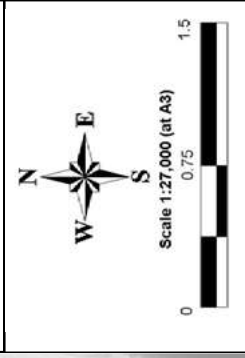
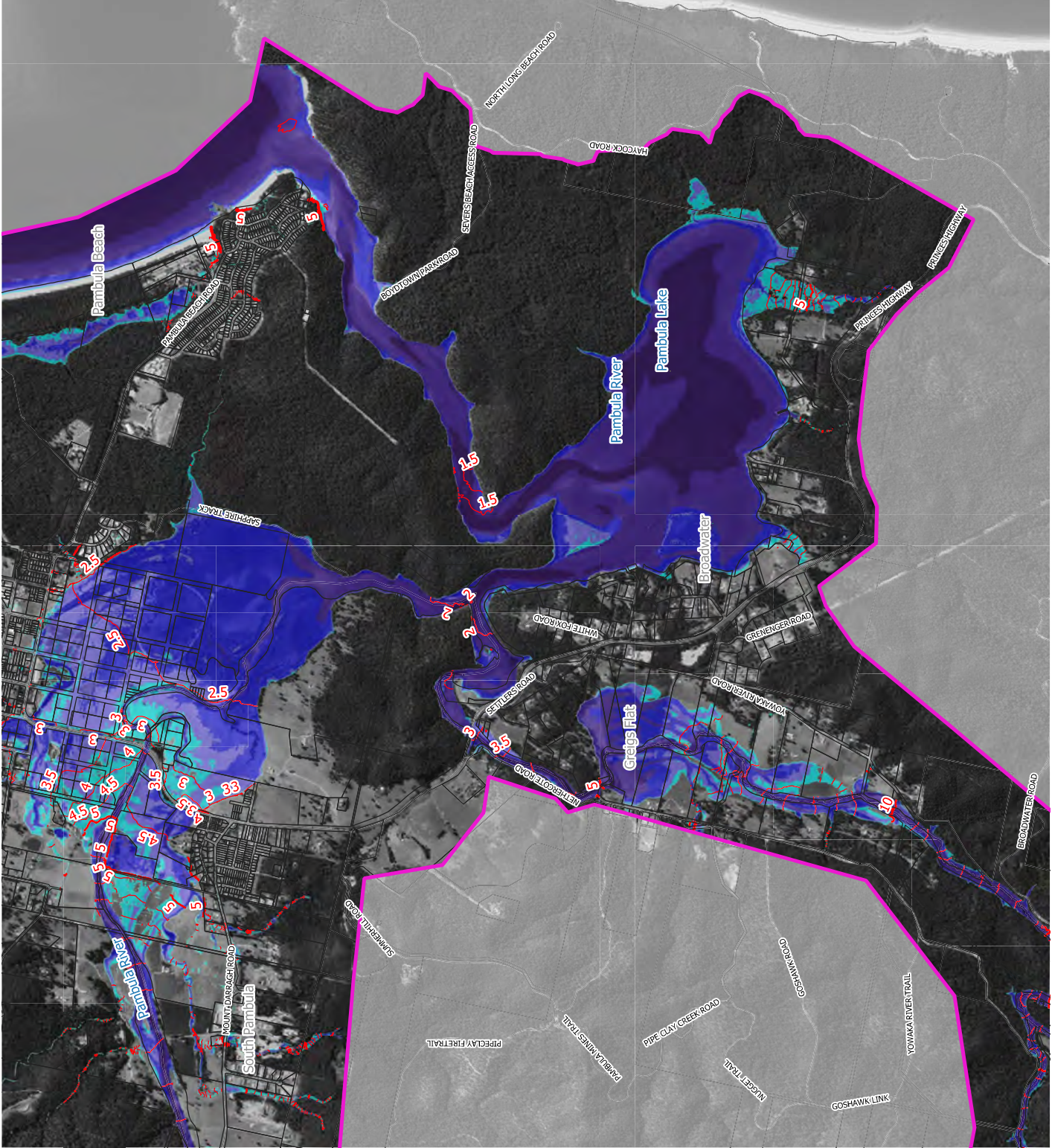


Figure 19.3
Peak Water Depths and Levels for the 10% AEP Flood

Prepared By:
Catchment Simulation Solutions
Suite 10.01, 70 Philip St
Sydney, NSW 2000

File Name: Figure 19 Peak Water Depths and Levels for the 10% AEP





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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. Please see the caveat for interpretation of information provided here.

Report created: 21-Nov-2024

[Summary](#)

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[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment 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 (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	5
Listed Threatened Species:	95
Listed Migratory Species:	54

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 <https://www.dcceew.gov.au/parks-heritage/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 Lands:	3
Commonwealth Heritage Places:	None
Listed Marine Species:	87
Whales and Other Cetaceans:	14
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	8
Regional Forest Agreements:	1
Nationally Important Wetlands:	2
EPBC Act Referrals:	3
Key Ecological Features (Marine):	1
Biologically Important Areas:	9
Bioregional Assessments:	None
Geological and Bioregional Assessments:	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.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Brogo Vine Forest of the South East Corner Bioregion	Endangered	Community likely to occur within area	In feature area
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	Critically Endangered	Community likely to occur within area	In buffer area only
Lowland Grassy Woodland in the South East Corner Bioregion	Critically Endangered	Community likely to occur within area	In feature area
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community likely to occur within area	In feature area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area	In feature area

Listed Threatened Species

[Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat may occur within area	In feature area
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat known to occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat known to occur within area	In feature area
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat may occur within area	In feature area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In feature area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat likely to occur within area	In feature area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area	In feature area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pterodroma leucoptera leucoptera Gould's Petrel, Australian Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area	In buffer area only
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat known to occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat known to occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat known to occur within area	In feature area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche bulleri platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Thinornis cucullatus cucullatus Eastern Hooded Plover, Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area
FISH			
Epinephelus daemeli Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat may occur within area	In feature area
Prototroctes maraena Australian Grayling [26179]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Serirolella brama Blue Warehou [69374]	Conservation Dependent	Species or species habitat known to occur within area	In buffer area only
FROG			
Heleioporus australiacus Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat known to occur within area	In feature area
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat known to occur within area	In feature area
Litoria raniformis Southern Bell Frog,, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat may occur within area	In feature area
Litoria watsoni Southern Heath Frog, Watson's Tree Frog [91509]	Endangered	Species or species habitat likely to occur within area	In feature area
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
MAMMAL			
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area	In feature area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area	In buffer area only
Isoodon obesulus obesulus Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern) [68050]	Endangered	Species or species habitat likely to occur within area	In feature area
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat known to occur within area	In feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Potorous tridactylus trisulcatus Long-nosed Potoroo (southern mainland) [86367]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pseudomys fumeus Smoky Mouse, Konoom [88]	Endangered	Species or species habitat known to occur within area	In feature area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat may occur within area	In feature area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			
Amphibromus fluitans River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calochilus pulchellus Pretty Beard Orchid, Pretty Beard-orchid [84677]	Endangered	Species or species habitat may occur within area	In buffer area only
Correa baeuerlenii Chef's Cap [17007]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Corunastylis rhyolitica listed as Genoplesium rhyoliticum Pambula Midge-orchid, Rhyolite Midge Orchid [78697]	Endangered	Species or species habitat known to occur within area	In buffer area only
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Glycine latrobeana Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Leionema ralstonii [64926]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pomaderris cotoneaster Cotoneaster Pomaderris [2043]	Endangered	Species or species habitat may occur within area	In buffer area only
Pomaderris parrisiae Parris' Pomaderris [22119]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Westringia davidii [19079]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Zieria formosa Shapely Zieria [56733]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Zieria parrisiae Parris's Zieria [56735]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
REPTILE			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In feature area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding likely to occur within area	In buffer area only
SHARK			
Carcharias taurus (east coast population) Grey Nurse Shark (east coast population) [68751]	Critically Endangered	Foraging, feeding or related behaviour may occur within area	In buffer area only
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Migration route known to occur within area	In buffer area only
Galeorhinus galeus School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark [68453]	Conservation Dependent	Species or species habitat may occur within area	In buffer area only
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Listed Migratory Species [Resource Information]			
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Ardeenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Ardeenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In feature area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sternula albifrons Little Tern [82849]		Species or species habitat may occur within area	In buffer area only
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Migratory Marine Species			
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area	In buffer area only
Carcharias taurus Grey Nurse Shark [64469]		Foraging, feeding or related behaviour may occur within area	In buffer area only
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Migration route known	In buffer area only to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In feature area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In feature area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area	In buffer area only
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area	In buffer area only
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area	In feature area
Megaptera novaeangliae Humpback Whale [38]		Foraging, feeding or related behaviour known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding likely to occur within area	In buffer area only
Orcinus orca Killer Whale, Orca [46]		Species or species habitat likely to occur within area	In buffer area only
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Migratory Terrestrial Species			
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In buffer area only
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago megala Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Gallinago stenura Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands

[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.

Commonwealth Land Name	State	Buffer Status
Communications, Information Technology and the Arts - Telstra Corporation Limited		
Commonwealth Land - Australian Telecommunications Commission [12265]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Australian Telecommunications Commission [15535]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [16089]	NSW	In buffer area only

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Ardenna carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Ardenna grisea as Puffinus griseus Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea antipodensis gibsoni as Diomedea gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Gallinago megala Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago stenura Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In buffer area only
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In feature area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In buffer area only
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Stercorarius antarcticus as Catharacta skua Brown Skua [85039]		Species or species habitat may occur within area	In buffer area only
Sterna striata White-fronted Tern [799]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Sternula albifrons as Sterna albifrons Little Tern [82849]		Species or species habitat may occur within area	In buffer area only
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche bulleri platei as Thalassarche sp. nov. Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Thinornis cucullatus as Thinornis rubricollis Hooded Plover, Hooded Dotterel [87735]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Thinornis cucullatus cucullatus as Thinornis rubricollis rubricollis Eastern Hooded Plover, Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Fish			
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area	In buffer area only
Hippocampus abdominalis Big-belly Seahorse, Eastern Potbelly Seahorse, New Zealand Potbelly Seahorse [66233]		Species or species habitat may occur within area	In buffer area only
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hippocampus minotaur Bullneck Seahorse [66705]		Species or species habitat may occur within area	In buffer area only
Histiogamphelus briggsii Crested Pipefish, Briggs' Crested Pipefish, Briggs' Pipefish [66242]		Species or species habitat may occur within area	In buffer area only
Histiogamphelus cristatus Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish [66243]		Species or species habitat may occur within area	In buffer area only
Hypselognathus rostratus Knifesnout Pipefish, Knife-snouted Pipefish [66245]		Species or species habitat may occur within area	In buffer area only
Kaupus costatus Deepbody Pipefish, Deep-bodied Pipefish [66246]		Species or species habitat may occur within area	In buffer area only
Kimblaeus bassensis Trawl Pipefish, Bass Strait Pipefish [66247]		Species or species habitat may occur within area	In buffer area only
Leptoichthys fistularius Brushtail Pipefish [66248]		Species or species habitat may occur within area	In buffer area only
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area	In buffer area only
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area	In buffer area only
Mitotichthys semistriatus Halfbanded Pipefish [66261]		Species or species habitat may occur within area	In buffer area only
Mitotichthys tuckeri Tucker's Pipefish [66262]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Notiocampus ruber Red Pipefish [66265]		Species or species habitat may occur within area	In buffer area only
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area	In buffer area only
Solegnathus robustus Robust Pipehorse, Robust Spiny Pipehorse [66274]		Species or species habitat may occur within area	In buffer area only
Solegnathus spinosissimus Spiny Pipehorse, Australian Spiny Pipehorse [66275]		Species or species habitat may occur within area	In buffer area only
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area	In buffer area only
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area	In buffer area only
Stipecampus cristatus Ringback Pipefish, Ring-backed Pipefish [66278]		Species or species habitat may occur within area	In buffer area only
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	In buffer area only
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area	In buffer area only
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area	In buffer area only
Vanacampus phillipi Port Phillip Pipefish [66284]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Vanacampus poecilolaemus			
Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish [66285]		Species or species habitat may occur within area	In buffer area only
Mammal			
Arctocephalus forsteri			
Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area	In buffer area only
Arctocephalus pusillus			
Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area	In buffer area only
Reptile			
Caretta caretta			
Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In feature area
Chelonia mydas			
Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Dermochelys coriacea			
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In feature area
Eretmochelys imbricata			
Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Natator depressus			
Flatback Turtle [59257]	Vulnerable	Breeding likely to occur within area	In buffer area only
Whales and Other Cetaceans			
[Resource Information]			
Current Scientific Name	Status	Type of Presence	Buffer Status
Mammal			
Balaenoptera acutorostrata			
Minke Whale [33]		Species or species habitat may occur within area	In buffer area only
Balaenoptera borealis			
Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Current Scientific Name	Status	Type of Presence	Buffer Status
Balaenoptera edeni Bryde's Whale [35]	Endangered	Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]		Species or species habitat likely to occur within area	In buffer area only
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Caperea marginata Pygmy Right Whale [39]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area	In buffer area only
Eubalaena australis Southern Right Whale [40]		Species or species habitat known to occur within area	In buffer area only
Grampus griseus Risso's Dolphin, Grampus [64]	Endangered	Species or species habitat may occur within area	In buffer area only
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area	In buffer area only
Megaptera novaeangliae Humpback Whale [38]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Orcinus orca Killer Whale, Orca [46]		Species or species habitat likely to occur within area	In buffer area only
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]	Endangered	Species or species habitat likely to occur within area	In buffer area only

Current Scientific Name	Status	Type of Presence	Buffer Status
Tursiops truncatus s. str.			
Bottlenose Dolphin [68417]		Species or species habitat may occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Bell Bird Creek	Nature Reserve	NSW	In buffer area only
Ben Boyd	National Park	NSW	In feature area
Bournda	Nature Reserve	NSW	In buffer area only
Bournda	National Park	NSW	In buffer area only
Jingera	Flora Reserve	NSW	In buffer area only
Nethercote Falls	Flora Reserve	NSW	In buffer area only
South East Forest	National Park	NSW	In buffer area only
Yurammie	State Conservation Area	NSW	In buffer area only

Regional Forest Agreements	[Resource Information]
Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.	

RFA Name	State	Buffer Status
Eden RFA	New South Wales	In feature area

Nationally Important Wetlands		[Resource Information]
Wetland Name	State	Buffer Status
Merimbula Lake	NSW	In buffer area only
Pambula Estuarine Wetlands	NSW	In feature area

EPBC Act Referrals	[Resource Information]			
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Key Ecological Features

[[Resource Information](#)]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region	Buffer Status
Upwelling East of Eden	South-east	In buffer area only

Biologically Important Areas

[[Resource Information](#)]

Scientific Name	Behaviour	Presence	Buffer Status
Dolphins			
Tursiops aduncus			
Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Breeding	Likely to occur	In buffer area only

Seabirds

Ardenna grisea			
Sooty Shearwater [82651]	Foraging	Likely to occur	In buffer area only
Ardenna tenuirostris			
Short-tailed Shearwater [82652]	Foraging	Likely to occur	In buffer area only
Ardenna tenuirostris			
Short-tailed Shearwater [82652]	Foraging	Likely to occur	In buffer area only
Pelagodroma marina			
White-faced Storm-petrel [1016]	Foraging	Known to occur	In buffer area only
Thalassarche cauta cauta			
Shy Albatross [82345]	Foraging likely	Likely to occur	In buffer area only

Sharks

Carcharias taurus			
Grey Nurse Shark [64469]	Foraging	Known to occur	In buffer area only

Whales

Balaenoptera musculus brevicauda			
Pygmy Blue Whale [81317]	Foraging	Likely to be present	In buffer area only

Scientific Name	Behaviour	Presence	Buffer Status
Megaptera novaeangliae			
Humpback Whale [38]	Migration (north and south)	Known to occur	In buffer area only

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and 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

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

Where little information is available for a 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 detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

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

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

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

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

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

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

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

Please feel free to provide feedback via the [Contact us](#) page.

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