

NORTHERN BEACHES COUNCIL

Currawong Wharf Upgrade

Review of Environmental Factors

DRAFT

Document no. 311015-00576-EN-REF-0201



25 March 2025

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PROJECT 311015-00576 – 311015-00576-EN-REF-0201: Currawong Wharf Upgrade – Review of Environmental Factors

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Table of contents

Executive Summary	8
1. Introduction	10
1.1 Proposal Location	10
1.2 Objectives of the Proposal	11
1.3 Description of proposal	12
1.4 Current Site Conditions	12
1.5 Purpose of the REF	13
2. Need and Options Considered	15
2.1 Strategic Context	15
2.2 Options Considered	15
2.3 Alternative Options	16
2.3.1 Hydraulic Solution	16
2.3.2 Fixed Ramp Solution	17
2.3.3 Preferred Wharf Solution	18
3. Description of the Proposal.....	19
3.1 The Proposal.....	19
3.2 Design Features	20
3.3 Construction Activities	22
3.3.1 Work Methodology	22
3.3.2 Construction Duration and Hours	22
3.3.3 Plant and Equipment	23
3.3.4 Ancillary Facilities	23
3.3.5 Wharf Operation During Construction	23
4. Statutory and Planning Framework	24
4.1 Commonwealth Legislation	24
4.1.1 Environmental Protection and Biodiversity Conservation Act 1999.....	24
4.1.2 Native Title Act 1993.....	25
4.1.3 Disability Discrimination Act 1992.....	25
4.2 NSW Legislation	25
4.2.1 Environmental Planning and Assessment Act 1979.....	25
4.2.2 Environmental Planning and Assessment Regulation 2021	25
4.2.3 Biodiversity Conservation Act 2016	25
4.2.4 Fisheries Management Act 1994	26
4.2.5 Biosecurity Act 2015	26
4.2.6 Coastal Management Act 2016	27
4.2.7 Contaminated Land Management Act 1994	27
4.2.8 Crown Land Management Act 2016	27
4.2.9 Heritage Act 1977.....	28
4.2.10 Marine Safety Act 1998 and Marine Safety Regulation 2016	29
4.2.11 National Parks and Wildlife Act 1974	29
4.2.12 Protection of the Environment Operations Act 1997	29
4.2.13 Water Management Act 2000	30
4.3 Planning Instruments.....	30
4.3.1 State Environmental Planning Policy (Transport and Infrastructure) 2021	30
4.3.2 State Environmental Planning Policy (Resilience and Hazards) 2021	30

4.3.3	Pittwater Local Environment Plan 2014.....	31
5.	Consultation	33
5.1	Community Involvement.....	33
5.2	Government Agency and Stakeholder Involvement.....	33
5.3	TI SEPP Consultation	34
5.4	Ongoing or future Consultation	34
6.	Environmental Assessment.....	35
6.1	Biodiversity	35
6.1.1	Marine Vegetation.....	35
6.1.2	Key Fish Habitat	40
6.1.3	Key Fish Habitat Type and Sensitivity.....	41
6.1.4	Wetlands	43
6.1.5	National Parks and Nature Reserves.....	43
6.1.6	Critical Habitat/Areas of Outstanding Biodiversity Value (AOBVs).....	44
6.1.7	Listed Threatened Ecological Communities	44
6.1.8	Biologically Important Areas	45
6.1.9	Key Ecological Features (Marine)	46
6.1.10	Invasive Species (WeedWise).....	46
6.1.11	Threatened and Protected Fauna and Flora Searches.....	46
6.1.12	Marine Parks	51
6.1.13	Groundwater Dependent Ecosystems	52
6.1.14	Potential Impacts.....	52
6.2	Water Quality	54
6.2.1	Existing Environment	54
6.2.2	Potential Impacts.....	55
6.3	Coastal Processes.....	56
6.3.1	Existing Environment	56
6.3.2	Potential Impacts.....	56
6.4	Heritage.....	57
6.4.1	Existing Environment	57
6.4.2	Potential Impacts.....	59
6.5	Boat Navigation	59
6.5.1	Existing Environment	59
6.5.2	Potential Impacts.....	60
6.6	Noise.....	60
6.6.1	Existing Environment	60
6.6.2	Potential Impacts.....	61
6.7	Air.....	61
6.7.1	Existing Environment	61
6.7.2	Potential Impacts.....	62
6.8	Visual	62
6.8.1	Existing Environment	62
6.8.2	Potential Impacts.....	63
6.9	Soil, Erosion and Contamination.....	63
6.9.1	Existing Environment	63
6.9.2	Potential Impacts.....	65
6.10	Waste.....	66
6.10.1	Existing Environment	66
6.10.2	Potential Impacts.....	66

6.11	Community.....	67
6.11.1	Existing Environment	67
6.11.2	Potential Impacts.....	67
7.	Environmental Management	68
7.1	Mitigation Measures.....	68
7.2	Licensing and Approvals.....	75
8.	Section 171 EP&A Regulation Factors	76
9.	Conclusion	79
10.	Certification.....	80
11.	References.....	81

Appendices

Appendix A. Proposal Drawings

Appendix B. Protected Matters Search Tool

Appendix C. Marine Pollution Research Aquatic Ecology Assessment

Appendix D. Fisheries Management Act Full Schedule

Appendix E. Bionet Atlas Full Search

Appendix F. Statement of Heritage Impact

List of tables

Table 6-1	List of Threatened Ecological Communities (MNES, 2023)	45
Table 6-2	List of Biologically Important Areas in relation to the site.....	45
Table 6-3	Threatened and protected marine species listed under the FM Act 1994 with the potential to occur in surrounding environment.....	46
Table 6-4	Threatened and protected marine species listed under the BC Act 2016 recorded within a 10km radius of the site	48
Table 6-5	Threatened and protected marine species listed under the EPBC Act 1999 with the potential to occur in the study area	50
Table 7-1	Mitigation measures.....	68
Table 7-2	Summary of licensing and approvals required	75
Table 8-1	Section 171 of EP&A Regulations considerations	76

List of figures

Figure 1-1	Location of the site (Source: Nearmap, 2024)	10
Figure 1-2	Currawong Wharf layout and features (Source: Nearmap, 2024)	11
Figure 1-3	Site photos of Currawong Wharf (Source: Worley Consulting, 2023)	13
Figure 2-1	Concept plan for the platform lift and steps (Source: Northern Beaches Council, 2023)	16
Figure 2-2	Alternative concept plan for fixed ramps (Source: Worley Consulting, 2024)	17
Figure 3-1	Wharf upgrade site plan (Source: Worley Consulting, 2025)	19
Figure 3-2	Wharf upgrade general arrangement plan (Source: Worley Consulting, 2025)	20
Figure 3-3	3D render view	21

Figure 3-4 3D render view	21
Figure 4-1 Crown land situated at the site.....	28
Figure 4-2 Crown Reserves situated at the site.....	28
Figure 4-3 Land Zoning Map (NSW Planning Portal, 2024)	31
Figure 6-1 Image showing mature Grey mangroves along the estuarine shore of the un-named creek draining to Currawong Beach at the northern end (Source: AHA Ecology, 2008 in MPR, 2024)	35
Figure 6-2 NSW Fisheries Seagrass mapping for northwest Pittwater in 1981 (Source: MPR, 2024; West et al 1985).....	37
Figure 6-3 DPIRD Marine Vegetation Habitat Mapping for Currawong Beach in 2000 (left) and 2005 (right) (Source: MPR, 2024).....	37
Figure 6-4 DPIRD Marine Vegetation Habitat Mapping for Currawong in 2019 (Source: MPR, 2024).....	38
Figure 6-5 Location of Key Fish Habitat in relation to the site (Source: DPIRD, 2024).....	41
Figure 6-6 Key fish habitat and associated sensitivity classification scheme (for assessing potential impacts of certain activities and developments on key fish habitat (from NSW DPI 2013)	42
Figure 6-7 Classification of waterways for fish passage types (from: NSW DPI 2013).	42
Figure 6-8 Ku-ring-gai Chase National Park overview (NSW National Parks, 2024)	43
Figure 6-9 Barrenjoey Head Aquatic Reserve.....	52
Figure 6-10 Drone image of Currawong Wharf with seagrass mapped and bathymetry overlaid (Source: MPR, 2024).....	53
Figure 6-11 Main water bodies surrounding the site (Source: Nearmap, 2023)	55
Figure 6-12 SHR curtilage (Source: Heritage NSW, 2024)	58
Figure 6-13 LEP Heritage Map (Source: NSW Planning Portal, 2024)	58
Figure 6-14 Noise Sensitive Receivers in relation to the site (Source: Nearmap, 2023).....	61
Figure 6-15 View from waterway to the site (Source: Worley Consulting, 2023)	62
Figure 6-16 Soil profile of Currawong Beach and surrounding areas (Source: eSPADE, 2024).....	63
Figure 6-17 Search results of the contaminated land records (Source: EPA, 2024)	64
Figure 6-18 Acid Sulfate Soils Map (Source: NSW Planning Portal, 2024)	65

Acronyms and Abbreviations

Acronym/abbreviation	Definition
BC Act	<i>Biodiversity Conservation Act 2016</i>
CBC	Currawong Beach Cottages
CM Act	<i>Coastal Management Act 2016</i>
CLM Act 1994	<i>Contaminated Land Management Act 1994</i>
CLM Act 2016	<i>Crown Land Management Act 2016</i>
CEMP	Construction Environment Management Plan
DDA	<i>Disability Discrimination Act 1992</i>
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DPIRD	NSW Department of Primary Industries and Regional Development
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EPIs	Environmental Planning Instruments
EPA	Environment Protection Authority
MNES	Matters of National Environmental Significance
MPR	Marine Pollution Research Pty Ltd
NT	<i>Native Title Act 1993</i>
POEO Act 1997	<i>Protection of Environment Operations Act 1997</i>
POM	Pittwater Wharves Plan of Management
REF	Review of Environmental Factors
RH SEPP	State Environmental Planning Policy (Resilience and Hazards) 2021
SEPP	State Environment Planning Policy
SDS	Safety Data Sheet
SHR	State Heritage Register
TEC	Threatened Ecological Community
TI SEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021
WIRES	NSW Wildlife Information, Rescue and Education Service INC

Executive Summary

Worley Consulting has been commissioned by Northern Beaches Council (the Council), to prepare a Review of Environmental Factors (REF) for the Currawong Wharf upgrade (the proposal), located at Currawong Beach (the site). The suburb of Currawong Beach is located on the western foreshore of Pittwater, New South Wales (NSW).

The Proposal

The proposal includes the following:

- Demolition of end bay section of wharf.
- Removal and salvage of existing stairs for potential re-use.
- Extension of the wharf by 33.6 metres (m) through a series of fixed ramps and landings to provide *Disability Discrimination Act 1992* (DDA) compliant ferry access at all levels of the tide, with stepped access between each landing.
- Remediation of existing wharf structural elements using like-for-like materials / members, if required.

Proposal Objectives

The proposal involves an upgrade of Currawong Beach Wharf to meet the key functional requirements and objectives as follows:

- Provide a safe and easily accessible structure at all tide levels that meets the requirements of the *Disability Standards for Accessible Public Transport 2002*.
- Provide a solution that works in with the existing structure and is durable for the marine environment to ensure longevity and minimise maintenance requirements.
- Minimise disturbance to the existing beds of seagrass.
- Provide day-to-day access for visitors of Currawong via ferries and commuter vessels.
- Check of the structural adequacy of the existing ferry berthing face for the suitability of piles, fenders and bollards to ensure the face is fully compliant with current standards.
- Provide upgrades that meet the heritage approvals required with being an NSW State Heritage Register (SHR) listed item.

Preferred Wharf Solution

The fixed ramp solution was selected by Council as the preferred option due to concerns about the reliability of the hydraulic system given the remote location of the site. In addition, when comparing other functional requirements of the two solutions, the fixed ramped solution represents a lower capital cost with associated lower maintenance costs with only routine maintenance required by Council.

In summary, the fixed ramp solution would best meet the proposal objectives that improves the accessibility, functionality and condition of Currawong Wharf.

Statutory and Planning Framework

Section 2.80(4) of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (TI SEPP) specifies that development for the purpose of wharf or boating facilities may be undertaken by, or on behalf of, a public authority without consent on any land. Section 2.78(2) of the TI SEPP permits construction works when in connection with development for the purpose of wharf or boating facilities. The proposal can be assessed and determined by Council under Division 5.1 of the EP&A Act. Development consent under Part 4 of the EP&A Act from Council is therefore not required.

A permit under Section 205 of the *Fisheries Management Act 1994* (FM Act) would be required for the proposal as it would involve potential direct and indirect harm to marine vegetation (i.e. seagrass).

A Section 60 application under the *Heritage Act 1977* (Section 60) would be required for approval to carry out activities to an item listed on the State Heritage Register.

Community and Stakeholder Consultation

Council has undertaken consultation with community representatives, NSW Department of Primary Industries (DPIRD) Fisheries, Transport for NSW and NRMA / Fantasea Cruising (Ferry Operator). Key issues raised by the community, Government agencies and stakeholders have informed the development of the proposal.

Environmental Impacts and Conclusion

This REF has been prepared in accordance with Section 5.5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), Section 171 of the EP&A Regulation and other relevant legislation, taking into account to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the proposal.

Based on the environmental assessment carried out in Section 6 of this REF, the potential negative impacts of the proposal are considered to be minor during construction (impacts to aquatic ecology, water quality and to the community from generation of noise and changes to site access) and minor during operation (impacts to seagrass). The potential impacts can be reasonably mitigated and managed through adoption of best practices and adherence to accepted industry guidelines and standards, as outlined in Section 7.1.

This REF has considered and assessed these impacts in accordance with Section 171 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) and the requirements of the EPBC Act. Based on the assessment contained in this REF, it is considered that the proposal is not likely to have a significant impact upon the environment or any threatened species, populations or communities or their habitats. Accordingly, an Environmental Impact Statement (EIS) and/or a Biodiversity development assessment report (BDAR) is not required, nor is the approval of the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act.

1. Introduction

1.1 Proposal Location

Worley Consulting has been commissioned by Northern Beaches Council (the Council), to prepare a Review of Environmental Factors (REF) for the proposed Currawong Wharf upgrade (the proposal), located at Currawong Beach (the site). The suburb of Currawong Beach is located on the western foreshore of Pittwater, New South Wales (NSW) (Figure 1-1 and Figure 1-2).

The site is located around 2 kilometres (km) to west of Palm Beach and is accessible through three ways:

1. Public ferry service.
2. Privately owned water taxi service.
3. Privately owned vessel.

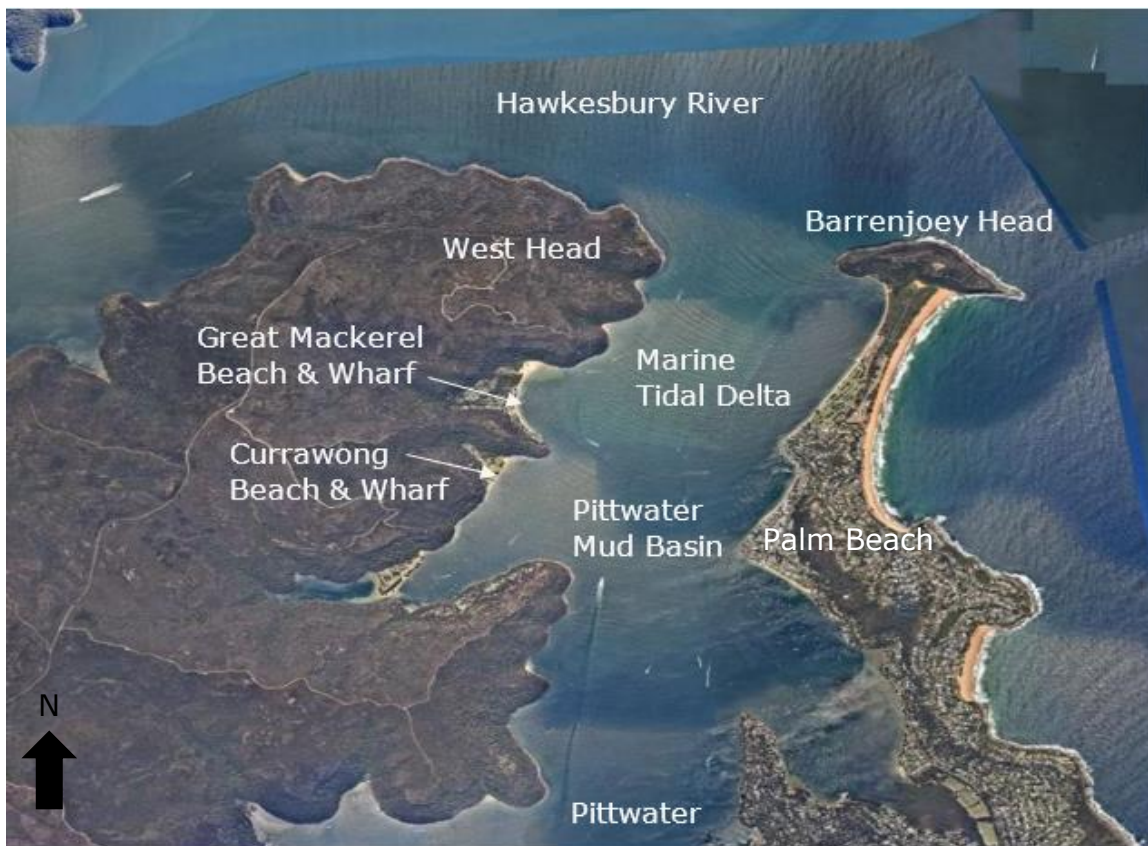


Figure 1-1 Location of the site (Source: Nearmap, 2024)



Figure 1-2 Currawong Wharf layout and features (Source: Nearmap, 2024)

1.2 Objectives of the Proposal

The proposal involves an upgrade of Currawong Wharf to meet the key functional requirements and objectives as follows:

- Provide a safe and easily accessible structure at all tide levels that meets the requirements of the Disability Standards for Accessible Public Transport 2002.
- Provide a solution that works in with the existing structure and is durable for the marine environment to ensure longevity and minimise maintenance requirements.
- Minimise disturbance to the existing beds of seagrass.
- Provide day-to-day access for visitors of Currawong via ferries and commuter vessels.
- Check of the structural adequacy of the existing ferry berthing face for the suitability of piles, fenders and bollards to ensure the face is fully compliant with current standards.
- Provide upgrades that meet the heritage approvals required with being an NSW State Heritage Register (SHR) listed item.

1.3 Description of proposal

The proposal includes the following:

- Extension of the wharf by 33.6 metres (m) through a series of fixed ramps and landings to provide *Disability Discrimination Act 1992 (DDA)* compliant ferry access at all levels of the tide, with stepped access between each landing.
- Replacement or remediation of existing wharf structural elements to ensure the structure to be retained is stable.

A detailed description of the proposal is contained in Section 3.

1.4 Current Site Conditions

Currawong Wharf is a public ferry wharf constructed from timber including timber plank decking, sub-structure, and piles. The wharf extends from the shoreline of Currawong Beach and uses a three-part system which is the approach jetty, T-head berthing platform and the landing steps. The wharf is designed to only be used for casual short periods where there is appropriate weather and tide. Moorings on either side of the wharf are provided for dinghies. Council is the Crown Land Manager for Crown Reserve R1033648 (Lot 7316 DP 1169919).

A condition report prepared by Land and Marine Engineering Consulting (LMC) Pty Ltd (2022). LMC (2022) concludes that the facility is in a generally fair condition and is currently serviceable with some structural and timber elements aging which would require repair or replacement. Below are the structural elements that were inspected by LM with Figure 1-3 providing on site photos for reference.

- 55m timber fixed wharf
- Atop girder beams
- Atop headstocks
- 39 piles
- 2 berthing piles
- FRP landing steps.

LMC (2022) notes that Currawong Wharf has been actively maintained, repaired and upgraded over the years as various sections wear out. Over time the wharf has been extended and modified, including:

- October 2015 – the decking from bent B1 to B7 was replaced with new wider decking.
- June-July 2018 – The seaward 29m end of the approach jetty decking was replaced with wider decking from bent B7 out to bent B15.
- 2020 – The T-head and landing steps replaced by GPM Marine Constructions P/L.



Figure 1-3 Site photos of Currawong Wharf (Source: Worley Consulting, 2023)

1.5 Purpose of the REF

This REF has been prepared by Worley Consulting to enable Council to assess the potential environmental impacts of the proposal. For the purposes of the activity, the Council is the proponent and determining authority under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The purpose of this REF is to describe the proposal and assess the likely impact(s), having regard to the provisions of Section 5.5 of the EP&A Act, including the identification of suitable mitigation measures to reduce the likely impact(s), if any, of the proposal. Section 171 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) and the factors in *Guidelines for Division 5.1 assessments* (Department of Planning and Environment, 2022) have also been considered in preparing this REF and are summarised in Section 8.

This assessment has also considered the relevant provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), other relevant NSW environmental legislation and environmental planning instruments (EPIs), including, but not limited to, the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (TI SEPP).

Section 2 of this REF outlines the need for the proposal and the options which have been considered. Section 3 provides a detailed description of the proposal including design features and construction methods. Section 4 outlines the statutory and planning framework and all applicable legislation and Section 5 outlines the consultation undertaken.

The environmental assessment providing detail of the existing environment and potential impacts of the proposal is included at Section 6, and mitigation measures to avoid or minimise any potential impacts are outlined in Section 7.1.

2. Need and Options Considered

2.1 Strategic Context

The NSW Maritime Infrastructure Plan 2019-2024 (Transport for NSW, 2018) identifies for the Lower Hawkesbury River, Pittwater and Brisbane Water waterways a priority infrastructure outcome is to invest in suitable wharves for recreational and commercial vessels to tie up to and load and unload passengers. The proposal is consistent with this outcome as it involves the upgrade of the existing wharf to meet current demands.

The Regional Boating Plan Hawkesbury River, Pittwater and Brisbane Water Region (Transport for NSW, 2015) identified the boating safety, access and infrastructure actions across the region to be implemented over a five-year period. The Regional Boating Plan identified that improvements to the condition of boating infrastructure including wharves and jetties would be required given that there exists a strain on their capacity with the competing demand for these facilities from both recreational boaters and commuter vessels.

The NSW Boating Now Program which is aligned with the NSW Maritime Infrastructure Plan and the Regional Boating Plan provides grant funding to improve maritime infrastructure and facilities across NSW. Council received funding in 2022 for the proposal under this Program to support the investigation and detailed design phases.

Lastly, the proposal is consistent with the strategies identified in the Pittwater Waterway Strategy 2038 (Northern Beaches Council, 2017) which endeavours to manage competing pressures from boating activities and conserving estuarine habitats (i.e. seagrasses).

2.2 Options Considered

Following consultation with key internal stakeholder's and community, various studies have been undertaken to develop suitable concepts for improving accessibility, function and wharf condition at the site.

There are typically three design options considered for providing *Disability Discrimination Act 1992* (DDA) compliant access to ferry wharves. These include to incorporation of either:

- A pontoon
- A series of fixed ramps and landings, or
- A hydraulic ramp.

The selection of the preferred option varies for each individual site and can depend upon multiple factors including the existing wharf structure, ferry operator requirements, the site wave climate and any environmental constraints.

A floating pontoon is generally considered the preferred option to provide DDA compliant access for all levels of the tide, however due to the wave climate at the site it has been determined that a pontoon solution would not be suitable. The wave climate that can be experienced at the site would dictate the requirement for a large pontoon to ensure the

stability of the pontoon for safe passenger access. The resulting size of the pontoon required creates a high risk of environmental impacts and greater construction costs.

This results in the incorporation of either a hydraulic solution or fixed ramp solution to provide DDA compliant ferry access. Both of these options have been considered in the concept development process and a review of each concept option with regard to the site-specific constraints and functional requirements for the upgrade works is discussed below along with alternative alignments.

2.3 Alternative Options

2.3.1 Hydraulic Solution

The initially proposed concept design for Currawong Wharf is presented in Figure 2-1 and it incorporates a hydraulic platform lift to provide a safe and easily accessible structure at all tide levels.

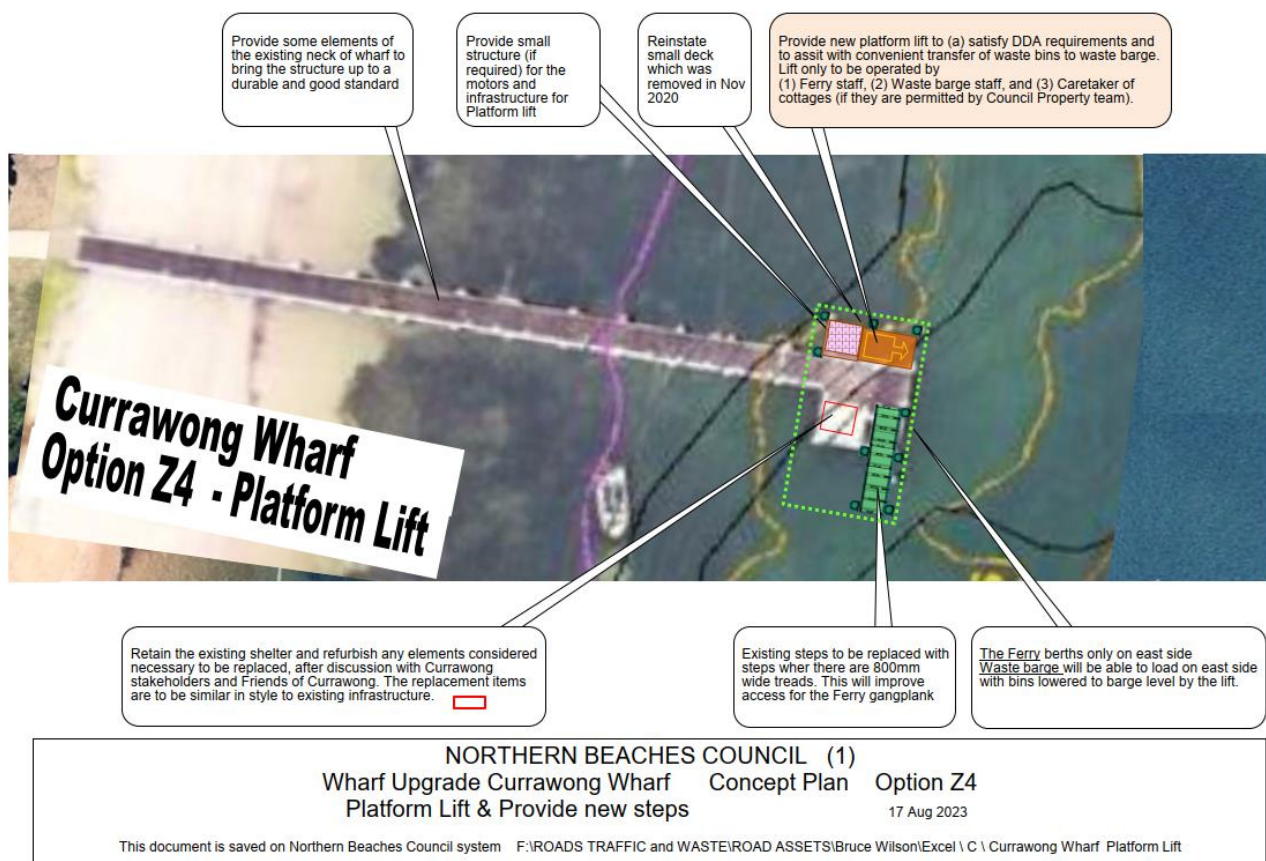


Figure 2-1 Concept plan for the platform lift and steps (Source: Northern Beaches Council, 2023)

A summary of the key findings from Worley Consulting’s review of this solution are:

- The concept is suitable to the constraints of the site to provide a minimalist capacity design for DDA compliant access at different tide levels.

- Operational safety of the platform lift is a concern considering environmental conditions and ferry berthing.
- To provide a robust and bespoke solution that is suitable to the site and harsh marine environment, there is a high risk of exceeding the allocated budget for construction.
- The maintenance requirements associated with a hydraulic platform lift conflicts with the functional requirement of providing a minimal maintenance solution.
- There are important considerations to the operating lifecycle of the structure:
 - The associated maintenance costs given the remote location of the site (water access only).
 - Any additional inspections due to a breakdown of the system along with costs for replacement of parts.
 - The response time for inspection and remediation of the issue.
- If failure of the lift here is no alternative disability access point to Currawong Wharf.

2.3.2 Fixed Ramp Solution

Based on the concept review findings above, an alternate concept design was then developed to best satisfy the key functional requirements, by removing the hydraulic component and incorporating a series of fixed ramps and landings to provide DDA compliant access at all tide levels with the least impacts on seagrass (Figure 2-2).

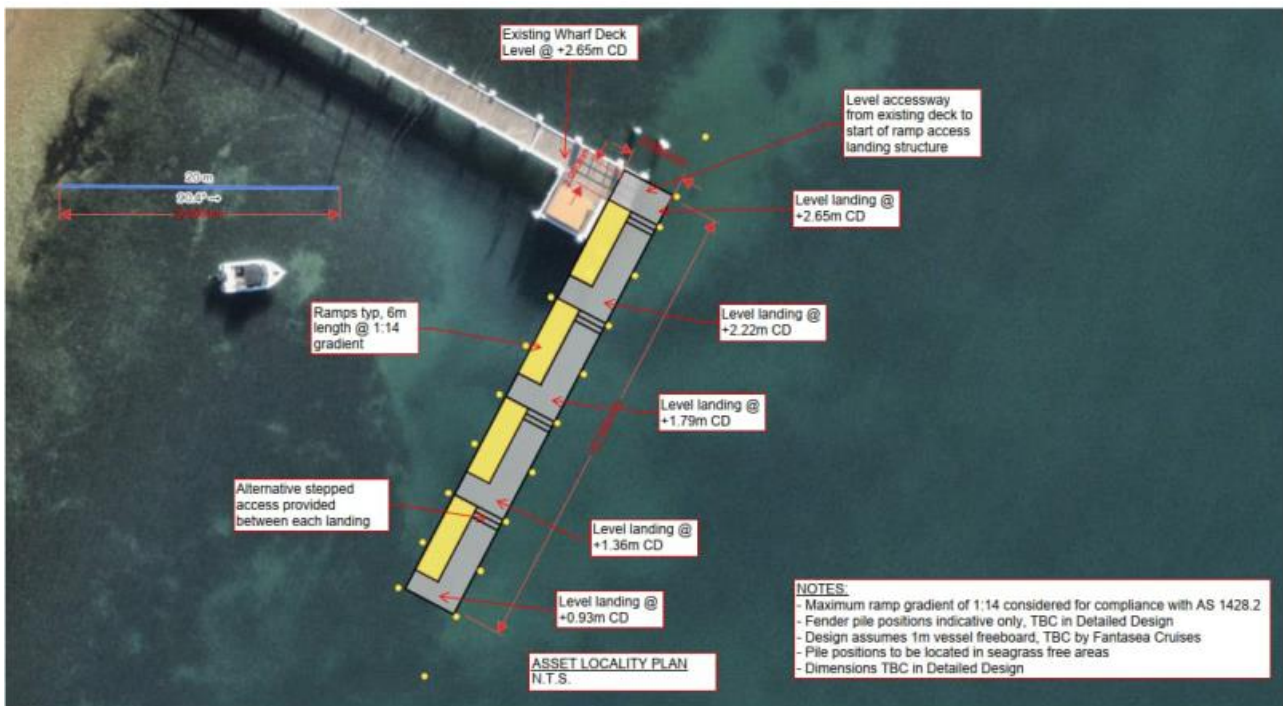


Figure 2-2 Alternative concept plan for fixed ramps (Source: Worley Consulting, 2024)

Key design features of the fixed ramp concept design are as follows:

- The design incorporates a series of fixed ramps and landings to provide disability compliant ferry access at all levels of the tide, with stepped access between each landing also provided.
- Ramp length and gradient have been selected in accordance with the Disability Standards for Accessible Public Transport 2002 (DSAPT) and AS 1428 'Design for access and mobility' to provide a DDA compliant structure.
- The alignment of the wharf extension provides a dedicated ferry berth on the eastern side of the structure while maintaining access for commuter vessels on the western side of the structure.
- The alignment has been selected to keep the existing operational berthing of ferries with minimal change to ferry arrival and departure routes minimising potential seagrass impact.
- The maintenance requirements for a fixed wharf are routine tasks that are completed by Council at other locations and do not require a specialist.

2.3.3 Preferred Wharf Solution

The fixed ramp solution was selected by Council as the preferred option due to concerns about the reliability of the hydraulic platform lift system given the remote location of the site and that if failure of the lift occurs, there is no alternative disability access point to Currawong Wharf. In addition, when comparing other functional requirements of the two solutions, the fixed ramped solution represents a lower capital cost with associated lower maintenance costs with only routine maintenance required by Council.

In summary, the fixed ramp solution and its alignment would best meet the proposal objectives that improves the accessibility, functionality and condition of Currawong Wharf.

3. Description of the Proposal

3.1 The Proposal

The proposal includes the following (refer to Figure 3-1 and Figure 3-2 and the proposal drawings in Appendix A):

- Demolition of end bay section of wharf.
- Removal and salvage of existing stairs for potential re-use.
- Extension of the wharf by 33.6 metres (m) through a series of fixed ramps and landings to provide DDA compliant ferry access at all levels of the tide, with stepped access between each landing.
- Remediation of existing wharf structural elements using like-for-like materials / members, if required.



Figure 3-1 Wharf upgrade site plan (Source: Worley Consulting, 2025)

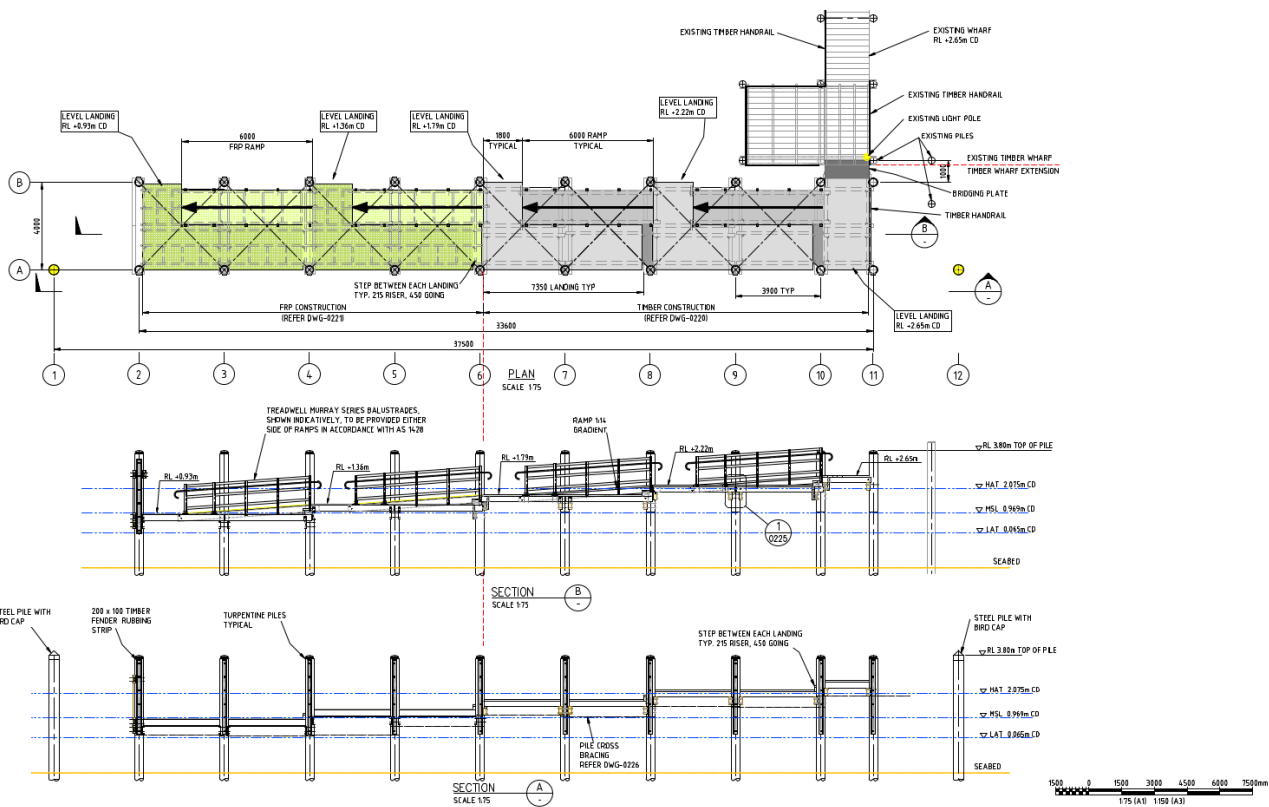


Figure 3-2 Wharf upgrade general arrangement plan (Source: Worley Consulting, 2025)

3.2 Design Features

Key design features with respect to the functional requirements of the design are as follows:

- The design incorporates a series of fixed ramps and landings to provide disability compliant ferry access at all levels of the tide, with stepped access between each landing also provided.
- Ramp length and gradient have been selected in accordance with the Disability Standards for Accessible Public Transport 2002 (DSAPT) and AS 1428 'Design for access and mobility' to provide a DDA compliant structure.
- The alignment of the wharf extension provides a dedicated ferry berth on the eastern side of the structure while maintaining access for commuter vessels on the western side of the structure.

The wharf extension is to be designed and constructed using timber structural materials (piles, decking and sub-structure) to match the aesthetic of the existing wharf and the history of Pittwater. The lower-level landings shall be designed and constructed from fibre reinforced polymer (FRP) for longevity of the structure in the tidal zone.

3D renders showing the proposal are shown in Figure 3-3 and Figure 3-4.



Figure 3-3 3D render view

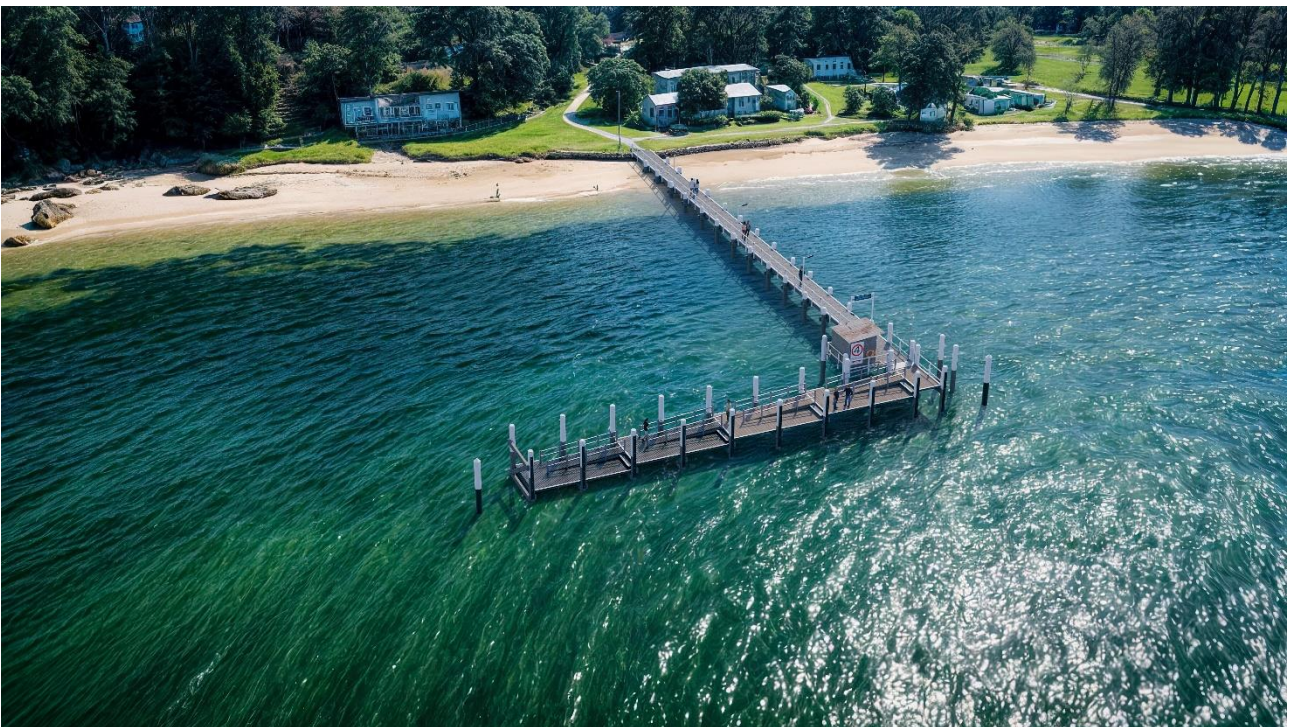


Figure 3-4 3D render view

3.3 Construction Activities

3.3.1 Work Methodology

The proposal would involve the following methodology:

- Preparation of the existing site:
 - Install fencing and establish site compound (to be confirmed by Council)
 - Install environmental controls
 - Demolition of the end section of wharf and tidal stairs including:
 - Removal of decking
 - Removal of tidal stairs
 - Removal of structural members (including headstocks and girders)
 - Extraction of piles
 - Remediation of the existing wharf
 - Identification of deteriorated members for replacement
- Installation of wharf upgrade works
 - Construction of new wharf extension
 - Installation of driven piles
 - Installation of sub-structure (inc. headstocks and girders)
 - Installation of ramps
 - Installation of decking
 - Installation of handrails
- Demobilisation site compound and environmental controls.

3.3.2 Construction Duration and Hours

Works would be carried out within the following standard working hours:

- Weekdays – 7am to 6pm
- Saturdays – 8am to 1pm
- Public Holidays – Nil.

Any out of hours works proposed by the Contractor would require approval from the Council before commencing.

Estimated construction duration is:

- Site establishment – 2 weeks
- Demolition – 1-2 months
- Construction – 3-4 months
- Handover – 2 weeks.

3.3.3 Plant and Equipment

The plant and equipment needed to build the proposal would vary depending on the construction activity. Below is an indicative list of plant and equipment likely to be used during construction, however this would be confirmed by the Contractor:

- Piling rig mounted on floating barge
- Crane barge
- Workboats
- Generators
- General power and hand tools.

It is estimated that there would be up to four construction vessel crossings (there and back) from Palm Beach per day.

3.3.4 Ancillary Facilities

Due to the site being inaccessible through road access any land-based ancillary facilities would be set up via the existing wharf access or be set up on board a vessel. The location of the site compound is to be confirmed by Council. The area would accommodate site offices, crib units and ablutions. Power would be required as well as domestic water and a sewer connection, if possible. The area would also be used to store construction waste, materials and house tool stores such as half containers and toolboxes. Staff parking would not be on-site and would be dependent on vessel location. There is no vegetation clearing required for the establishment of the site compound.

3.3.5 Wharf Operation During Construction

Currawong Wharf is a public ferry wharf and shall be required to remain operational during the upgrade works. Considering the demolition works required at the existing ferry berthing point and the positioning of the wharf upgrade works, this may result in the requirement for ferry berthing at the northern side of the existing wharf head. There may be limitations to this with the existing wharf configuration allowing only high-tide access at the existing deck level, or the establishment of a temporary landing for ferry berthing constructed on the northern side of the existing wharf head is an alternative possible option to improve access for berthing during construction.

4. Statutory and Planning Framework

4.1 Commonwealth Legislation

4.1.1 Environmental Protection and Biodiversity Conservation Act 1999

Under the EPBC Act, a referral is required to be submitted to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) for actions that have the potential to significantly impact on Matters of National Environmental Significance (MNES) or the environment where: A) actions proposed are on, or would affect Commonwealth land and the environment, or B) Commonwealth agencies are proposing to take an action.

The nine MNES protected under the EPBC Act are:

- World heritage properties.
- National Heritage places.
- Wetlands of international importance (Listed under the Ramsar Convention).
- Listed threatened species and ecological communities.
- Migratory species protected under international agreements.
- Commonwealth marine areas.
- The Great Barrier Reef Marine Park.
- Nuclear Actions (including uranium mines).
- A water resource, in relation to coal seam gas development and large coal mining development.

An 'action' is defined to include a project, development, undertaking, activity or series of activities. An approval for such an action may be required from the Minister for the Environment and Water.

An EPBC Act Protected Matters search was undertaken for the site with a 2km buffer radius. Search results are provided in Appendix B.

Ku-ring-gai Chase National Park, Lion Island, Long Island and Spectacle Island Nature Reserves is a listed National Heritage Place located within the search area. However, given the nature of the proposal and the distance to this listed place no impacts are expected to occur. Further, given the nature of the proposal, there are no expected significant impacts on any threatened species, migratory species or Threatened Ecological Communities (TEC) known to occur or having the potential to occur within the study area. Further information on these is provided in Section 6.1. No referral is therefore required under the EPBC Act.

4.1.2 Native Title Act 1993

The *Native Title Act 1993* (NT Act) recognises and protects Native Title. The NT Act covers actions affecting Native Title and the processes for determining whether Native Title exists and compensation for actions affecting Native Title. It establishes the Native Title Registrar, the National Native Title Tribunal, the Register of Native Title Claims and the Register of Indigenous Land Use Agreements, and the National Native Title Register. Under the NT Act, a future act includes proposed public infrastructure on land or waters that affects Native Title rights or interest.

A search of the Native Title Tribunal Native Title Vision website was undertaken on 20 December 2023 and there are no registered claims over the site.

4.1.3 Disability Discrimination Act 1992

The DDA aims to eliminate as far as possible, discrimination against persons on the ground of disability in areas including access to premises and the provision of facilities, services and land. The proposal has been designed to provide DDA compliant ferry access at all levels of the tide, with stepped access between each landing also provided. The ramp length and gradient have been selected in accordance with the Disability Standards for Accessible Public Transport 2002 (DSAPT) and AS 1428 'Design for access and mobility' to provide a DDA compliant structure.

4.2 NSW Legislation

4.2.1 Environmental Planning and Assessment Act 1979

The EP&A Act is the principal planning legislation for NSW. Section 5.5 of the EP&A Act requires determining authorities, when assessing an 'activity' under Part 5, to "examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity". Section 6 of this REF contains an environmental assessment of the proposed activity against the requirements of Section 5.5 of the EP&A Act.

4.2.2 Environmental Planning and Assessment Regulation 2021

Section 171 of the EP&A Regulation defines the factors which must be considered when determining if an activity assessed under Division 5.1 of the EP&A Act has, or is likely to have, a significant impact on the environment. Section 6 of this REF provides an environmental impact assessment of the proposal in accordance with Section 171, with a summary of the assessment included in Section 8.

4.2.3 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) seeks to conserve biological diversity at bioregional and State scales; to maintain the diversity and quality of ecosystems and enhance their capacity to adapt to change and provide for the needs of future generations; to assess the extinction risk of species and ecological communities and identify key threatening processes through an independent and rigorous scientific process; and to establish a framework to avoid, minimise and offset the impacts of proposal and land use change on biodiversity.

Under Section 7.2 of the BC Act, an assessment of significance must be completed to determine the significance of impacts to threatened species, populations and/or communities or their habitat which are likely to occur and be impacted by the proposal. A significant impact also occurs if the activity is carried out in an area of outstanding biodiversity value or if the impact exceeds thresholds under the biodiversity offset scheme.

A BioNet atlas search for species threatened and protected under the BC Act was carried out within a 10 km buffer of the study area and the likelihood of occurrence determined. The proposal is not expected to have a direct or indirect adverse impact on any threatened species, populations or ecological communities (refer to Section 6.1). No tests of significance were triggered.

4.2.4 Fisheries Management Act 1994

The *Fisheries Management Act 1994* (FM Act) aims to conserve threatened species, populations and ecological communities of fish and key fish habitats. Part 7 of the FM Act relates to the protection of aquatic habitats including providing management of dredging and reclamation work within permanently or intermittently flowing watercourses as well as for the management of marine vegetation.

A permit under Section 37 would be required prior to the relocation of syngnathids present in the construction footprint. A permit under Section 205 would be required for the proposal as it would involve potential direct and indirect harm to marine vegetation during construction and operation. It is expected that there would be a need for offsetting biodiversity impacts related to the project at a 2:1 ratio in accordance with the Policy and Guidelines for Fish Habitat Conservation and Management (NSW DPI, 2013). Offsets can include habitat rehabilitation and/or providing environmental compensation (for example works which are undertaken as compensation for disturbance of habitats or money to pay for the value of the habitat loss). Any offset strategy would be developed in consultation with NSW Department of Primary Industries and Regional Development (DPIRD) – Fisheries.

Part 7A of the FM Act requires that an assessment of significance be applied to species of fish and marine vegetation (i.e. seagrasses, mangroves and seaweeds), and populations or ecological communities listed under its Schedules that may be affected by a proposed action, development or activity. If a significant impact on a threatened species is likely, a Species Impact Statement (SIS) must be completed and the concurrence of, or consultation with NSW DPIRD – Fisheries is required. The proposal is not expected to have a significant impact on any threatened species, populations or ecological communities (refer to Section 6.1).

4.2.5 Biosecurity Act 2015

The *Biosecurity Act 2015* provides a framework for the prevention, elimination and minimisation of biosecurity risks.

Marine construction equipment poses biosecurity risks primarily through biofouling, where aquatic organisms accumulate on equipment and are transported to new environments, and ballast water, which can carry invasive species when discharged untreated. Sediment movement during dredging can introduce organisms to new areas, while the relocation of construction materials may inadvertently carry invasive species. Habitat alterations from

construction activities create surfaces for biofouling organisms, and equipment can also transfer diseases and pathogens between water bodies. These factors collectively facilitate the introduction and spread of invasive species, disrupting local ecosystems and economies.

Part 3 of the *Biosecurity Act 2015* applies a general biosecurity duty for any person who deals with biosecurity matter or a carrier to prevent, eliminate or minimise any biosecurity risk they may pose. Under Section 23 of the Act, a person who fails to discharge a biosecurity duty is guilty of an offence.

4.2.6 Coastal Management Act 2016

The *Coastal Management Act 2016* (CM Act) establishes a strategic framework and objectives for managing coastal issues in NSW. The CM Act defines the coastal zone as comprising four types of coastal management areas. The site is located within the coastal environment area and coastal use area zones as mapped under the *State Environmental Planning Policy (Resilience and Hazards) 2021* (RH SEPP). The proposal has been designed to be consistent with the objects of the CM Act that promotes the principles of ecologically sustainable development and the management objectives for these zones.

There is one Coastal Wetland as determined under the RH SEPP occurring within or surrounding the site. The Coastal wetland is not within the site; however the proximity area does overlap with the foreshore side of the wharf, however no works would be undertaken in the proximity area.

Section 23 of the CM Act requires that a public authority is to have regard to the relevant coastal management program and coastal management manual. It is noted that the Hawkesbury-Nepean River Coastal Management Program (which includes Pittwater) is currently being prepared with Stage 3 (in progress) of the 5-Stage risk management process, as described in the NSW Coastal Management Manual.

4.2.7 Contaminated Land Management Act 1994

Contaminated land is regulated in NSW under the *Contaminated Land Management Act 1997* (NSW). The Act seeks to impose the obligation and cost of remediating contaminated land on the person who caused the contamination, rather than on the community.

A search of the contaminated land record was conducted on the 20 May 2024. No records of contaminated land had been found in the vicinity of the site.

4.2.8 Crown Land Management Act 2016

The *Crown Land Management Act 2016* (CLM Act) aims to provide for the ownership, use and management of the Crown land of NSW. The site is mapped as Crown land (Figure 4-1). The site is partly located within Crown Reserve R1033648 (Figure 4-2). Council is responsible for the care, control and management of the Crown Reserve. The wharf extension would occur within land outside the Crown Reserve. Council is to liaise with NSW Crown Lands regarding an extension of the Crown Reserve.

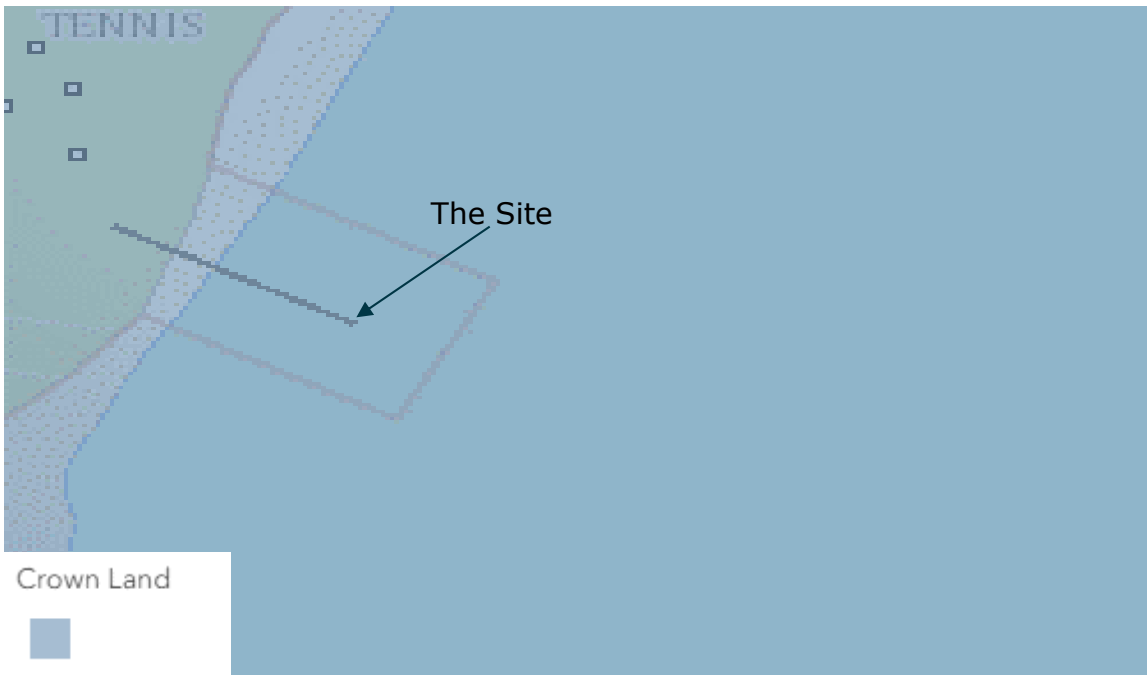


Figure 4-1 Crown land situated at the site



Figure 4-2 Crown Reserves situated at the site

4.2.9 Heritage Act 1977

The *Heritage Act 1977* contains provisions for listing sites or places on the SHR and the protection of relics. There are currently not sites or places covered by an Interim Heritage Order either on the site or in the immediate vicinity of the site. The site is partly located within the curtilage of the listed SHR heritage item “Currawong Workers' Holiday Camp” (SHR No. 01784). A Statement of Heritage Impact (SoHI) has been prepared for the proposal and is included in Appendix F.

The proposal would require a submission for an application under Section 60 of the *Heritage Act 1977* to Heritage NSW. Public notice is required under Section 61 when an “*application, if approved, would, in the opinion of the approval body, materially affect the significance of that item as an item of the environmental heritage*”. It is not expected that the proposal would be categorised as materially affecting the heritage significance of the item.

As per the recommendation by Heritage NSW from the pre-lodgement meeting on 10 July 2024, a stand-alone Maritime Archaeological SoHI including a maritime archaeological dive survey will be undertaken by a qualified maritime archaeologist engaged by Council prior to construction to assist in determining the potential for maritime archaeological remains and relics to be present within the construction footprint. Expected mitigation measures related to the Maritime Archaeological SoHI have been added to this REF. Any requirements arising out of the Maritime Archaeological SoHI will be undertaken as part of the project. The construction contractor is to include additional mitigation measures (if any) from the Maritime Archaeological SoHI and any approval conditions from Heritage NSW as part of the Section 60 application to their Construction Environmental Management Plan (CEMP).

4.2.10 Marine Safety Act 1998 and Marine Safety Regulation 2016

The *Marine Safety Act 1998* (Marine Safety Act) and the *Marine Safety Regulation 2016* and its relevant provisions that support the Marine Safety Act (such as Part 2 safety of navigation) aim to ensure the safe and responsible operation of vessels in ports and other waterways so as to protect the safety and amenity of other users of those waters and occupiers of adjoining land. These are both applicable to the proposal considering there would be in-water construction works proposed by use of vessels and changes to ferry berthing operations. Transport for NSW was consulted with regarding impacts on the safety of navigation under the Marine Safety Act (refer to Section 5).

4.2.11 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) provides controls in relation to the protection of land reserved under the NPW Act as well as controls in relation to the protection of items of cultural heritage. It is an offence under the NPW Act to ‘harm’ Aboriginal objects or sites of Aboriginal significance without an Aboriginal Heritage Impact Permit (AHIP).

It is considered unlikely that any Aboriginal archaeological evidence would be discovered, given the nature of the proposal and history of site disturbance from boating activities.

4.2.12 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) regulates activities which may result in pollution. Part 3.2 and Schedule 1 of the POEO Act describes Environment Protection Licences (EPLs) for scheduled development work and scheduled activities. Operation of the proposal including marine vessels are not classified as a scheduled premises or require an EPL.

In addition, Section 120 of the POEO Act prohibits the pollution of waters. Council and future contractors are obliged to notify the NSW Environment Protection Authority (EPA) if a pollution incident occurs that causes or threatens material harm to the environment.

4.2.13 Water Management Act 2000

The *Water Management Act 2002* (WM Act) manages NSW water in a sustainable and integrated manner that would benefit current generations without compromising future generations' ability to meet their needs. The WM Act is administered by the Natural Resources Access Regulator (NRAR) and establishes an approval regime for activities within waterfront land, defined as the land 40 m from the highest bank of a river, lake or estuary.

A Controlled Activity Approval (CAA) is typically required for work within waterfront land. Section 91E of the Act creates an offence for carrying out a controlled activity within waterfront land without approval. According to Section 41 of the *Water Management (General) Regulation 2018*, a public authority is exempt from Section 91E of the Act. Council does not need to obtain a CAA from the NRAR.

4.3 Planning Instruments

4.3.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

Section 2.80(4) of the TI SEPP specifies that development for the purpose of wharf or boating facilities may be undertaken by, or on behalf of, a public authority without consent on any land. Section 2.78(2) of the TI SEPP permits construction works when in connection with development for the purpose of wharf or boating facilities.

The proposal can be assessed and determined by Council under Division 5.1 of the EP&A Act. Development consent under Part 4 of the EP&A Act from Council is therefore not required.

Part 2.2 of the TI SEPP contains provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development. Consultation, including consultation as required by TI SEPP (where applicable), is discussed in Section 5.3 of this REF.

4.3.2 State Environmental Planning Policy (Resilience and Hazards) 2021

The proposal is located within the coastal environment area and the coastal use area under the RH SEPP. Under the RH SEPP, development consent on land within the coastal environment area and coastal use area zones must not be granted unless the consent authority (for developments under Part 4 of the EP&A Act) has considered whether the proposed development is likely to cause an adverse impact on the matters outlined in Sections 2.10 and 2.11. As the proposal is being assessed under Division 5.1 of the EP&A Act, the consideration of these development controls is not a requirement. However, it is considered that the proposal would not cause any adverse impacts on the coastal use and coastal environment areas with the adoption of the mitigation measures outlined in this REF. There are no Coastal Wetland or proximity areas as determined under the RH SEPP occurring within or surrounding the site.

Chapter 4 of the RH SEPP applies to the whole of the State and aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment by specifying when consent is required, and when it is

not required, for remediation work. In accordance with Chapter 4 of the RH SEPP, a consent authority must not consent to the carrying out of any development on land unless it has considered whether the land is contaminated and, if the land is contaminated, it is satisfied that the land is suitable in its contaminated state for the purpose for which the development is proposed to be carried out.

The site is not known to be sited on contaminated land. Minor piling works as part of the proposal are not anticipated to impact or uncover any contamination. Any surplus material requiring off-site disposal would be classified in accordance with the EPA's Waste Classification Guidelines and managed in accordance with the POEO Act and *Protection of the Environment Operations (Waste) Regulation 2014*.

4.3.3 Pittwater Local Environment Plan 2014

Under the provisions of the LEP, the site and its surroundings are zoned as: C2 – Environmental Conservation and SP1 Special Activities (Ecotourist Facility, Camping Ground & Function Centre). A zoning map can be found in Figure 4-3.

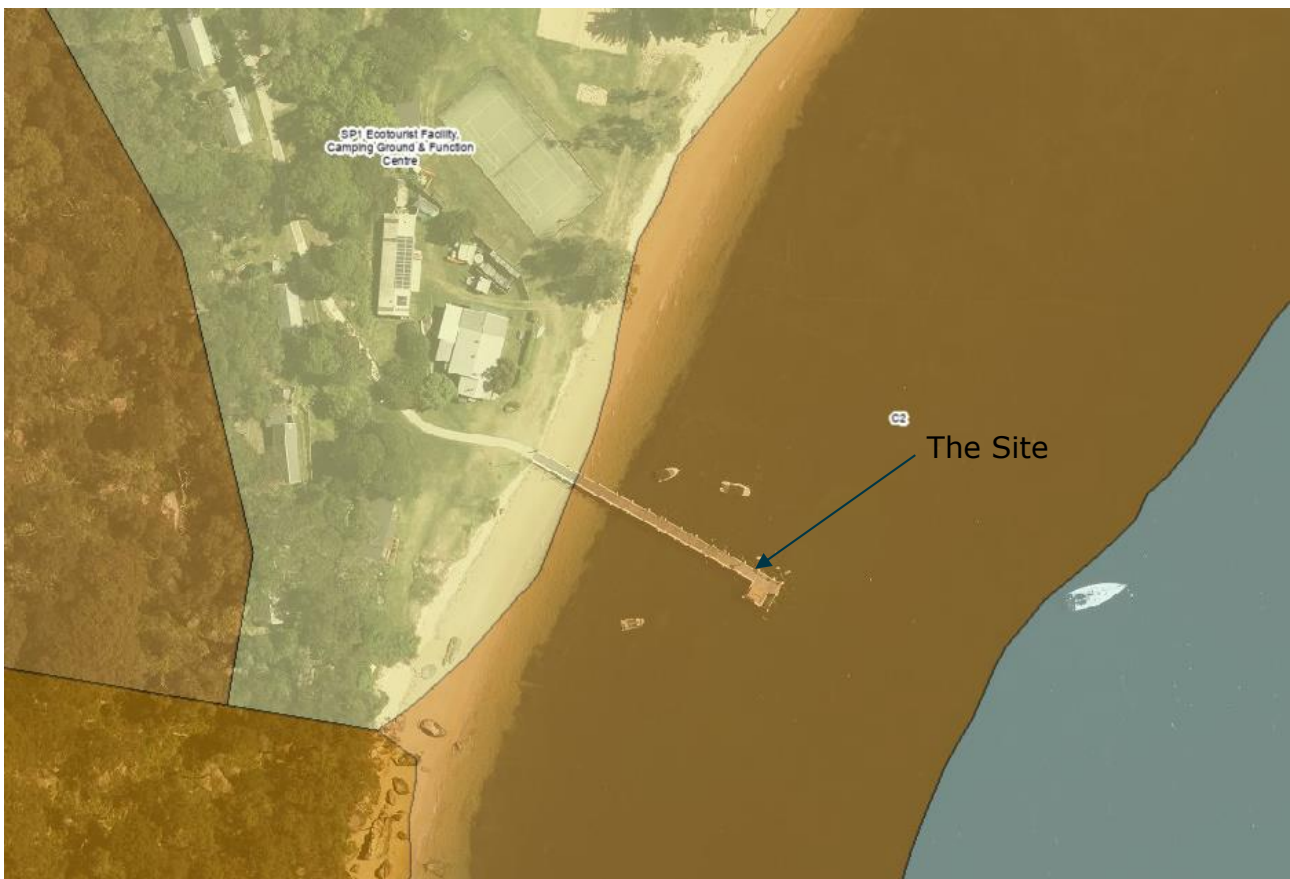


Figure 4-3 Land Zoning Map (NSW Planning Portal, 2024)

The objectives of each zone, in accordance with the LEP, are as follows:

- C2 – Environmental Conservation
 - To protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values.
 - To prevent development that could destroy, damage or otherwise have an adverse effect on those values.
 - To ensure the continued viability of ecological communities and threatened species.
 - To protect, manage, restore and enhance the ecology, hydrology and scenic values of riparian corridors and waterways, groundwater resources, biodiversity corridors, areas of remnant native vegetation and dependent ecosystems.
- SP1 – Special Activities
 - To provide for special land uses that are not provided for in other zones.
 - To provide for sites with special natural characteristics that are not provided for in other zones.
 - To facilitate development that is in keeping with the special characteristics of the site or intended special use, and that minimise any adverse impacts on surrounding land.

The proposal is consistent with the objectives of the zone as it provides a related use that is in keeping with the existing use of the site. Further, the proposal is compatible with the site and does not detract from the provision of infrastructure. Notwithstanding, the proposal is permissible without development consent under the TI SEPP. Therefore, the permissibility and consent provisions of the LEP do not apply.

5. Consultation

5.1 Community Involvement

Council has undertaken two meetings with community representatives (including the Mackerel Beach Association Inc) on 12 March 2024 and 15 May 2024 to discuss the functional requirements and review the concept designs to inform the selection of the preferred option for progression to detailed design. Comments received from the presentations made to the community representatives have informed the development of the proposal.

5.2 Government Agency and Stakeholder Involvement

Government agencies and stakeholders have been consulted about the proposal, including:

- DPIRD Fisheries – meetings held on 8 March 2024 and 19 March 2024 and email correspondence received on 13 March 2024. Key issues raised include:
 - The seagrass within Pittwater is listed as an Endangered population under Schedule 4 of the FM Act. Due to the presence of seagrass near the wharf, any upgrade to the wharf must provide a solution that minimises disturbance to the existing beds of seagrass.
 - The extent of the impacts from the preferred option (fixed ramp solution) has not been assessed and, should the fixed ramp solution be progressed to detailed design, the existing Aquatic Ecology Impact Assessment Report would need to be updated to reflect the environmental impact of the fixed ramp concept.
 - If it is concluded in the REF and updated Aquatic Ecology Impact Assessment Report that the seagrass would likely be significantly impacted by the upgrade works, an Environmental Impact Statement (EIS) or SIS could be required. In addition to requiring a permit under Section 205 of the FM Act, there would be a need for offsetting biodiversity impacts related to the project at a 2:1 ratio in accordance with the Policy and Guidelines for Fish Habitat Conservation and Management (NSW DPI, 2013). Offsets can include habitat rehabilitation and/or providing environmental compensation (for example works which are undertaken as compensation for disturbance of habitats or money to pay for the value of the habitat loss). Any offset strategy would be developed in consultation with DPIRD Fisheries.
- Transport for NSW – meeting held on 2 February 2024. Key issues raised include:
 - Hydraulic ramp solution has potential issues with robustness of hydraulics considering environmental conditions and maintenance costs.
 - The site is critical as a main access point to the community for transport of materials, needs to be suitable.
- NRMA / Fantasea Cruising (Ferry Operator) – meetings held on 2 February 2024 and 7 March 2024. Key issues raised include:

- Conditions for ferry berthing (i.e. tides, swells and winds) for the location of new berths (north and/or southern sides).
- Barge positions to not interfere with ferries during construction.
- Heritage NSW – Section 60 application pre-lodgement meeting held on 10 July 2024. Key issues raised include:
 - Requirement for maritime underwater archaeological survey was identified.
 - Key concerns are demolition, visual impact and structural alignment, which are to be addressed in the heritage impact assessment.

Key issues raised by Government agencies and stakeholders have informed the development of the proposal.

5.3 TI SEPP Consultation

Consultation under Sections 2.10 to 2.14 is not applicable as Council is carrying out the development. Section 2.15 requires consultation with authorities other than Councils for specified development. Council has consulted with Transport for NSW in relation to “development comprising a fixed or floating structure in or over navigable waters” under Section 2.15(2)(c) as discussed in Section 5.2 above.

5.4 Ongoing or future Consultation

Council is to arrange a community “your say” process for the proposal which is to be held during 2025. All comments would be reviewed and discussed and made publicly available in the Community Engagement Report.

The certified REF would be published on Council’s website in accordance with Section 171(4) of the EP&A Regulation.

6. Environmental Assessment

6.1 Biodiversity

An aquatic ecology impact assessment was originally prepared by Marine Pollution Research (MPR) Pty Ltd on behalf of GHD in 2022. The assessment was updated by MPR in 2024 to reflect the current design. The following information regarding the existing marine environment is sourced from the updated report. The MPR report is included in Appendix C.

6.1.1 Marine Vegetation

6.1.1.1 Intertidal Marine Vegetation

Whilst there is no mapped intertidal marine vegetation (saltmarsh or mangroves) noted along the beach front at Currawong Beach or along the northern unnamed creek discharge, AHA Ecology (2008) reported Grey Mangrove (*Avicennia marina*) along the lower creek estuarine bank (Figure 6-1) and confirmed the lack of saltmarsh in the creek or along the beach front.

For the present study area, there were no mangroves or saltmarsh plants located along the beach front at and 100m north and south of the wharf.



Figure 6-1 Image showing mature Grey mangroves along the estuarine shore of the un-named creek draining to Currawong Beach at the northern end (Source: AHA Ecology, 2008 in MPR, 2024)

6.1.1.2 Sub-tidal Marine Vegetation

There are three genera of seagrass found in Pittwater, *Posidonia australis*, *Zostera muelleri* subsp *capricorni* and *Halophila spp.* *Posidonia australis* in Pittwater is listed as an Endangered Population under the FM Act and it is also listed as a Threatened Ecological Community under the EPBC Act.

As noted in the sequential DPIRD Fisheries' mapping (Figure 6-2, Figure 6-3 and Figure 6-4) there is a continuous seagrass bed offshore from Sinclair Point, off the beach and beyond to Coasters Retreat, and the time series of DPIRD Fisheries' mapping of seagrass along Currawong Beach plus additional transect seagrass habitat results from AHA Ecology in 2008 indicate the following variations around the existing wharf over time:

- The 1981 mapping indicated a continuous *Posidonia* bed with an offshore *Halophila* patch at the north end of the beach and no indication of seagrass loss at the wharf site.
- In 2000 there was predominantly mixed *Zostera* and *Halophila* inshore and around the wharf with *Posidonia* offshore including offshore from the wharf. There was also a distinct bare area immediately north of the wharf.
- In 2005 the seagrass distribution was mapped as all mixed *Posidonia* and *Zostera* inshore and offshore with a smaller bare area around the wharf sides. The overall width of the seagrass bed to the north of the wharf was also larger than previous mapping.
- AHA Ecology (2008) described but did not map seagrass distribution off Currawong Beach from seven evenly distributed shore-normal transects to the north of the wharf and to the south of the wharf, summarised as follows:
 - Overall *Zostera capricorni* dominated throughout. *Posidonia australis* was often dominant in waters deeper than 1 m although large patches also occurred in shallower waters.
 - *Halophila decipens* also occurred throughout but often at lower densities than either of the other two seagrass species.
 - Seagrass beds are present under the jetty with *Zostera capricorni* being dominant but with fairly continuous beds of *Posidonia australis* also present. Both species drop out rapidly in deeper water where the ferry docks.
 - *Caulerpa taxifolia* was recorded in low densities and with a patchy distribution along the entire length of beach. The majority of records were for single plants or several individuals of this species rather than large patches.
- In 2019 there was mixed *Posidonia* and *Zostera* north of the wharf with a continuous *Posidonia* bed south of the wharf plus distinct bare areas indicated either side of the wharf and the overall seagrass bed widths similar to the previous 2005 mapping.

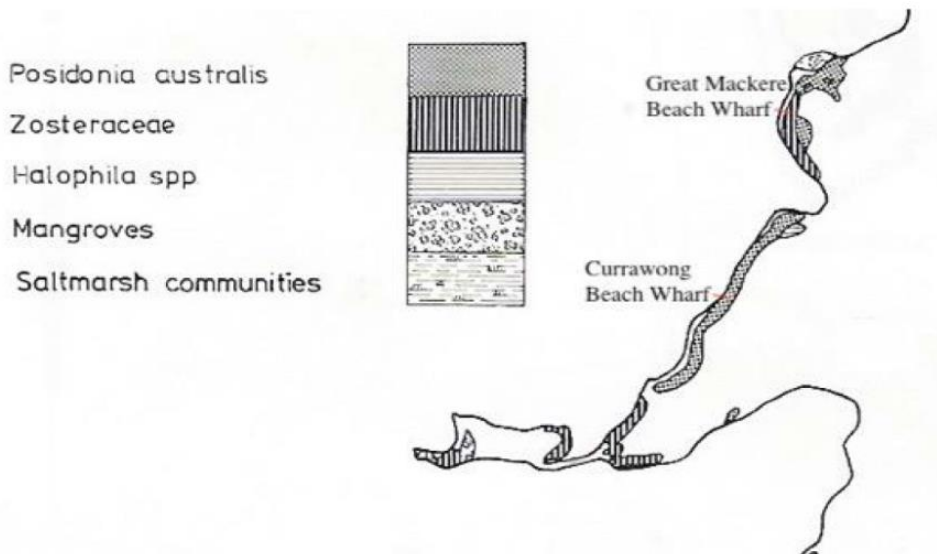


Figure 6-2 NSW Fisheries Seagrass mapping for northwest Pittwater in 1981 (Source: MPR, 2024; West et al 1985)

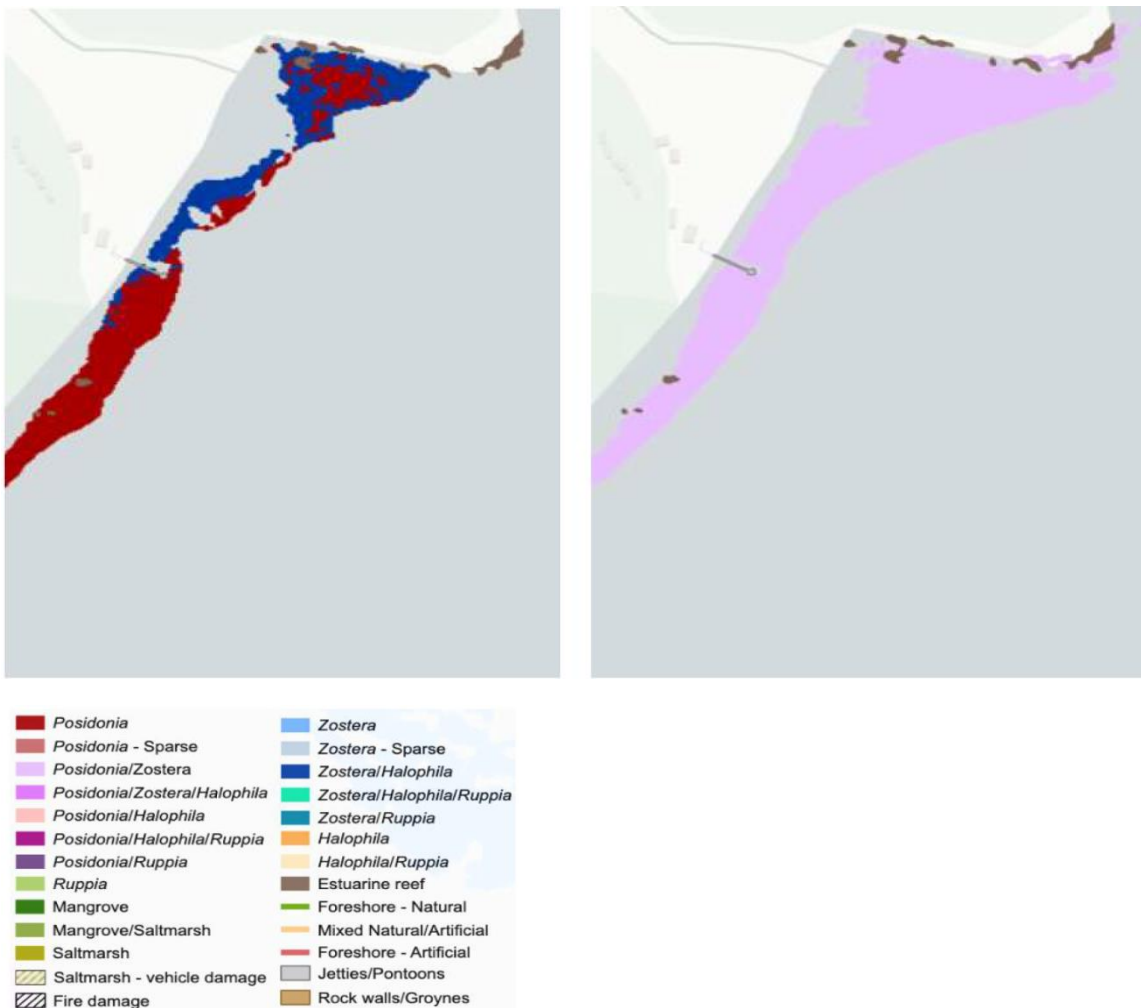


Figure 6-3 DPIRD Marine Vegetation Habitat Mapping for Currawong Beach in 2000 (left) and 2005 (right) (Source: MPR, 2024)

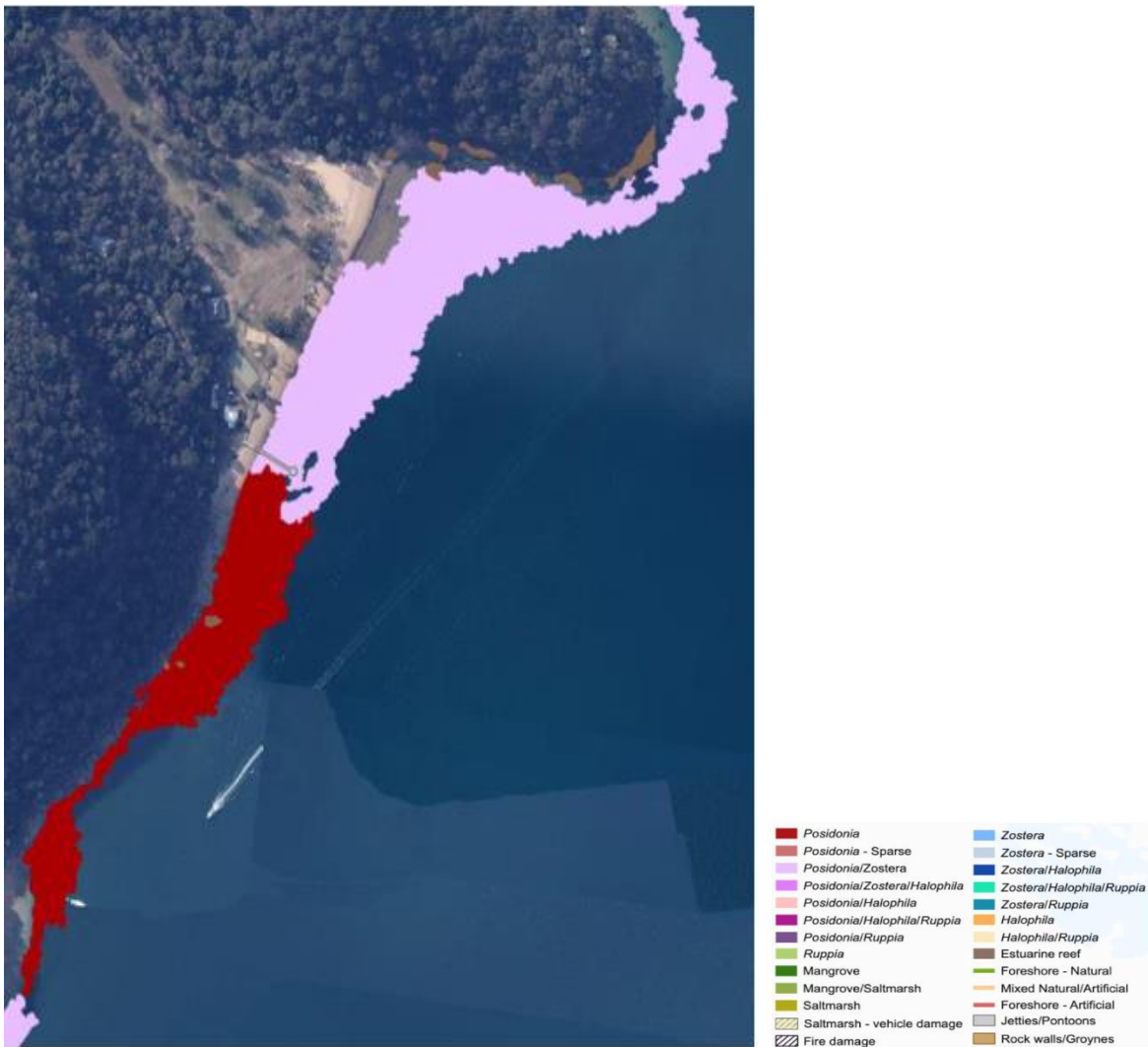


Figure 6-4 DPIRD Marine Vegetation Habitat Mapping for Currawong in 2019 (Source: MPR, 2024)

6.1.1.3 Site Aquatic Ecology

An initial dive survey was undertaken on 14 April 22 to establish the extent and type of seagrass present in the near vicinity of the present wharf for preliminary design considerations. Poor underwater visibility following prolonged flood and swell conditions delayed ground-truthing of the complete extent of offshore seagrass and in the interim a bathymetric survey using dual sonar and side-scan was undertaken on 27 April 22, from which more detailed offshore seagrass limits could be derived. This extended mapping and speciation was then confirmed with a ground-truthing confirmation dive on 27 May 2022, when waters were reasonably clear with 4m underwater visibility.

For the present update report MPR undertook spot dives at the site in late September 2024 that indicated no substantial change in seagrass mapping from the 2022 survey. MPR then requested and was supplied with updated Nearmap aerial imagery (supplied on 4 October 2024) that was used for update seagrass and bathymetric mapping.

Overlaying the bathymetry survey results onto the DPIRD Fisheries 2019 seagrass mapping indicates that there has been scouring of the seabed offshore from the jetty head both to the

north-east and to the south-east of the wharf, both consistent with high propeller wash scouring from ferries leaving the front of the wharf (for both north to south or south to north vessel directions). The results also indicate the following depth distributions for the 2019 seagrass distribution:

- Mixed *Zostera* and *Posidonia* extended from inshore to - 2m ISLW (Indian Spring Low Water) depth offshore to the north of the wharf, to -3.8m offshore from the wharf.
- Mixed *Posidonia* and *Zostera* extended to around -3.5m ISLW offshore from the wharf and to the south.
- As noted above, there has been scouring of the seabed consistent with propeller scouring from ferries that has resulted in loss of seagrass cover and the extent of scouring would appear to have increased since the 2019 mapping.
- The 2022 mapping distinguished between mixed *Zostera* and *Posidonia* beds inshore from *Posidonia* beds offshore with the outer depth limit of the mixed bed decreasing from -2m depth at the sheltered north to -1m along the more exposed southern beach.
- The outer depth limit of any *Posidonia* growth showed a similar variation increasing from -2m to the north of the distribution to -4m depth for the southern distribution, with the more even and dense bed outer limit generally following the -3m depth contour.
- Although the seabed slope angle decreases from north to south, there is a very shallow gradient between the -3m and -4m contours to the south-east of the south-east scour hole, indicating that the propeller-wash mobilised sediments have been deposited there. This area still supports sparse *Posidonia* growth indicating that the deposition is widespread and not smothering *Posidonia* plants.

Aquatic habitat assemblages at the site are described as follows:

- The intertidal beach comprises clean marine sands. The marine sands extend out offshore and gradually transition to silt/sands offshore from the seagrass beds.
- The inshore seagrass bed (with the exception of the ferry scour hole) starts around the -0m ISLW depth contour with inshore seagrass predominantly *Zostera* and mixed *Zostera* with *Posidonia* further offshore.
- The scour holes supported no seagrass or any other marine vegetation and the smaller bare sand patch to the south of the wharf is considered to be the only (present) instance of smothering impact on the *Posidonia* bed associated with the dispersal of sediments mobilised by ferry propeller wash.
- *Halophila* was generally observed as a sparse and patchy distribution within the mixed *Zostera* and *Posidonia* beds, with proportionally more *Halophila* around the inshore wharf sections.
- Beyond the seagrass, the seabed is bare silty-sand sediment.
- Older wharf piles supported Sydney rock oysters *Saccostrea commercialis* and barnacles in intertidal waters, with barnacles extending to the seabed (Figure 14), and

the newer HDPE sleeved piles currently support very little oyster growth. Subtidal pile sections supported mostly barnacles, bryozoans, encrusting sponges and *Dictyota sp.* with a minute amount of *Padina sp.* Observed.

- Whilst there was generally bare sand with some isolated scattered rock fragments with attached *Sargassum sp.* under the wharf, some of the outer sections of the wharf had continuous mixed *Posidonia* and *Zostera* cover underneath the structure.
- The pest algae *Caulerpa taxifolia* was present at the site but not as large beds or patches and was noted generally in disturbed areas around the wharf and around mooring block.

Full images can be found in Appendix C.

6.1.2 Key Fish Habitat

One of the objectives of the FM Act is to 'conserve key fish habitats'. To achieve the objectives of the FM Act, NSW DPIRD Fisheries has identified 'Key Fish Habitats (KFH)' as 'those aquatic habitats that are important to the sustainability of the recreational and commercial fishing industries, the maintenance of fish populations generally, and the survival and recovery of aquatic species'.

KFH is defined to include all marine and estuarine habitats up to the highest astronomical tide level (that is reached by 'king' tides) and most permanent and semi-permanent freshwater habitats including rivers, creeks, lakes, lagoons, billabongs, weir pools and impoundments up to the top of the bank. Given the definition of KFH, all of Pittwater, up to the highest tide level would be included. The occurrence of KFH within the study area is mapped using the NSW Fisheries Spatial Data Portal in Figure 6-5.



Figure 6-5 Location of Key Fish Habitat in relation to the site (Source: DPIRD, 2024)

6.1.3 Key Fish Habitat Type and Sensitivity

The Waterway and KFH classification of the study area was determined by MPR (2024) using the Policy and Guidelines for Fish Habitat Conservation and Management (NSW DPI, 2013) that considers the specific attributes of the aquatic habitats in the study area. The KFH and associated sensitivity classification scheme is shown in Figure 6-6. The classification of waterways for fish passage types is shown in Figure 6-7.

Currawong Beach is a Class 1 "Major key fish habitat" by virtue of it being an estuarine waterway. In regard to the sensitivity classification of the specific habitats within Currawong Beach:

- The *Posidonia* and *Zostera* seagrass beds and patches identified for this proposal are Type 1 "highly sensitive KFH".
- The sparse algal habitats on the piles are classified as Type 2 "moderately sensitive KFH" by the presence of *Sargassum sp.* macroalgae and Kelp *Ecklonia radiata*.
- The remaining un-vegetated marine sand and shell habitats are Type 3 "minimally sensitive" KFH.

TYPE 1 - Highly sensitive key fish habitat:

- *Posidonia australis* (strapweed)
- *Zostera*, *Heterozostera*, *Halophila* and *Ruppia* species of seagrass beds >5m² in area
- Coastal saltmarsh >5m² in area
- Coral communities
- Coastal lakes and lagoons that have a natural opening and closing regime (i.e. are not permanently open or artificially opened or are subject to one off unauthorised openings)
- Marine park, an aquatic reserve or intertidal protected area
- SEPP 14 coastal wetlands, wetlands recognised under international agreements (e.g. Ramsar, JAMBA, CAMBA, ROKAMBA wetlands), wetlands listed in the Directory of Important Wetlands of Australia²
- Freshwater habitats that contain in-stream gravel beds, rocks greater than 500 mm in two dimensions, snags greater than 300 mm in diameter or 3 metres in length, or native aquatic plants
- Any known or expected protected or threatened species habitat or area of declared 'critical habitat' under the FM Act
- Mound springs

TYPE 2 – Moderately sensitive key fish habitat:

- *Zostera*, *Heterozostera*, *Halophila* and *Ruppia* species of seagrass beds <5m² in area
- Mangroves
- Coastal saltmarsh <5m² in area
- Marine macroalgae such as *Ecklonia* and *Sargassum* species
- Estuarine and marine rocky reefs
- Coastal lakes and lagoons that are permanently open or subject to artificial opening via agreed management arrangements (e.g. managed in line with an entrance management plan)
- Aquatic habitat within 100 m of a marine park, an aquatic reserve or intertidal protected area
- Stable intertidal sand/mud flats, coastal and estuarine sandy beaches with large populations of in-fauna
- Freshwater habitats and brackish wetlands, lakes and lagoons other than those defined in TYPE 1
- Weir pools and dams up to full supply level where the weir or dam is across a natural waterway

TYPE 3 – Minimally sensitive key fish habitat may include:

- Unstable or unvegetated sand or mud substrate, coastal and estuarine sandy beaches with minimal or no in-fauna
- Coastal and freshwater habitats not included in TYPES 1 or 2
- Ephemeral aquatic habitat not supporting native aquatic or wetland vegetation

Notes: For the purposes of these policy and guidelines the following are **not considered key fish habitat**⁵:

- First and second order streams on gaining streams (based on the Strahler method of stream ordering)
- Farm dams on first and second order streams or unmapped gullies
- Agricultural and urban drains
- Urban or other artificial ponds (e.g. evaporation basins, aquaculture ponds)
- Sections of stream that have been concrete-lined or piped (not including a waterway crossing)
- Canal estates

Figure 6-6 Key fish habitat and associated sensitivity classification scheme (for assessing potential impacts of certain activities and developments on key fish habitat (from NSW DPI 2013))

Classification	Characteristics of waterway class
CLASS 1 Major key fish habitat	Marine or estuarine waterway or permanently flowing or flooded freshwater waterway (e.g. river or major creek), habitat of a threatened or protected fish species or 'critical habitat'.
CLASS 2 Moderate key fish habitat	Non-permanently flowing (intermittent) stream, creek or waterway (generally named) with clearly defined bed and banks with semi-permanent to permanent waters in pools or in connected wetland areas. Freshwater aquatic vegetation is present. TYPE 1 and 2 habitats present.
CLASS 3 Minimal key fish habitat	Named or unnamed waterway with intermittent flow and sporadic refuge, breeding or feeding areas for aquatic fauna (e.g. fish, yabbies). Semi-permanent pools form within the waterway or adjacent wetlands after a rain event. Otherwise, any minor waterway that interconnects with wetlands or other CLASS 1-3 fish habitats.
CLASS 4 Unlikely key fish habitat	Waterway (generally unnamed) with intermittent flow following rain events only, little or no defined drainage channel, little or no flow or free standing water or pools post rain events (e.g. dry gullies or shallow floodplain depressions with no aquatic flora present).

Example: NSW DPI will not approve the permanent obstruction of fish passage on a CLASS 1 or 2 waterway (major or moderate fish habitat) (see Chapter 4).

Figure 6-7 Classification of waterways for fish passage types (from: NSW DPI 2013).

6.1.6 Critical Habitat/Areas of Outstanding Biodiversity Value (AOBVs)

This Section identifies Areas of Outstanding Biodiversity Value (AOBV) declared under the BC Act. AOBVs are special areas that contain irreplaceable biodiversity values that are important to the whole of NSW, Australia or globally. An area of land is listed as Critical Habitat if it is critical to the survival of an endangered or critically endangered species, population or ecological community (DPE, 2023).

The Register of AOBVs is found at <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/areas-of-outstanding-biodiversity-value/area-of-outstanding-biodiversity-value-register> (DPE 2023).

The Register of Declared AOBVs lists the following for aquatic or marine species:

- Cabbage Tree Island, Port Stephens, NSW – Critical Habitat for Gould’s petrel (*Pterodroma leucoptera*).
- Manly, Sydney Harbour, NSW – Critical Habitat for Little Penguin (*Eudyptula minor*).
- Stotts Island Nature Reserve, NSW – Critical Habitat for Mitchell’s Rainforest Snail (*Thersites mitchellae*).
- Wollemi National Park, NSW – Critical habitat for the Wollemi Pine (*Wollemia nobilis*).

The closest AOBV to the site is the critical Habitat for Little Penguin (*Eudyptula minor*). Whilst the critical habitat is located within the same Council area as the site, the two sites are located around 22km from each other and there would be no impacts seen to the critical habitat as a result of the proposal.

6.1.7 Listed Threatened Ecological Communities

A protected Matters Search was conducted on 20 December 2023, this search identified 8 different TECs, these are shown in Table 6-1.

Given the location and small scale of the proposed works, it is not expected that with the exception of *Posidonia australis*, the listed TECs would not be impacted by the proposal. Considering the proposed activity, its potential impacts on *Posidonia australis* and available mitigation measures (refer to Section 7.1) the proposed activity is not expected to cause any long term significant impacts on this TEC listed under the EPBC Act, nor is it expected to impact on the habitat critical to the survival of the TEC, or place it at the risk of decline in accordance with the Significant Impact Guidelines 1.1 (Department of the Environment, 2013) for Listed Threatened Species and Ecological Communities. Refer to Section 6.1.14 for discussion on potential impacts to *Posidonia australis*.

Table 6-1 List of Threatened Ecological Communities (MNES, 2023)

Community Name	Threatened Category	Presence Text	Buffer Status
Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area	In feature area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community may occur within area	In feature area
Coastal Upland Swamps in the Sydney Basin Bioregion	Endangered	Community likely to occur within area	In feature area
Eastern Suburbs Banksia Scrub of the Sydney Region	Critically Endangered	Community may occur within area	In feature area
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	Critically Endangered	Community likely to occur within area	In feature area
<i>Posidonia australis</i> seagrass meadows of the Manning-Hawkesbury ecoregion	Endangered	Community likely to occur within area	In buffer area only
River-flat eucalypt forest on coastal floodplains of Southern New South Wales and Eastern Victoria	Critically Endangered	Community may occur within area	In feature area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area	In buffer area only

6.1.8 Biologically Important Areas

A protected Matters Search was conducted on 20 December 2023, this search identified 4 different Biologically Important Areas. these are shown in Table 6-2. Given the small scale of the proposed works, it is not expected that the Biologically Important Areas would be impacted.

Table 6-2 List of Biologically Important Areas in relation to the site

Name	Behaviour	Presence	Buffer Status
<i>Tursiops aduncus</i> (Indo-Pacific/Spotted Bottlenose Dolphin)	Breeding	Likely to occur	In feature area
<i>Ardenna pacifica</i> (Wedge-tailed Shearwater)	Foraging	Likely to occur	In feature area
<i>Carcharias taurus</i> (Grey Nurse Shark)	Foraging	Known to occur	In feature area
<i>Megaptera novaeangliae</i> (Humpback Whale)	Foraging	Known to occur	In buffer area only

6.1.9 Key Ecological Features (Marine)

A protected Matters Search was conducted on 20 December 2023, this search identified no Key Ecological Features within the search extent or buffer.

6.1.10 Invasive Species (WeedWise)

Invasive weed species are not expected to impact or be impacted by the proposed works. Overall, all pest plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable (DPI, 2024).

6.1.11 Threatened and Protected Fauna and Flora Searches

6.1.11.1 Fisheries Management Act 1994

Threatened and protected marine species listed under Schedules 4, 4A and 5 of the FM Act 1994 were reviewed in order to satisfy requirements of the Fisheries NSW Policy and Guidelines for Fish Habitat Conservation and Management (NSW DPI, 2013). Marine species, populations and ecological communities currently listed as endangered, critically endangered and/or vulnerable (i.e., Schedule 4, 4A and 5 respectively) under the NSW FM Act 1994 with the potential to occur in the site and nearby coastal waters are listed in Table 6-3. Full schedules are provided in Appendix D.

Table 6-3 Threatened and protected marine species listed under the FM Act 1994 with the potential to occur in surrounding environment

Schedule	Species and Status
Schedule 4: Endangered Species, Populations and Ecological Communities	Cauliflower soft coral (<i>Dendronephthya australis</i> (Kükenthal, 1905)) – endangered species
	White’s seahorse (<i>Hippocampus whitei</i> (Bleeker, 1855)) – endangered species
	Macquarie Perch (<i>Macquaria australasica</i> (Cuvier, 1830)) – endangered species
	Australian Grayling (<i>Prototroctes maraena</i> (Günther, 1865)) – endangered species
	Scalloped Hammerhead (<i>Sphyrna lewini</i> (Griffith & Smith, 1834)) – endangered species
	Southern Bluefin Tuna (<i>Thunnus maccoyii</i>) – endangered species
	<i>Posidonia australis</i> Hook.f. (1858), seagrass, Port Hacking, Botany Bay, Sydney Harbour, Pittwater, Brisbane Waters and Lake Macquarie populations – endangered population

Schedule	Species and Status
Schedule 4A: Critically Endangered Species and Ecological Communities	Grey nurse shark (<i>Carcharius taurus</i>) - critically endangered species
Schedule 5: Vulnerable Species and Ecological Communities	Great white shark (<i>*Carcharodon carcharias</i> (Linnaeus, 1758)) - vulnerable species Black cod (<i>Epinephelus daemелиi</i> (Günther, 1876)) - vulnerable species
Protected Species	All species of the families 'Syngnathidae', 'Solenostomidae' and 'Pegasidae' (i.e., seahorses, sea dragons, pipefishes, pipehorses). Ballina angelfish, <i>Chaetodontoplus ballinae</i> Bluefish, <i>Girella cyanea</i> Eastern blue devil fish, <i>Paraplesiops bleekeri</i> Elegant wrasse, <i>Anampses elegans</i> Estuary cod, <i>Epinephelus coioides</i> Giant Queensland groper, <i>Epinephelus lanceolatus</i> Herbsts nurse shark, <i>Odontaspis ferox</i>

Of the species listed above, those which are most likely to occur within the vicinity of the proposal (based on their threatened species status, known occurrences and habitat present), are:

- **Posidonia australis* Hook.f. (1858), seagrass, Botany Bay population – endangered population
- White's seahorse (*Hippocampus whitei* (Bleeker, 1855)) – endangered species
- Great white shark (*Carcharodon carcharias*) - vulnerable species
- Black cod (*Epinephelus daemелиi*) - vulnerable species
- All species of the families 'Syngnathidae', 'Solenostomidae' and 'Pegasidae' (i.e., seahorses, sea dragons, pipefishes, pipehorses) – protected species

There are three seagrass species recorded from Pittwater; *Zostera capricorni* and *Halophila ovalis*, are both protected under the FM Act and *Posidonia australis* seagrass is listed under both the FM and EPBC Acts as an endangered population in Pittwater and as a TEC. *Posidonia* is the dominant seagrass species at the site with mixed *Zostera* and *Halophila* inshore.

The Black cod has been recorded from the outer estuary, however there was no suitable rock cave or crevice habitat found at the site. At least two seahorse species (White's seahorse, Bigbelly seahorse) and three pipefish (Wide-body pipefish, Stick pipefish and Hairy pipefish)

are expected or known from Pittwater. The *Posidonia* seagrass which surrounds the proposal site provides suitable habitat for White's Seahorses. The sparse algal habitats on the existing piles may also provide potential habitat for White's seahorses. A permit is required for syngnathids (including any White's seahorses) relocation under the FM Act.

Considering the proposed activity, its potential impacts on aquatic habitats and available mitigation measures (refer to Section 7.1) the proposed activity is not expected to cause any long term significant impacts on any endangered populations and threatened species listed under the FM Act, nor is it expected to impact on the viability of local populations, or place any of them at the risk of extinction in accordance with the Threatened Species Assessment Guidelines (NSW DPI, 2008).

6.1.11.2 Biodiversity Conservation Act 2016

An online database search for threatened and protected species listed under the BC Act (recorded within a 10km radius) was undertaken using the BioNet Atlas of NSW Wildlife. As the default search area (10km) includes terrestrial species which are likely to occur within Ku-ring-gay Chase National Park it should be noted that many of these species are unlikely to occur or be impacted by the proposed works. The full Atlas of NSW Wildlife search results are provided in Appendix E.

The search listed 23 marine species and a number of unidentified species which have been recorded within 10km of the sites as shown in Table 6-4. A number of aquatic and migratory birds are also listed but due to the nature of the proposed works, the existing nearby habitats and nearby land use, it is not expected that the bird species would be impacted.

Table 6-4 Threatened and protected marine species listed under the BC Act 2016 recorded within a 10km radius of the site

Species Name	Common Name	NSW Status
<i>Delphinus delphis</i>	Common Dolphin	P
<i>Dolphin sp.</i>	Unidentified Dolphin	P
<i>Grampus griseus</i>	Risso's Dolphin	P
<i>Stenella attenuata</i>	Pantropical Spotted Dolphin	P
<i>Tursiops aduncus</i>	Indo-pacific Bottlenose Dolphin	P
<i>Tursiops truncatus</i>	Bottlenose Dolphin	P
<i>Eubalaena australis</i>	Southern Right Whale	E1, P
<i>Megaptera novaeangliae</i>	Humpback Whale	P
<i>Physeter macrocephalus</i>	Sperm Whale	V, P
<i>Kogia breviceps</i>	Pygmy Sperm Whale	P
<i>Arctocephalus forsteri</i>	New Zealand Fur-Seal	V, P
<i>Arctocephalus pusillus donriferus</i>	Australian Fur-seal	V, P
<i>Arctocephalus sp.</i>	Unidentified Fur-seal	P
<i>Arctocephalus tropicalis</i>	Subantarctic Fur-seal	P
<i>Seal sp.</i>	Unidentified seal	P
<i>Hydrurga leptonyx</i>	Leopard Seal	P

Species Name	Common Name	NSW Status
<i>Caretta careeta</i>	Loggerhead Turtle	E1, P
<i>Chelonia mydas</i>	Green Turtle	V, P
<i>Cheloniidae sp.</i>	Unidentified sea turtle	P
<i>Eretmochelys imbricata</i>	Hawksbill turtle	P
<i>Dermochelys coriacea</i>	Leatherback turtle	E1, P
<i>Chelodina longicollis</i>	Eastern Snake-neck Turtle	P
<i>Eudyptula minor</i>	Little Penguin	P

The species listed in Table 6-4 are not likely to occur within the immediate proposed area. Considering the proposed activity, its potential impacts on marine fauna and available mitigation (Section 7.1), the proposed activity is not expected to cause any long term or significant impact on any species listed under the BC Act, nor would it impact on the viability of local populations or place any of them at the risk of extinction in accordance with Section 7.3 of the BC Act.

6.1.11.3 Environment Protection and Biodiversity Conservation Act 1999

An online database search for species listed under the EPBC Act with the potential to occur in the study area (within a 2km radius of the site) was made using the EPBC Act Protected Matters Search Tool.

In summary, the EPBC Act lists the following:

- Listed threatened species: 101.
- Listed Migratory Species: 59.

Terrestrial species listed under the EPBC Act are not considered due to the nature of the works being confined to the aquatic environment. Similarly, identified marine and migratory birds species are not listed below as it is considered that there is a low potential for harm to these species in consideration of the location and nature of the proposed works, existing habitat, current site use and being highly mobile.

A summary for the threatened and protected marine species listed under the EPB Act are shown in Table 6-5. A full list of species identified under the EPBC using the Protected Matters Search Tool are included in Appendix B. The species which are most likely to occur within the vicinity of the proposal are the Black Rockcod, White's seahorse and Grey Nurse Shark which are also listed under the FM Act.

Table 6-5 Threatened and protected marine species listed under the EPBC Act 1999 with the potential to occur in the study area

Species Name	Common Name	Status	Likelihood of Occurrence
<i>Epinephelus daemeli</i>	Black Rockcod	Vulnerable	Species or species habitat likely to occur within area
<i>Hippocampus whitei</i>	White's seahorse	Endangered	Species or species habitat likely to occur within area
<i>Macquaria australasica</i>	Macquaries Perch	Endangered	Species or species habitat may occur within area
<i>Prototroctes maraena</i>	Australian Grayling	Vulnerable	Species or species habitat likely to occur within area
<i>Seriolella brama</i>	Blue Warehou	Conservation Dependent	Species or species habitat known to occur within area
<i>Thunnus maccoyii</i>	Conservation Dependent	Species of species habitat likely to occur within area	In feature area
<i>Balaenoptera musculus</i>	Blue Whale	Endangered	Species or species habitat may occur within area
<i>Eubalaena australis</i>	Southern Right Whale	Endangered	Species of species habitat likely to occur within area
<i>Carcharias taurus</i>	Grey Nurse Shark	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area
<i>Carcharodon carcharias</i>	Great white shark	Vulnerable	Species or species habitat known to occur within area
<i>Rhincodon typus</i>	Whale shark	Vulnerable	Species or species habitat may occur within area
<i>Sphyrna lewini</i>	Scalloped Hammerhead	Conservation Dependent	Species or species habitat likely to occur within area
<i>Dendronephthya australis</i>	Cauliflower Soft Coral	Endangered	Species or species habitat may occur within area

Species Name	Common Name	Status	Likelihood of Occurrence
<i>Caretta caretta</i>	Loggerhead Turtle	Endangered	Species or species habitat known to occur within area
<i>Chelonia mydas</i>	Green Turtle	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<i>Dermochelys coriacea</i>	Leatherback turtle	Endangered	Foraging, feeding or related behaviour known to occur within area
<i>Eretmochelys imbricata</i>	Hawksbill Turtle	Vulnerable	Species or species habitat known to occur within area
<i>Natator depressus</i>	Flatback Turtle	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Considering the proposed activity, its potential impacts on aquatic habitats and available mitigation measures (refer to Section 7.1) the proposed activity is not expected to cause any long term significant impacts on any threatened species listed under the EPBC Act, nor is it expected to impact on the habitat critical to the survival of a species, or place any of them at the risk of decline in accordance with the Significant Impact Guidelines 1.1 (Department of the Environment, 2013) for Listed Threatened Species and Ecological Communities.

6.1.12 Marine Parks

Barrenjoey head Aquatic reserve is the closest aquatic reserve to the proposed site as seen in Figure 6-9. The distance between the site and Barrenjoey Head Aquatic Reserve is ~3km and therefore it is not expected that there would be any impacts to the reserve.



Figure 6-9 Barrenjoey Head Aquatic Reserve

6.1.13 Groundwater Dependent Ecosystems

Groundwater dependent ecosystems can include wetlands, streams, lakes, swamps, aquifers, springs, caves and some vegetation communities. They are important habitats for native animals such as fish, frogs and waterbirds (NSW DPIRD, 2024).

There are no aquatic groundwater dependent ecosystems situated within the proposed site. There are some groundwater dependent ecosystems situated within Ku-ring-gai Chase National Park. It is considered that due to the distance between these ecosystems and the site, as well as the nature of the proposed works that there would be no impact as a result of this proposal.

6.1.14 Potential Impacts

MPR (2024) have extensively discussed potential impacts relating to the proposed works, this includes construction related impacts. A summary from MPR (2024) is provided below.

Construction impacts:

In terms of habitat losses and gains from piling and jetty works:

- The piles along the existing berthing face and supporting the end section of wharf are to be demolished and the stairs would be removed. However, if on inspection prior to commencement of works, other piles would need to be replaced due to their condition the loss of habitat on these piles would be offset by the gain of wetted surface habitat on the new piles being installed for the proposed extension.
- The majority of new piles are to be placed into bare sediment (scour hole) habitat therefore there would be no direct loss of sediment-based marine vegetation, with the

exception of two outer southern piles which could result in the direct loss of up to 0.25m² of patchy Posidonia seagrass (Figure 6-10) and some minor but additional potential Posidonia loss for three piles to be placed on the edge of the southern scour hole ($\pm 0.3\text{m}^2$ of potential Posidonia seagrass).

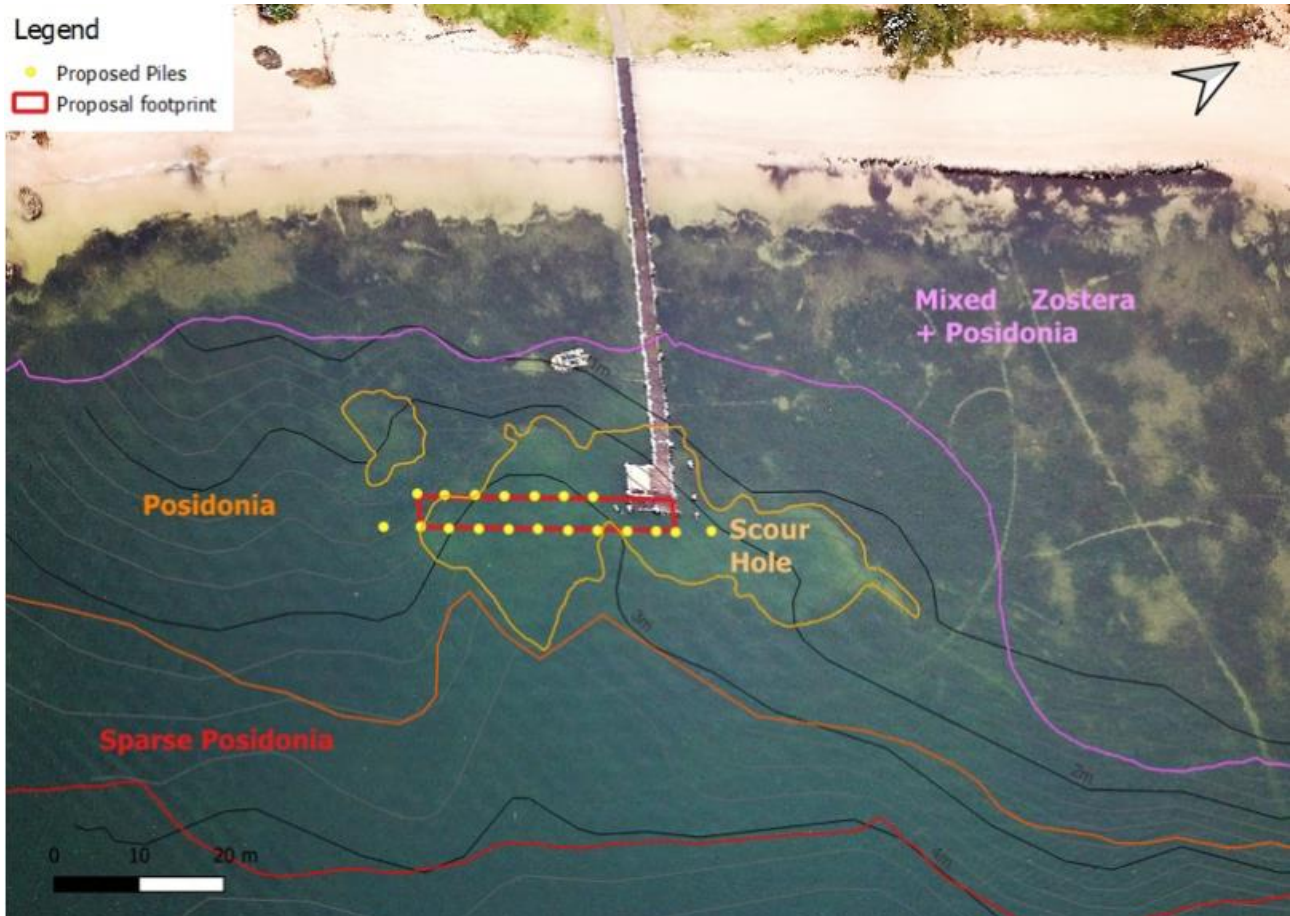


Figure 6-10 Drone image of Currawong Wharf with seagrass mapped and bathymetry overlaid (Source: MPR, 2024)

Harm to syngnathids (seahorses, seadragons, pipehorses and pipefishes) via direct or indirect impacts of construction could include water quality changes / resuspension of sediments during the construction phase, loss of aquatic habitat (areas of seagrass and macroalgae) either temporarily or permanently.

The main potential impacts from the use of floating plant relate to the possible maneuvering of work vessels and barges over the inshore seagrass beds. There is thus potential to directly damage or disturb aquatic habitats via vessel or propeller strike or by excessive propeller wash. Damage to vegetated habitats can also occur via mooring or anchoring apparatus deployed in, on or over, these habitats via direct crushing or scalping from wires laid across the seabed.

The listed pest algae species *Caulerpa taxifolia* has a fragmented and limited distribution around the wharf in disturbed areas, including at and around mooring blocks, and whilst it is unlikely large amounts of the pest *Caulerpa* algae would be mobilised by construction works, mitigation measures are recommended for *Caulerpa* management for construction vessels.

Operational Impacts:

MPR (2024) included detailed onsite mapping of the seagrass and aquatic ecology at Currawong Beach. Figure 6-10 presents an overlay of the seagrass area over a drone image of which shows that there has been scouring of the seabed around the existing wharf head consistent with propeller scouring from ferries that has resulted in a loss of seagrass cover. The alignment of the wharf upgrade is dictated by the position of the existing seagrass locations and the potential for direct and indirect impacts on the seagrass.

This proposal would keep vessels within a similar depth over outer seagrass beds for entering and leaving the berthing positions with more depth (generally above 3m ISLW alongside the ramped wharf) and over the present scour hole for the critical exiting vessel propeller thrust for both south and north facing berthing arrangements. The north - south alignment also provides an improved ability to turn away from inshore seagrass beds when departing the wharf.

A small portion of the proposed structure is positioned above an area of seagrass near the bottom of the first ramp and at the southernmost point of the structure. The ferry would sit above a small portion of seagrass at certain points of the tide when using the higher boarding landings. This is similar to the current berthing arrangement at the wharf. From consultation with DPIRD Fisheries highlighting the above points, the potential impact of the fixed ramp structure is likely to be minor and indirect impacts to seagrass (i.e. additional propeller scour and wash) considering there is no change to the operational berthing of the ferries as ferry arrival and departure routes are not substantially altered.

6.2 Water Quality

6.2.1 Existing Environment

The site is situated within the Pittwater estuary which is located near the mouth of the Hawkesbury-Nepean River system (Figure 6-11). Pittwater has a catchment of 51km² which extends from Mona Vale and Warriewood in the south, along the eastern ridge of the Peninsula leading to Palm Beach and along the western ridge leading to West Head. A search of the NSW Planning Portal's Flood Planning Map does not indicate a flood risk at the site. There is no current water quality data for the site.

The waterway itself is extensively used from recreational purposes including swimming. A number of commercial enterprises are dependent on the estuary, including several marinas and a large number of operational wharfs. The estuary also holds a high ecological value.



Figure 6-11 Main water bodies surrounding the site (Source: Nearmap, 2023)

6.2.2 Potential Impacts

Alterations to water quality resulting from construction activities have the potential to impact on marine habitats and fauna. Potential sources of water pollution related to the construction phase include:

- Accidental spills or leaks of fuels and oils from construction vessels, plant and equipment.
- Incorrect (accidental or deliberate) disposal of general rubbish generated during demolition or construction into the waterway.
- Incorrect (accidental or deliberate) disposal of demolition or construction waste into the waterway.

Water pollution is known to degrade the quality of aquatic habitats, may alter the distribution and density of species, can increase levels of contaminants in the tissue of some species, and can then have impacts up the food chain and reduce the relative abundance of top-order predators (NSW EPA, 2021). Reproductive physiology, mating systems, and life histories can also be impacted by water pollution and can combine with other factors to reduce population persistence (Dulvey et al., 2003).

Water pollution has the potential to cause harm to a wide variety of marine and coastal fauna including sessile and mobile invertebrates, fish, reptiles, birds, and marine mammals. Marine mammals have been seen swimming and feeding in or near an oil spill and some fish are attracted to oil because it looks like floating food. Birds can then be attracted to schools of fish and inadvertently become covered in or ingest fuels or oils. The potential impacts of water pollution on aquatic habitats and fauna are described in Section 6.1.14.

Potential impacts on water quality during construction are not considered to be significant in the context of the receiving waterway, following the implementation of mitigation measures.

There is not expected to be a significant impact on the water quality of the waterway during operation with no substantial increase in vessel movements.

6.3 Coastal Processes

6.3.1 Existing Environment

The site does not experience direct ocean swells associated with open coast beaches, however, in certain conditions, it can be subject to both ocean swells diffracting around Barrenjoey Head and wind waves predominantly from the north-east and south-east.

The wave climate at the site comprises locally generated wind waves, swell waves and boat wake. Wind generated waves result from wind blowing across the water surface and affect the nearshore sea state. Wave height is dependent upon the speed, duration, and direction of the wind; the length of water or fetch over which the wind blows, and the depth.

Swell waves are generated by storms in the Pacific Ocean and propagate into Pittwater. The magnitude of the swell waves would be dependent on the distance from the entrance and the dissipation of energy from diffraction and refraction effects. Boat generated waves are the result of vessels berthing or passing the site.

The wave climate at this location is dominated by locally generated wind waves. However, it is important to note that the wave periods associated with swell waves and ferry vessels are relatively long compared with wave generated by wind and power crafts and may result in a more critical design condition.

Tidal planes for the site are best represented by tidal planes for the Hawkesbury River monitoring station at Patonga. This station is the closest with the most complete set of data. Tidal currents are not expected to be of concern in the design of the proposal. For the proposed design life of 50 years, a sea-level rise of 0.5m has been adopted.

There is no permanent ferry mooring at the wharf. Mooring only occurs during operational ferry conditions when transporting passengers. Consultation with the Ferry Operator identified an operational windspeed of up to 30 knots from the south-east, however advised that operating conditions are at the skippers' discretion.

6.3.2 Potential Impacts

Given the scale and nature of the proposal, the works are unlikely to cause any significant impact to existing coastal processes and coastal hazards. Potential impacts such as sand washing away from areas underneath the chain along the seafloor and piles changing the local hydrodynamics are considered minor on a coastal scale.

6.4 Heritage

6.4.1 Existing Environment

6.4.1.1 Aboriginal Heritage

An AHIMS basic search was conducted on the 18 January 2024. This concluded that there are no Aboriginal heritage sites within the proposed area. There are multiple Aboriginal heritage sites within a larger search area on land, however, due to the small scale and no land-based activities of this proposal it is unlikely that there would be impacts to the Aboriginal heritage.

6.4.1.2 Non-Aboriginal Heritage

A Statement of Heritage Impact (SoHI) has been prepared by Worley Consulting to assess potential impacts of the proposal (refer to Appendix F).

The site is located within the curtilage of the heritage item "Currawong Workers' Holiday Camp" listed on the State Heritage Register (SHR No. 01784) (Figure 6-12). It is also located in the immediate vicinity of the heritage item with the same name (Item No. 2270517) and the "Currawong Heritage Conservation Area" (HCA No. C2) that are listed under Schedule 5 of the LEP as shown on Figure 6-13. The heritage item "House - "Midholme"" (Item No. 2270040) listed under the LEP is located 200m to the north-west of the site.

The site is located in the vicinity of the "Ku-ring-gai Chase National Park, Lion, Long and Spectacle Island Nature Reserves" that is listed on the National Heritage List (Place ID 105817).

The wharf was graded as an element of Moderate significance in accordance with the Pittwater State Park (Currawong) Conservation Management Plan (GBA, 2015_.

AHMS (2008) concluded that potential archaeological remains from the 1870s to the 20th Century period of occupation at Currawong (including those associated with the wharf) were assessed as having no heritage significance. In relation to maritime archaeology, a separate Maritime Archaeological SoHI including a maritime archaeological dive survey has been commissioned by Council and will be undertaken prior to construction.



Figure 6-12 SHR curtilage (Source: Heritage NSW, 2024)



Figure 6-13 LEP Heritage Map (Source: NSW Planning Portal, 2024)

6.4.2 Potential Impacts

6.4.2.1 Aboriginal Heritage

Aboriginal heritage impacts are highly unlikely at the site due to their distant proximity to the works that are proposed.

6.4.2.2 Non-Aboriginal Heritage

The SoHI has addressed the relevant statutory and non-statutory heritage controls as well as the requirements of DPE's Guidelines for preparing a statement of heritage impact, the relevant Articles of The Burra Charter and CMP policies.

A summary of the assessment findings is provided below:

- Construction of the proposal would have direct (minor) impacts to the SHR listed "Currawong Workers' Holiday Camp" from:
 - Demolition of the non-original end bay of the section of wharf and existing stairs.
 - Any remediation of existing wharf structural elements using like-for-like materials / members.
 - The presence of an ancillary site and construction plant and equipment operating on and in the waterway.
- Operation of the proposal would have direct (minor) impacts to the SHR listed "Currawong Workers' Holiday Camp" as the extended wharf is new work within the landscape and visual setting of the item. The form and design of new work would be compatible with the existing use and would enhance accessibility, functionality and condition of the Currawong Wharf.
- Construction and operation of the proposal would have indirect (minor) impacts to the heritage item "Currawong Workers' Holiday Camp" and the HCA, "Currawong Heritage Conservation Area".

The mitigation measures in the SoHI provide an appropriate response to manage potential impacts during construction. Therefore, it is considered that on heritage grounds, the proposal can be supported.

6.5 Boat Navigation

6.5.1 Existing Environment

Vessel activity is based on the site being accessible by three main ways:

- Ferry services which are the routes: Currawong to Mackerel Beach and Currawong Beach to Palm Beach
- Water taxi

- Privately owned vessel with limited mooring (anchoring is prohibited within 200m of submarine cables).

6.5.2 Potential Impacts

During construction there is potential for boat and ferry access to be partly impacted due to construction activities, with potential disruptions to the ferry services at other sites which are a part of the route which Currawong Beach sits within. Construction activities are to be coordinated to minimise impacts to residents, visitors and the Ferry Operator.

For both ferries there is approximately 20m of bare sand along the eastern edge of the proposed wharf with -2.75 to -3.5m water depth at ISLW. There is an additional 20m of bare scour hole area to the north for vessels entering and exiting, and the Posidonia bed immediately to the south has depths always above -2.5m at LAT. For the deeper draft and higher angle propulsion 8 Seasons Catamaran Ferry with a draft of 1.7m (at the lowest part of the propeller blades and a propulsion slope of 7.5° below the horizontal, the lower part of the thrust column created by the propellers when going forward would be directed some 7m behind the propellers to a -2.5m ISLW seabed and thus there is no risk of thrust impact on the sparse Posidonia seagrass offshore or inshore from the wharf when the vessel is berthing and departing facing south and only a low risk of thrust damage to Posidonia south of the wharf for the catamaran utilising the lowest portion of the ramped jetty when facing north.

For the Myra Spirit Ferry with a similar below propeller draft of 1.7m but with a far shallower thrust angle of $\pm 3^\circ$, the distance for the propeller thrust column to reach the seabed is some 20m thus, a negligible risk of departure thrust damage to Posidonia beds from the ferry departing at king low tide and facing north. For both vessels, reverse thrust used for slowing or stopping the vessel would always be directed towards the ship hull and surface waters and therefore it is unlikely for any reverse thrust risks for Posidonia seagrass beds.

The proposed alignment results in a change to the operational berthing of the ferries. The alignment of the wharf extension provides a dedicated ferry berth on the eastern side of the structure while maintaining access for commuter vessels on the western side of the structure.

6.6 Noise

6.6.1 Existing Environment

Noise sensitive receivers are properties such as residences, schools, churches and hospitals. The nearest noise sensitive receiver is around 70m from the wharf (Figure 6-14), which is the Currawong Beach cottages (tourist accommodation). The site is situated in a marine environment with intermittent noise sources mainly from vessel movements and land-based activities.



Figure 6-14 Noise Sensitive Receivers in relation to the site (Source: Nearmap, 2023)

6.6.2 Potential Impacts

The NSW Interim Construction Noise Guideline (DECCW, 2009) (ICNG) outlines construction noise management levels which aim to minimise nuisance noise from construction works. The ICNG states that where construction noise levels are above 75 dBA at residential receivers during standard hours, they are considered 'highly noise affected' and require additional considerations to mitigate potential impacts.

Construction plant, equipment and materials would be transported to the site via water. Temporary noise emissions and potential impacts on nearby recreational and residential receivers are expected to be minor during this phase. Demolition and construction work at the wharf would generally be associated with highly noise intensive plant and equipment such as the piling rig. These activities would likely have more than a minor impact on noise sensitive receivers located along the foreshore during standard construction hours. There is not expected to be any vibration impacts due to the distance of the works from buildings.

During operation, there is not expected to be a significant increase in the number of vessels utilising the upgraded wharf and would therefore not change from the existing acoustic environment.

6.7 Air

6.7.1 Existing Environment

The nearest air quality monitoring station is located in Macquarie Park and forms part of the Sydney East monitoring network. A review of recent air quality data published by the NSW Government indicates that the air quality is categorised as good. The current air quality within

the site is likely to be better than the monitoring station given the coastal environment, the small population and no road traffic found in the area.

6.7.2 Potential Impacts

The potential environmental impact associated with construction that relate to air quality includes increased exhaust emissions due to the use of construction related vessels and equipment. With proper management, air quality impacts to members of the public and the natural environment are considered to be low. There would be no operational air quality impacts.

6.8 Visual

6.8.1 Existing Environment

The current visual environment is clear and unobstructed by large buildings and other structures due to small size of the suburb. There are minimal human-made visual objects that are not residential housing. The site mostly features a natural/bushland backdrop typical of the Ku-ring-gai Chase National Park which the site backs onto (Figure 6-15). The site is visible when viewed from the waterway with distant views from the western shore of Palm Beach across to the site including from the end of Palm Beach Wharf and Lucinda Park.



Figure 6-15 View from waterway to the site (Source: Worley Consulting, 2023)

6.8.2 Potential Impacts

It is expected that only short-term visual impacts would be generated from the increased presence of construction related vessels, plant and equipment operating at the site.

The proposal once completed would include an extended wharf alignment sited perpendicular to the existing wharf comprising a series of fixed ramps and landings. The wharf extension has a minor impact to the landscape and visual setting of the site. The visual impacts of the proposal are mitigated by the wharf extension being mainly designed and constructed using timber structural materials (piles, decking and sub-structure) to match the aesthetic of the existing wharf and the history of Pittwater. The exception to this is the lower-level landings, which would be designed and constructed from FRP for longevity of the structure in the tidal zone. In summary, there are not expected to be any adverse visual impacts of the proposal when viewed from land or water.

6.9 Soil, Erosion and Contamination

6.9.1 Existing Environment

A search was made using the Geosciences Australian Portal (<https://portal.ga.gov.au/>) in order to map the local soils of the site. In addition, a search was undertaken using the NSW Government's eSPADE tool which is a database of available soil information across New South Wales (this is sourced from the NSW Soil and Land information system). Figure 6-16 represents the basic soil profile of the site and the surrounding area.

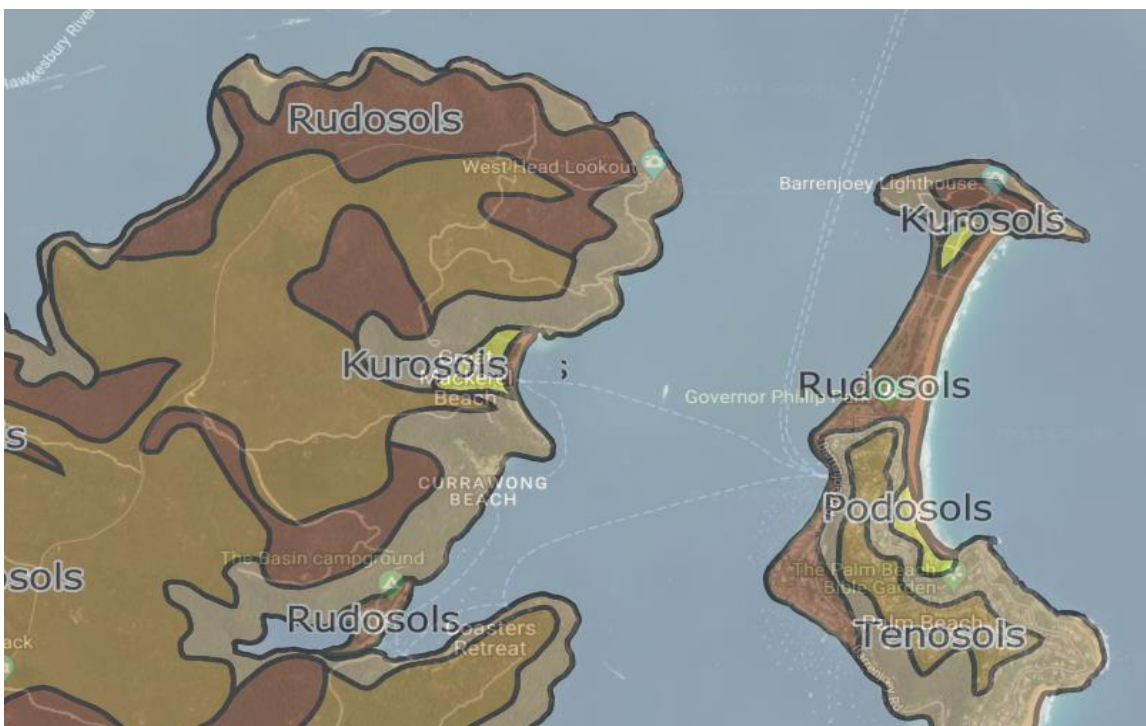


Figure 6-16 Soil profile of Currawong Beach and surrounding areas (Source: eSPADE, 2024)

The extent of Currawong Beach is classified as Podosols: Soils with B horizons dominated by the accumulation of compounds of organic matter, aluminium and/or iron. Podosols are typically found in close proximity to the coast.

No study has been conducted at the site which has targeted sediments quality.

Due to the minor nature of the proposed works, it is not expected that there would be impact to the sediment quality of the area, particularly if proper construction management is practiced. Additionally, a search of the contaminated land record was conducted on the 20 May 2024. No records of contaminated land had been found in the vicinity of the proposed site. Figure 6-17 lists the search result, currently there are 11 search results relating to the Northern Beaches Council between 1 Jan 2000 and 20 May 2024. The search results are all quite distant from the proposed site and are not expected to impact the proposed works.

Search results

Your search for: LGA: NORTHERN BEACHES COUNCIL
 Date from: 01 Jan 2000
 Date to: 20 May 2024

Matched 68 notices relating to 11 sites.

Suburb	Address	Site Name	Notices related to this site
BEACON HILL	176 Warringah ROAD	Caltex Service Station	3 current and 2 former
BELROSE	56-58 Glen STREET	Glenrose Shopping Centre	2 current and 7 former
CROMER	100 South Creek ROAD	Former Roche Products Dee Why Facility	5 current and 6 former
FORESTVILLE	632 Warringah ROAD	BP Service Station, Forestville	7 former
FORESTVILLE	667 Warringah ROAD	Shell Service Station	4 former
MANLY	Stuart STREET	Former Little Manly Point Gasworks	1 current and 7 former
MANLY VALE	Addiscombe ROAD	Former Landfill Addiscombe Road	3 current and 2 former
MONA VALE	Polo Ave, Perak STREET	Caltex Investigation Area	1 former
MONA VALE	79 Barrenjoey Road, 2 Polo Avenue, 6 Polo Avenue, 45 Bassett STREET	Former Caltex service station and adjacent properties	3 former
MONA VALE	58 Darley STREET	Mona Vale Bus Depot	2 current and 10 former
NARRABEEN	Wakehurst PARKWAY	Narrabeen Shotgun Range Sydney Academy of Sport	1 current and 3 former

Page 1 of 1

21 May 2024

Figure 6-17 Search results of the contaminated land records (Source: EPA, 2024)

Due to low vessel traffic and human population at the site the contamination levels of Currawong Beach are not expected to be of any concern.

The site features a basic wharf with minimal ability to disturb sediments. Figure 6-18 shows the Acid Sulfate Soil map and features the following:

- Class 1: Acid sulfate soils in a class 1 area are likely to be found on and below the natural ground surface.
- Class 3: Acid sulfate soils in a class 3 area are likely to be found beyond 1 metre below the natural ground surface.

- Class 5: Acid sulfate soils are not typically found in Class 5 areas. Areas classified as Class 5 are located within 500m on adjacent class 1, 2, 3 or 4 land.



Figure 6-18 Acid Sulfate Soils Map (Source: NSW Planning Portal, 2024)

6.9.2 Potential Impacts

Changes in the wharf structure during operation may alter natural water flow patterns, potentially affecting nutrient transport, sediment dynamics, and the movement of aquatic organisms. The potential for erosion and scour from the wharf extension is considered to be minor as the tidal currents within the waterway are generally slow moving. In addition, it is considered that potential impacts from changed berthing operations would be temporary and local sediment conditions would adjust over time.

Improper construction management can lead to several sediment-related impacts, including increased turbidity, sediment deposition, changes in sediment composition, altered erosion and accretion patterns, and the release of buried contaminants. These disturbances can affect light penetration, disrupt the feeding and respiratory processes of marine animals, smother benthic habitats, and alter local ecosystems. Additionally, construction can change hydrodynamics, leading to localised erosion or sediment accumulation. Disturbance to benthic sediment is likely to occur during piling and installation. Unless contained by a silt curtain surrounding the work site, fine sediment would disburse throughout the bay and settle on onto the substrate. No dredging or excavation is proposed.

Potential impacts to the aquatic ecology due to exposure and release of contaminated sediment and soils would likely be small-scale and localised, but could include:

- Smothering of benthic habitat and flora, resulting in small-scale but temporary loss of habitat
- Increased risk of spread of contaminated soil/sediment.

Acid Sulfate Soil class 1 can be found at the site. Other mentioned classes are onshore and would not be disturbed by the site. Acid Sulfate Soils can have the following effects:

- Damaging waterways and killing aquatic life
- Killing plants
- Corrosion
- Impacts to humans (irritation to skin and eyes)

If the recommended mitigation measures are implemented, potential impacts of sedimentation during construction would be minimal and temporary.

6.10 Waste

6.10.1 Existing Environment

Garbage bins are located outside the wharf area within a dedicated area to service the Currawong Beach Cottages. Waste which is generated at the site is typical of a holiday destination and is largely domestic waste (e.g. food waste, packaging).

Waste which has the potential to be generated during construction includes:

- General waste.
- Demolition waste.
- Paper recycling.
- Co-mingled recycling.
- E-waste and organic waste.

6.10.2 Potential Impacts

The potential waste sources include:

- Demolition waste from removal of segments of the wharf.
- Excess materials not used during construction which may be reused or recycled (i.e. wood).
- Unrestricted packaging waste which may be recycled (i.e. plastic and paper).
- Potentially restricted waste that would need to be disposed of at an appropriate waste facility (i.e. oils and lubricants).
- Domestic waste that would be disposed of at an existing rubbish bin (i.e. food scraps).

A site compound area would be determined by Council. It would be used to store construction plant, equipment and materials and may also comprise a site office. In addition, all waste

generated at the site compound area and from construction works, including demolition, would be disposed of appropriately.

Waste generation and resource use associated with the operational phase is not expected to generate significant adverse changes to existing conditions at the site.

6.11 Community

6.11.1 Existing Environment

There are no permanent residents at Currawong Beach. Currawong Beach Cottages provide visitor accommodation, primarily on weekends and during holiday periods.

6.11.2 Potential Impacts

Potential negative impacts on visitors and workers at Currawong Beach during construction would include changes to beach, wharf and mooring access and noise and visual impacts to visitors and workers. Construction activities are to be coordinated to minimise impacts to the operation of Currawong Beach Cottages and the Ferry Operator.

The works site would be restored immediately upon completion of the works. The transformation of the area through the works would have a long-term positive impact on community, as it improves the functionality of the wharf and increases and diversifies the options people have when using the wharf, particularly when it comes to accessibility (i.e. DDA compliant at all tide levels).

7. Environmental Management

7.1 Mitigation Measures

Table 7-1 outlines the mitigation measures in relation to each category assessed in Section 6. It is expected that the Contractor is to establish a process for understanding and complying with such mitigation measures. The timing for these mitigation measures would mainly occur in both the pre-construction and construction phases of the proposal. The responsibility of the mitigation measures is to be shared between the Council and their respective contractor for the proposal.

Table 7-1 Mitigation measures

Category	Mitigation Measure
General	<ul style="list-style-type: none"> A Construction Environmental Management Plan (CEMP) is to be prepared by the Contractor to Council's satisfaction prior to works commencing to describe how the works will be managed through the construction phase in order to minimise and manage potential environmental impacts.
Aquatic Ecology	<ul style="list-style-type: none"> Pre-works briefing is to be undertaken for all contractors advising staff of sensitive areas and relevant safeguards for these areas. The deployment of ropes, anchors, blocks, chains and similar devices to carry out works is to be kept to a minimum to prevent seabed damage or potential impacts on fauna. A seagrass dilapidation assessment is to be undertaken prior to construction and 12 months after the new wharf extension is operational to determine if any loss of seagrass has occurred during construction and/or operation of the new wharf extension. This assessment will include any losses to seagrass on the ferry turn in/out route. A pre-construction syngnathid survey must occur by specialised dive teams (including to piles and pile bases), with any syngnathids found to be relocated to other suitable natural or artificial habitats near the wharf in accordance with any permit requirements. Deployment of 'seahorse hotels' could also be undertaken prior to construction works commencing for this purpose. <i>Posidonia</i> plants that will be directly impacted due to piling are to be collected and relocated into old propeller scars or mooring block holes as appropriate. Vessel operations are to be done at a high tide, where possible, and the pushing vessel must be operated in such a manner as to minimise sediment disturbance or disturbance to all the seagrass beds.

Category	Mitigation Measure
	<ul style="list-style-type: none"> • There will be no stockpiling of demolition or construction materials on the seabed. • No vessel is to be taken over or left over the indicated marine vegetation (seagrass bed) habitats unless there is adequate vessel clearance depth (including allowance for tidal movement plus wind, vessel and swell wave heights). The estimations of clearance depths will also need to account for vessel propulsion gear clearance depths to ensure no propeller or wash scouring damage. • No vessel is to be moored with anchor or other bottom tackle located in the marine vegetation habitats and, where possible, the construction contractor should utilise existing infrastructure for mooring rather than setting temporary mooring blocks. • In order to minimise wash and prevent bottom scouring of the marine vegetation habitats and to prevent mobilisation of the pest algae <i>Caulerpa</i>, towing or pushing vessels must not use excessive power to manoeuvre barges into place near the designated marine vegetation habitats. Scouring damage can also be minimised by 'working the wind and tides', i.e., only moving floating plant into place on high tides and under favourable or no winds. • All the wetted surface areas of demolition or construction related materials taken from the waters must be inspected for attached <i>Caulerpa taxifolia</i> plants and these must be collected and disposed of into plastic bags then placed into garbage bins on shore (i.e., in the manner recommended in the NSW Fisheries' <i>Caulerpa</i> Management Plan). • All construction related equipment that comes in contact with the seabed (including mooring tackle, cables, ropes and anchors), must be inspected for attached fragments of the declared pest algae species <i>Caulerpa taxifolia</i> and any fragments found must be collected and disposed of into plastic bags then placed into garbage bins on shore. • Placement of mooring spuds or mooring blocks must be undertaken in such a manner that there is no risk of direct damage to the identified seagrass habitats from spud or block placement and that there is no risk of scalping the identified seagrass habitats from cables hanging between the barge and mooring blocks, under any tide or tide/wind combination. • The following Pile Removal and Placement Plan is intended to mitigate any residual environmental risk from the small amounts of sediments adhering to pulled piles: <ol style="list-style-type: none"> 1. Pile removal and placement works are to be enclosed using a floating silt curtain to facilitate rapid dispersal of disturbed sediments back to the seabed.

Category	Mitigation Measure
	<ol style="list-style-type: none"> 2. All seabed sedimental material on demolished piles is to be hosed off piles prior to piles leaving the silt curtain area, preferably as each pile is being pulled. 3. Piles or demolition material with adhered sub-surface seabed sediment that cannot be cleaned immediately but that needs to be stored exposed to air prior to cleaning, must be washed and hosed off into estuarine waters contained by the floating silt curtain as soon as practicable - with a maximum exposure time of 18 hours. 4. For any pile or other demolition material with adhered sediment that cannot be cleaned immediately, the operator/contractor must keep a log book entry of the time of extraction out of the water, the manner and place of storage of the material and the time, manner and placement of hosed off material (in accordance with point 3 above). <ul style="list-style-type: none"> • The risk of vessel strike during construction is to be reduced by limiting vessel speed limits and educating all personnel on the presence of marine fauna in the local waterway so that they can adopt appropriate speeds and clearance. Personnel must take all necessary actions to avoid any adverse interactions of vessels and equipment with fauna and their habitats. • Instructions for dealing with orphaned or injured native animals and include the contact details for the NSW Wildlife Information, Rescue and Education Service Inc (WIRES). • Wash down equipment and vehicles prior to and after use, to manage the introduction and spread of weed propagules. • Installation of seagrass marker buoys will help to ensure ferries complete their exit and turning manoeuvres in deeper waters and away from inshore seagrass beds • Provide contractors with a copy of 'Make 'clean' part of your routine' fact sheet (NSW DPI, 2015) and include it as part of CEMP to ensure correct cleaning protocols are adhered to. • Construction vessel antifouling is to be maintained to avoid the attachment and potential translocation of invasive species. • Monitoring and inspection/surveillance of the vessels and barges should be undertaken in accordance with the <i>Biosecurity Act 2015</i>. • Ballast water exchange by domestic vessels is to be avoided. • Any suspected new sightings of invasive species are to be reported by calling the 24-hour recorded hotline; 02 4916 3877 or email aquatic.pests@dpi.nsw.gov.au

Category	Mitigation Measure
	<ul style="list-style-type: none"> • Potential impacts of aquatic debris on fauna to be reduced by ensuring general and construction waste is contained and disposed of correctly onshore. • To limit the potential of a fish-kill incident, regular visual inspection of the waterway for dead or distressed fish (indicated by fish gasping at the water surface, fish crowding at the shoreline) must be conducted. • DPIRD Fisheries (1800 043 536) shall be immediately notified of any observations or reports of dead or distressed marine fauna within the proposal site. In such cases, all works other than emergency response procedures are to cease until the issue is rectified and written approval to proceed is provided by DPIRD Fisheries. • No new moorings will be permitted within seagrass areas. • Environmentally friendly moorings (EFMs) with a screw pile are to be placed in existing mooring scars within seagrass. The existing block and chain moorings are to be removed from the seagrass. • The residual risk of loss of Posidonia to propeller thrust for very low tide north-facing use of the wharf can be managed by providing the vessel master with directions on how to minimise the propeller scouring risk for vessels exiting to the north.
Water	<ul style="list-style-type: none"> • A site-specific emergency spill plan will be developed and include spill management measures in accordance with relevant EPA guidelines. The plan will address measures to be implemented in the event of a spill, including initial response and containment, notification of emergency services and relevant authorities. • All fuels, chemicals and hazardous liquids will be stored away from drainage lines, within an impervious bunded area in accordance with Australian Standards and EPA Guidelines. • All equipment is to be inspected by qualified personnel prior to the commencement of works to reduce the risk of hydrocarbon spills or leaks. • Vehicles and equipment must be properly maintained and regularly inspected for fluid leaks. • The lowest volume of hydrocarbons (oil, grease, petrol, and diesel) practicable will be stored on-site. • All fuels, chemicals and hazardous liquids will be stored away from waterways and drainage lines, within an impervious bunded area in accordance with Australian Standards and EPA Guidelines. • Chemical storage areas will be bunded and chemicals will be stored in accordance with the products Safety Data Sheet (SDS) and AS 1940 in land-based construction areas only.

Category	Mitigation Measure
	<ul style="list-style-type: none"> • Adequate water quality and hazardous materials procedures (including spill management procedures, use of spill kits and procedures for refueling and maintaining construction vehicles/equipment) will be implemented in accordance with relevant EPA guidelines during the construction phase. • All staff must be made aware of the location of the spill kits and be trained in how to use the kits in case of a spill. • The proponent is to note and be aware of its responsibility to notify each relevant authority of any pollution incident, in accordance with Section 148 of the POEO Act 1997. • Silt curtain(s) must be erected to enclose suspended sediments generated by the works. The curtain must be positioned and secured adequately. • Visual monitoring of local water quality (i.e., turbidity, hydrocarbon spills/slicks) is to be always undertaken during works to quickly identify any potential spills, deficient silt curtains or erosion.
Boat Navigation	<ul style="list-style-type: none"> • Required to have a license skipper for the boat navigation who will follow all vessel related rules during transportation to and from site as well as rules related to boat safety whilst remaining stationary. • moving ferry services into deeper water there are possibilities for seagrass recolonisation into areas that will no longer be subjected to ferry propeller scour.
Noise	<ul style="list-style-type: none"> • Work to follow standard NSW construction working hours. • Maximise the distance between noisy plant and equipment and nearby sensitive receivers including potential fauna habitat. • Orientate equipment such that offensive noise carries away from sensitive receivers and potential fauna habitat. • Avoid simultaneous operation of noisy plant within a discernible range of sensitive receivers. • Engines and equipment used intermittently are to be throttled or shut down when not required. • Neighbouring residents are to be notified if there are to be any significant noise impacts or noise anticipated outside the proposed work hours. • Gentle start-up hammer is recommended to allow undetected aquatic fauna to leave the area and avoid hearing damage. Work is to be stopped if large aquatic fauna is observed. • The impact of noise from boats and equipment on aquatic fauna will be minimised by enclosing engines with sound absorption material, and ensuring mufflers are properly maintained. Functioning mufflers are to be fitted to all equipment.

Category	Mitigation Measure
Air	<ul style="list-style-type: none"> • Works must be minimised during high wind periods. • Engines and equipment must be regularly inspected to ascertain that fitted emission controls are operating efficiently. • Engines and equipment must be maintained in accordance with manufacturer's specifications to ensure that it is in a proper and efficient condition. • Do not have engines or equipment running while not in use. • Minimise use of machinery for required activity only.
Visual	<ul style="list-style-type: none"> • During the construction work period, the site is to be maintained in a neat and tidy condition.
Soil, Erosion and Contamination	<ul style="list-style-type: none"> • Schedule the works outside heavy wind and rain periods to avoid excess sedimentation. • Adopt sediment and erosion controls in accordance with the Blue Book (Landcom 2004) and any additional Council requirements prior the works commencing (e.g. silt fencing and silt curtain). • Regular monitoring of sediment controls as well as inspections after heavy rainfall and follow-up work to repair/install erosion and sedimentation controls. • Inspect erosion controls regularly (daily during workdays) and after rainfall. Fix damaged controls immediately. Remove accumulated sediment and waste material from within land-based sediment controls regularly. • Prior to use at the site and/or entry into the waterway, machinery is to be appropriately cleaned, degreased and serviced. • Wash down all equipment, including hulls of barges, anchors, sediment curtains and trailers to prevent the spread of aquatic pests and contamination of waterways. A visual check for <i>Caulerpa taxifolia</i> on all vessels must be carried out before they commence work. • Weather forecasts must be checked daily to ensure work is not carried out in high wind or rainfall. • Do not use algaecides or chemicals that are labelled 'harmful to marine life' or 'Class 9 Environmentally hazardous' as part of the proposed activities. • Workers are to wear personal protective equipment to avoid being exposed to marine sediments during pile drilling.
Waste	<ul style="list-style-type: none"> • If sediment disposal is required, follow the EPA (2014) waste disposal guidelines. • All construction waste must be contained onsite and disposed of at an appropriately licenced waste facility. • Reuse and recycling should occur where possible.

Category	Mitigation Measure
Community	<ul style="list-style-type: none"> • Regular communication with the management of Currawong Beach Cottages is to be made in relation to the construction timeline including identification of any short-term construction impacts. • Construction activities are to be coordinated to minimise impacts to workers, visitors and the Ferry Operator.
Heritage	<ul style="list-style-type: none"> • Aboriginal objects are protected under the NPW Act regardless of whether or not they are registered on AHIMS. If suspected Aboriginal objects, such as stone artefacts or concentrations of shell material are located during future works, works must cease in the affected area and an archaeologist called in to assess the finds. If the finds are found to be Aboriginal objects, Heritage NSW must be notified under section 89A of the NPW Act. Appropriate management and avoidance or approval under a section 90 AHIP should then be sought if Aboriginal objects are to be moved or harmed. • In the unlikely event that human remains are found, works are to immediately cease, and the NSW Police is to be contacted. If the remains are suspected to be Aboriginal, Heritage NSW may also be contacted to assist in determining appropriate management. • A stand-alone Maritime Archaeological Statement of Heritage Impact including a maritime archaeological dive survey will be undertaken by a suitably qualified and experienced maritime archaeologist prior to construction to assist in determining the potential for maritime archaeological remains and relics to be present within the construction footprint. The construction contractor is to include additional mitigation measures (if any) from the Maritime Archaeological Statement of Heritage Impact and any approval conditions from Heritage NSW into their CEMP. • To maintain a record of changes to the heritage item and its relationship to context and setting, prior to any works at the site, an archival photographic record is to be prepared in accordance with the relevant requirements of the NSW Heritage Office (2006) guidelines for the Photographic Recording of Heritage Items Using Film or Digital Capture. It is recommended that copies of the Archival Photographic Record be stored within Council's records. • The Contractor must be briefed by the Project Manager on the heritage significance of the site, and any site-specific heritage matters/issues and approval documents prior to works commencing. If there is a change of Project Manager or Contractor during the length of the project, a further site briefing would be required. • The Contractor is to identify and implement construction methods in a CEMP that minimise potential impacts from construction plant,

Category	Mitigation Measure
	<p>equipment and vessels to heritage items on an in the vicinity of the site.</p> <ul style="list-style-type: none"> • Consideration is to be given to the potential salvage and reuse of demolished elements by Council subject to their condition. • In the event that any potential archaeological 'relics' are disturbed and identified at the site, all work in the area shall cease forthwith and Heritage NSW and a qualified maritime archaeologist be consulted to determine an appropriate course of action prior to the recommencement of work in the area of the 'relic'. This protocol is to be included in the CEMP. If maritime archaeological deposits are identified and are likely to be disturbed by the proposed works, then a Section 139/140 Permit application under the <i>Heritage Act 1977</i> may be required before any works commence. • Care must be exercised during construction to ensure that unnecessary damage to heritage items is avoided. Any accidental damage to heritage items must be reported immediately to the Project Manager. Damage is to be made good in accordance with specialist heritage advice. • All areas affected by the work must be cleaned and made good after completion of works (including removal of construction debris and cleaning all affected surfaces, as required).

7.2 Licensing and Approvals

The relevant licenses, permits, notifications and/or approvals needed to construct and/or operate the proposal are shown in Table 7-2.

Table 7-2 Summary of licensing and approvals required

Instrument	Requirement	Timing
<i>Fisheries Management Act 1994 (Section 37)</i>	Section 37 Permit to Take or Possess Fish or Marine Vegetation from the Minister for Primary Industries.	Prior to the start of activity
<i>Fisheries Management Act 1994 (Section 205)</i>	Permit to harm marine vegetation from the Minister for Agriculture and Western NSW. In conjunction with the permit application process, any offset strategy by Council is to be developed in consultation with DPIRD Fisheries.	Prior to start of activity.
<i>Heritage Act 1977 (Section 60)</i>	Approval to carry out activities to an item listed on the State Heritage Register from the Heritage Council of NSW.	Prior to start of activity.
<i>Crown Land Management Act 2016 (Division 3.4, 5.5 and 5.6)</i>	Lease or licence to occupy areas of Crown land and potential extension of the existing Crown Reserve.	Prior to start of activity.

8. Section 171 EP&A Regulation Factors

Section 171 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) and the factors in *Guidelines for Division 5.1 assessments* (Department of Planning and Environment, 2022) have been considered in Table 8-1.

Table 8-1 Section 171 of EP&A Regulations considerations

Factor	Description of Impact	Duration and extent
(a) the environmental impact on the community,	Community related impacts resulting from the proposal relate mainly to potential construction noise and temporary impacts to wharf and beach access.	Construction noise and access – short-term, negative (minor)
(b) the transformation of the locality,	The proposal would see a minor transformation of the locality from the extension of wharf, including the preferred alignment.	Construction – short-term, negative (minor). Operation – Long term, neutral (minor)
(c) the environmental impact on the ecosystems of the locality,	During construction, potential minor impacts to marine ecosystems include mobilisation of sediments, potential direct impact and indirect impacts on seagrass, increased risk of contaminants, noise impacts, marine debris, introduction of marine species and pollution.	Construction – short-term, negative (minor)
(d) reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality,	There would be some temporary impacts during construction in relation to noise, water traffic and visual amenity which would reduce aesthetic quality of the locality. The operation of the proposal would have a positive impact on the recreational and residential value of the locality, as the proposed structure would enhance the site's accessibility and functionality.	Construction – short-term, negative (minor) Operation – long-term, positive (minor)
(e) the effects on any locality, place or building that has i) aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance, or ii) other special value for present	The proposal would not impact on any known Aboriginal cultural heritage in the locality during construction or operation. The construction and operation of the proposal would have direct, minor impacts to the SHR listed "Currawong Workers' Holiday Camp" as described in the SoHI.	Construction - short-term, negative (minor) Operation – long term, negative and positive (minor)

Factor	Description of Impact	Duration and extent
or future generations,		
(f) the impact on the habitat of protected animals, within the meaning of the Biodiversity Conservation Act 2016,	No significant impacts to the habitat of protected aquatic and terrestrial fauna are expected with the implementation of the mitigation measures.	Nil
(g) the endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air,	The proposal would not endanger species occurring within the proposal site with the implementation of mitigation measures to manage potential minor impacts such as from piling, sedimentation, scouring of seagrass beds, introduction of contaminants and potential for invasive species introduction.	Construction – short-term, negative (minor) Operation – Long term, negative (minor)
(h) long-term effects on the environment,	The proposal is unlikely to have any long-term impact on the environment with impacts mitigated through design development and implementation of the mitigation measures identified in the REF.	Nil
(i) degradation of the quality of the environment,	There is potential for aquatic ecology, water quality and noise impacts during construction. Appropriate mitigation measures would be implemented to minimise these impacts as identified in Section 7.1. There would be no operational impacts that would degrade the quality of the environment.	Construction – short-term, negative (minor)
(j) risk to the safety of the environment,	The proposal is unlikely to cause any safety risks to the environment provided the recommended mitigation measures are implemented.	Nil
(k) reduction in the range of beneficial uses of the environment,	The proposal is unlikely to have any reduction in the range of beneficial uses of the environment.	Nil
(l) pollution of the environment,	The proposal is unlikely to cause any significant pollution risks to the environment provided the recommended mitigation measures are implemented.	Nil
(m) environmental problems associated with the disposal of waste,	The proposal is unlikely to cause any environmental problems associated with the disposal of waste provided the recommended safeguards are implemented.	Nil

Factor	Description of Impact	Duration and extent
(n) increased demands on natural or other resources that are, or are likely to become, in short supply,	The proposal is unlikely to increase demands on resources that are or are likely to become in short supply.	Nil
(o) the cumulative environmental effect with other existing or likely future activities,	Environmental management measures would be coordinated to reduce any cumulative construction impacts. The proposal is unlikely to have any significant adverse long-term impacts during operation.	Nil
(p) the impact on coastal processes and coastal hazards, including those under projected climate change conditions,	The proposal is not anticipated to have any significant impacts to coastal processes and coastal hazards.	Nil
(q) applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1,	The proposal aligns with the relevant plans discussed in Section 2.1.	Nil
(r) other relevant environmental factors.	In considering the potential impacts of this proposal all relevant environmental factors have been considered, refer to Section 6.	Refer to Section 6

9. Conclusion

This REF has been prepared in accordance with Section 5.5 of the EP&A Act, Section 171 of the EP&A Regulation and other relevant legislation, taking into account to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the proposal.

The proposal has been designed to improve the accessibility, functionality and condition of Currawong Beach Wharf by providing an extension to the existing structure that ensures safe berthing at all levels of the tide whilst minimising disturbance to seagrasses. The proposal has been developed in response to the strategic context which identified that upgrades would be required to the Currawong Beach Wharf in line with the proposal objectives in Section 1.2.

Based on the environmental assessment carried out in Section 6 of this REF, the potential negative impacts of the proposal are considered to be minor during construction (impacts to aquatic ecology, water quality and to the community from generation of noise and changes to site access) and minor during operation (impacts to seagrass). The potential impacts can be reasonably mitigated and managed through adoption of best practices and adherence to accepted industry guidelines and standards, as outlined in Section 7.1.

This REF has considered and assessed these impacts in accordance with Section 171 of the EP&A Regulation and the requirements of the EPBC Act. Based on the assessment contained in this REF, it is considered that the proposal is not likely to have a significant impact upon the environment or any threatened species, populations or communities or their habitats. Accordingly, an Environmental Impact Statement (EIS) and/or a Biodiversity development assessment report (BDAR) is not required, nor is the approval of the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act.

10. Certification

This REF provides a true and fair review of the proposal in relation to its potential effects on the environment. It addresses to the fullest extent possible all matters affecting or likely to affect the environment as a result of the proposal.

Name: Claire Jones
Position: Principal Environmental Planner
Company name: Worley Consulting Pty Ltd
Date: 25 March 2025

I certify that I have reviewed and endorsed the contents of this REF, and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under Section 170 of the EP&A Regulation, and the information is neither false nor misleading. I accept it on behalf of Council.

Name: [insert name]
Position: [insert position e.g. Project Manager]
Date: [insert date]

11. References

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Appendix A. Proposal Drawings

Appendix B. Protected Matters Search Tool



Australian Government

Department of Climate Change, Energy,
the Environment and Water

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: 20-Dec-2023

[Summary](#)

[Details](#)

[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:	1
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	8
Listed Threatened Species:	101
Listed Migratory Species:	59

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:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	81
Whales and Other Cetaceans:	10
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:	1
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	3
Key Ecological Features (Marine):	None
Biologically Important Areas:	4
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

National Heritage Places [\[Resource Information \]](#)

Name	State	Legal Status	Buffer Status
Natural			
Ku-ring-gai Chase National Park, Lion, Long and Spectacle Island Nature Reserves	NSW	Listed place	In feature area

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
Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area	In feature area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community may occur within area	In feature area
Coastal Upland Swamps in the Sydney Basin Bioregion	Endangered	Community likely to occur within area	In feature area
Eastern Suburbs Banksia Scrub of the Sydney Region	Critically Endangered	Community may occur within area	In feature area
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	Critically Endangered	Community likely to occur within area	In feature area
Posidonia australis seagrass meadows of the Manning-Hawkesbury ecoregion	Endangered	Community likely to occur within area	In buffer area only
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community may occur within area	In feature area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area	In buffer area only

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
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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
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat likely 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 feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat known 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
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	Species or species habitat may occur within area	In feature area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may 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 feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area
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]	Vulnerable	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

Scientific Name	Threatened Category	Presence Text	Buffer Status
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 may occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may 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
Pterodroma leucoptera leucoptera Gould's Petrel, Australian Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area	In feature area
Pterodroma neglecta neglecta Kermadec Petrel (western) [64450]	Vulnerable	Foraging, feeding or related behaviour may occur within area	In feature area
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat likely 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
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche bulleri platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In feature area
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
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
FISH			
Epinephelus daemeli Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]	Endangered	Species or species habitat likely to occur within area	In feature area
Macquaria australasica Macquarie Perch [66632]	Endangered	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
SeriOLElla brama Blue Warehou [69374]	Conservation Dependent	Species or species habitat known to occur within area	In feature area
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat likely to occur within area	In feature area
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 likely to occur within area	In feature area
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat likely to occur within area	In feature area
MAMMAL			
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In feature area
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat known to occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	In feature area
Isoodon obesulus obesulus Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern) [68050]	Endangered	Species or species habitat known to occur within area	In feature area
Notamacropus parma Parma Wallaby [89289]	Vulnerable	Species or species habitat may occur within area	In feature area
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may 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 tridactylus Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
OTHER			
Dendronephthya australis Cauliflower Soft Coral [90325]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
PLANT			
Acacia bynoeana Bynoe's Wattle, Tiny Wattle [8575]	Vulnerable	Species or species habitat may occur within area	In feature area
Acacia terminalis subsp. Eastern Sydney (G.P.Phillips 126) listed as Acacia terminalis subsp. terminalis MS			
Sunshine Wattle (Sydney region) [91564]	Endangered	Species or species habitat may occur within area	In feature area
Asterolasia elegans [56780]	Endangered	Species or species habitat likely to occur within area	In feature area
Astrotricha crassifolia Thick-leaf Star-hair [10352]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Cynanchum elegans White-flowered Wax Plant [12533]	Endangered	Species or species habitat likely to occur within area	In feature area
Darwinia biflora [14619]	Vulnerable	Species or species habitat may occur within area	In feature area
Eucalyptus camfieldii Camfield's Stringybark [15460]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Genoplesium baueri Yellow Gnat-orchid, Bauer's Midge Orchid, Brittle Midge Orchid [7528]	Endangered	Species or species habitat likely to occur within area	In feature area
Grevillea shiressii [19186]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Haloragodendron lucasii Hal [6480]	Endangered	Species or species habitat may occur within area	In feature area
Kunzea rupestris [8798]	Vulnerable	Species or species habitat may occur within area	In feature area
Lasiopetalum joyceae [20311]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Melaleuca biconvexa Biconvex Paperbark [5583]	Vulnerable	Species or species habitat may occur within area	In feature area
Melaleuca deanei Deane's Melaleuca [5818]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Micromyrtus blakelyi [6870]	Vulnerable	Species or species habitat may occur within area	In feature area
Persoonia hirsuta Hairy Geebung, Hairy Persoonia [19006]	Endangered	Species or species habitat known to occur within area	In feature area
Pimelea curviflora var. curviflora [4182]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Prostanthera densa Villous Mintbush [12233]	Vulnerable	Species or species habitat may occur within area	In feature area
Prostanthera junonis Somersby Mintbush [64960]	Endangered	Species or species habitat may occur within area	In feature area
Rhizanthella slateri Eastern Underground Orchid [11768]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat known 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

REPTILE

Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known 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	Foraging, feeding or related behaviour known to occur within area	In feature area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In feature area
Hoplocephalus bungaroides Broad-headed Snake [1182]	Endangered	Species or species habitat may occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area

SHARK

Scientific Name	Threatened Category	Presence Text	Buffer Status
Carcharias taurus (east coast population) Grey Nurse Shark (east coast population) [68751]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In feature area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In feature area
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species [\[Resource Information \]](#)

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Ardenna grisea Sooty Shearwater [82651]		Species or species habitat likely to occur within area	In feature area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known 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	Species or species habitat may occur within area	In feature area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In feature area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may 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
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In feature area
Sternula albifrons Little Tern [82849]		Species or species habitat may occur within area	In feature area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
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
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Migratory Marine Species			
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In feature area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In feature area
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area	In feature area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In feature area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known 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	Foraging, feeding or related behaviour known to occur within area	In feature area
Dugong dugon Dugong [28]		Species or species habitat may occur within area	In feature area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In feature area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	In feature area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area	In feature area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area	In feature area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In feature area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat may occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In feature area
Migratory Terrestrial Species			
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat may 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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		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 feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area	In feature area
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
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

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
Anous stolidus Common Noddy [825]		Species or species habitat likely 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 feature area
Ardenna grisea as Puffinus griseus Sooty Shearwater [82651]		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]		Species or species habitat known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely 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 known to occur within area overfly marine area	In feature area
Calonectris leucomelas Streaked Shearwater [1077]		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 feature area
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	Species or species habitat may occur within area	In feature area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In feature area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
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
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely 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 chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may 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
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 buffer area only
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In feature area
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
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
Sterna striata White-fronted Tern [799]		Foraging, feeding or related behaviour likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Sternula albifrons as Sterna albifrons Little Tern [82849]		Species or species habitat may occur within area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat may occur within area overfly marine area	In feature area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche bulleri platei as Thalassarche sp. nov. Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In feature area
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
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area	In feature area
Fish			
Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area	In feature area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area	In feature area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area	In feature area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area	In feature area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area	In feature area
Hippocampus abdominalis Big-belly Seahorse, Eastern Potbelly Seahorse, New Zealand Potbelly Seahorse [66233]		Species or species habitat may occur within area	In feature area
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]	Endangered	Species or species habitat likely to occur within area	In feature area
Histiogamphelus briggsii Crested Pipefish, Briggs' Crested Pipefish, Briggs' Pipefish [66242]		Species or species habitat may occur within area	In feature area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area	In feature area
Notiocampus ruber Red Pipefish [66265]		Species or species habitat may occur within area	In feature area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area	In feature area
Solegnathus spinosissimus Spiny Pipehorse, Australian Spiny Pipehorse [66275]		Species or species habitat may occur within area	In feature area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area	In feature area
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area	In feature area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area	In feature area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area	In feature area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	In feature area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area	In feature area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area	In feature area
Mammal			
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area	In feature area
Arctocephalus pusillus Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area	In feature area
Dugong dugon Dugong [28]		Species or species habitat may occur within area	In feature area
Reptile			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known 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	Foraging, feeding or related behaviour known to occur within area	In feature area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In feature area
Hydrophis platurus as Pelamis platurus Yellow-bellied Sea Snake [93517]		Species or species habitat may occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Whales and Other Cetaceans			
			[Resource Information]
Current Scientific Name	Status	Type of Presence	Buffer Status

Current Scientific Name	Status	Type of Presence	Buffer Status
Mammal			
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In feature area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In feature area
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area	In feature area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area	In feature area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	In feature area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area	In feature area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In feature area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area	In feature area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area	In feature area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area	In feature area

Extra Information

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

Protected Area Name	Reserve Type	State	Buffer Status
Ku-ring-gai Chase	National Park	NSW	In feature area

EPBC Act Referrals [\[Resource Information \]](#)

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
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Not controlled action

Currawong Beach residential development adjoining Ku-ring-gai Chase National Par	2008/3988	Not Controlled Action	Completed	In feature area
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Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
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Referral decision

Breeding program for Grey Nurse Sharks	2007/3245	Referral Decision	Completed	In feature area
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Biologically Important Areas

Scientific Name	Behaviour	Presence	Buffer Status
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Dolphins

Tursiops aduncus			
Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Breeding	Likely to occur	In feature area

Seabirds

Ardena pacifica			
Wedge-tailed Shearwater [84292]	Foraging	Likely to occur	In feature area

Sharks

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

Whales

Megaptera novaeangliae			
Humpback Whale [38]	Foraging	Known to occur	In buffer area only

Bioregional Assessments

SubRegion	BioRegion	Website	Buffer Status
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Sydney	Sydney Basin	BA website	In feature area
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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 are 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

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

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

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
- 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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Appendix C. Marine Pollution Research Aquatic Ecology Assessment

**PROPOSED CURRAWONG BEACH PUBLIC WHARF FACILITY
UPGRADE**

- AQUATIC ECOLOGY IMPACT ASSESSMENT



Figure 1 High tide aerial view of Currawong Beach and Public Wharf Facilities 1 February 2022.

**Report Prepared for GHD on behalf of Northern Beaches
Council**

**Report prepared by Marine Pollution Research Pty Ltd
December 2024**

1 Introduction

Marine Pollution Research Pty Ltd (MPR) prepared an aquatic ecology impact assessment report for the preliminary Currawong Beach Wharf upgrade project in 2022. Following consultations with key stakeholders Northern Beaches Council (NBC) have now adopted a modified design for the upgrade of the public wharf at Currawong Beach (**Figure 1**), and Council engaged MPR to update the original report for the new adopted design. The following report provides an updated assessment of the marine ecology of the site and an updated impact assessment of the adopted Wharf development proposal as originally provided on 22 May 2024 with subsequent minor amendments through to November 2024.

1.1 Site Location and Physical Characteristics

Figure 2 provides an aerial view of Western Pittwater indicating the location of Currawong Beach and Wharf on the western side of Pittwater some 2.5 km in from the conjunction of Pittwater and Hawkesbury River at West Head:

- The site is open to long-fetch wind waves from south Pittwater with a 5km fetch into Careel Bay, and open to shorter fetch wind waves from the South-East to East with 1.5km fetch to Sand Point.
- Sinclair Point provides general protection from refracted ocean storm waves from the east through to north-east following swell entering Broken Bay refracting as it shoals over the marine tidal delta that forms a plug in the entrance of Pittwater.
- This tidal delta extends into Pittwater to about Sinclair Point and Lawson & Treloar (2003) concluded that the entrance delta is moving slowly along the south-western drop-over, towards Great Mackerel Beach and the western foreshore of Pittwater.



Figure 2 Location Map for Currawong Beach and Wharf in Pittwater

1.2 Existing Aquatic Habitats

With respect to expected marine vegetation, **Figures 3 to 5** provide previous DPI Fisheries' marine vegetation mapping at Currawong Beach from 1981, 2000, 2005 and 2019 and **Table 1** provides a colour key for all Fisheries NSW mapped marine vegetation habitats (applicable to the 2000 to 2019 mapping).

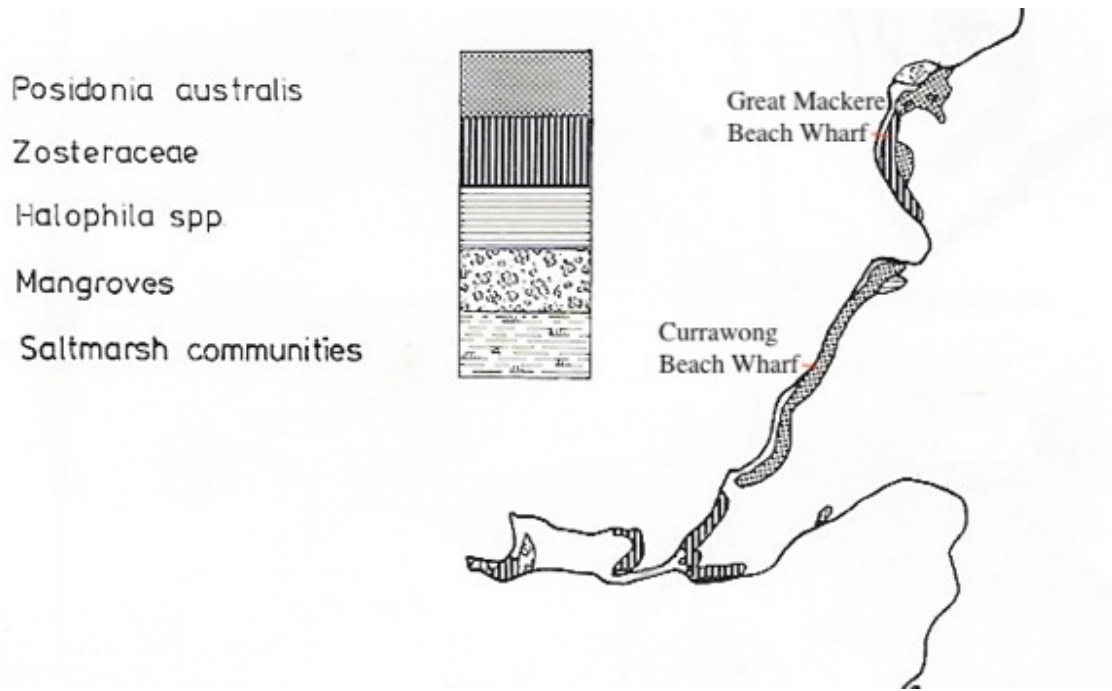


Figure 3 NSW Fisheries Seagrass mapping for north west Pittwater in 1981 (from West et al 1985).

<i>Posidonia</i>	<i>Zostera</i>
<i>Posidonia</i> - Sparse	<i>Zostera</i> - Sparse
<i>Posidonia/Zostera</i>	<i>Zostera/Halophila</i>
<i>Posidonia/Zostera/Halophila</i>	<i>Zostera/Halophila/Ruppia</i>
<i>Posidonia/Halophila</i>	<i>Zostera/Ruppia</i>
<i>Posidonia/Halophila/Ruppia</i>	<i>Halophila</i>
<i>Posidonia/Ruppia</i>	<i>Halophila/Ruppia</i>
<i>Ruppia</i>	Estuarine reef
Mangrove	Foreshore - Natural
Mangrove/Saltmarsh	Mixed Natural/Artificial
Saltmarsh	Foreshore - Artificial
Saltmarsh - vehicle damage	Jetties/Pontoons
Fire damage	Rock walls/Groynes

Table 1 DPI Fisheries Marine Vegetation Habitat Categories (for Figures 4 and 5)

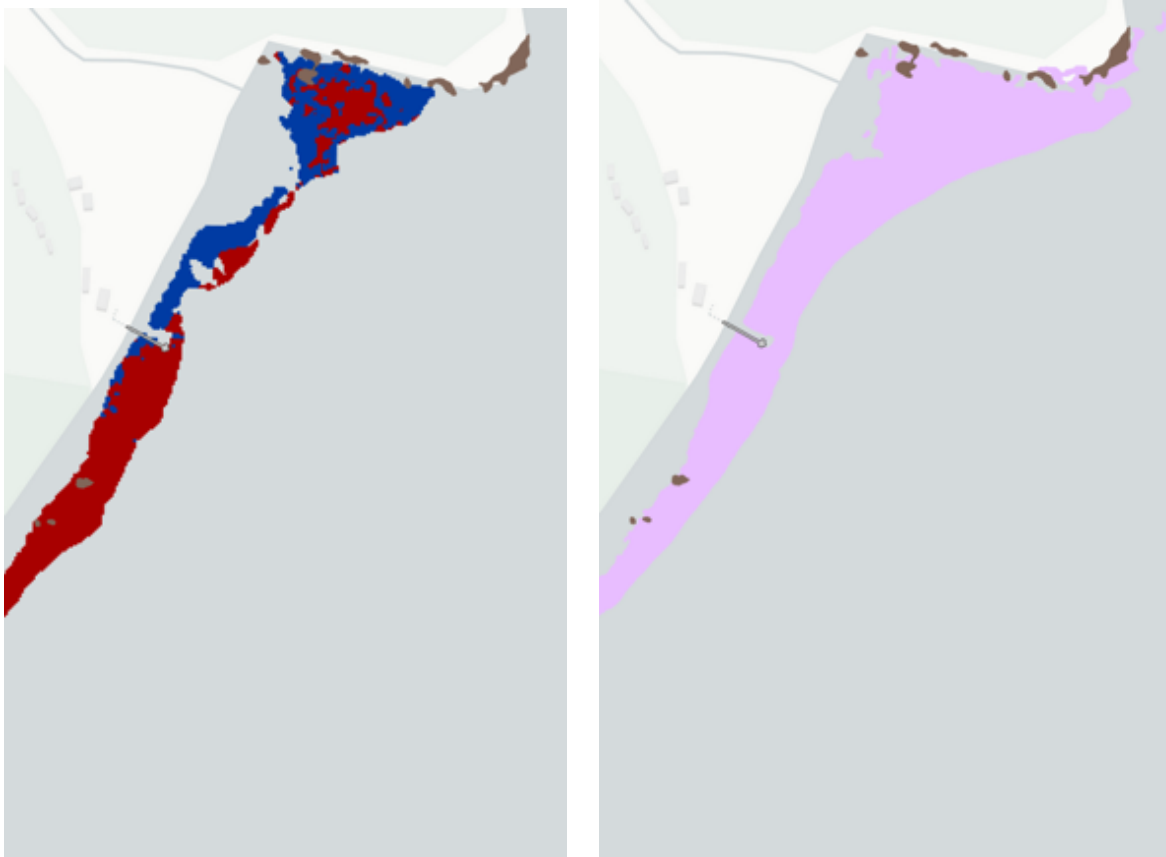


Figure 4 DPI (Fisheries) Marine Vegetation Habitat Mapping for Currawong Beach in 2000 (left) and 2005 (right). See **Table 1** for habitat colour key. Maps accessed from DPI Fisheries' Website.

1.2.1 Intertidal Marine Vegetation

Whilst there is no mapped intertidal marine vegetation (saltmarsh or mangroves) noted along the beach front at Currawong Beach or along the northern unnamed creek discharge, in the sequential DPI Fisheries mapping shown in **Figures 3 to 5**, AHA Ecology (2008) reported Grey Mangrove (*Avicennia marina*) along the lower creek estuarine bank (see **Figure 6**) and confirmed the lack of saltmarsh in the creek or along the beach front.

For the present study there were no mangroves or saltmarsh plants located along the beach front at and 100m north and south of the wharf.

1.2.2 Rock Reef Habitat

The closest estuarine macroalgae reef habitats are some 300m north and 120m south of the wharf (see **Figure 5**). AHA Ecology (2008) surveyed the northern reefs and provided the following habitat descriptions:

The semi-sheltered reef provides a mosaic of habitat probably related to depth and wave exposure. Hard substrate areas provided habitat for the typical range of fauna in



Figure 5 DPI (Fisheries) Marine vegetation Habitat Mapping for Currawong Beach in 2019. Deep red is *Posidonia* seagrass and pink is mixed *Posidonia* and *Zostera*. Brown is estuarine reef macroalgae habitat. Map accessed from DPI Fisheries' Website.



Figure 6 Plate 5 from AHA Ecology (2008) showing mature Grey mangroves along the estuarine shore of the un-named creek draining to Currawong Beach at the northern end.

the upper to mid intertidal, including grazing gastropods (*Morula marginalba* and *Nerita atramentosa*), periwinkles (*Austrolittorina unifasciata*, *Bembicium nanum*), limpets (*Siphonaria diemensensis*, *Cellana transerica*), top shell (*Austrochochlea concamerata*), chiton (*Ischinochiton* sp.), grading down to the Elephant Snail (*Scutus antipodes*), anemone (*Aulactinia veratra*), Cunjevoi (*Pyura stolonifera*), and the sea urchin, *Centrostephanus rodgersii* in the lower intertidal and shallow subtidal areas. Crabs (*Plagusia chabrus* and *Leptograpsus variegatus*) were also common across the reef. Algae species includes *Homosira banksii* and *Corillina* sp. intertidally, and *Enteromorpha* sp., *Padina* sp., *Colpomenia* sp. and *Cystophora* sp. in deeper waters.

1.2.3 Sub-tidal Marine Vegetation

There are three genera of seagrass found in Pittwater, *Posidonia australis*, *Zostera muelleri* subsp *capricorni*¹ and *Halophila* spp. *Posidonia australis* in Pittwater is listed as

¹ Most legislation refers to Family *Zostereaceae* or *Zostera* seagrass, generally meaning *Zostera capricorni*. This name is currently regarded as a synonym of [Zostera muelleri subsp. capricorni \(Ascherson\)](#) [S.W.L.Jacobs](#), (See Jacobs et al 2006), and is retained for this report.

an *Endangered Population* under the NSW *Fisheries Management Act 1994 (FMA)* and as a *Threatened Ecological Community* under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*.

As noted in the sequential DPI Fisheries' mapping (**Figures 3 to 5**) there is a continuous seagrass bed offshore from Sinclair Point, off the beach and beyond to Coasters Retreat, and the time series of DPI Fisheries' mapping of seagrass along Currawong Beach plus additional transect seagrass habitat results from AHA Ecology in 2008 indicate the following variations around the existing wharf over time:

- The 1981 mapping indicated a continuous *Posidonia* bed with an offshore *Halophila* patch at the north end of the beach and no indication of seagrass loss at the wharf site.
- In 2000 there was predominantly mixed *Zostera* and *Halophila* inshore and around the wharf with *Posidonia* offshore including offshore from the wharf. There was also a distinct bare area immediately north of the wharf.
- In 2005 the seagrass distribution was mapped as all mixed *Posidonia* and *Zostera* inshore and offshore with a smaller bare area around the wharf sides. The overall width of the seagrass bed to the north of the wharf was also larger than previous mapping.
- AHA Ecology (2008) described but did not map seagrass distribution off Currawong Beach from seven evenly distributed shore-normal transects to the north of the wharf (Transect 7 closest to wharf) and from one transect (Transect 8) to the south of the wharf, summarised as follows:
 - Overall *Zostera capricorni* dominated throughout. *Posidonia australis* was often dominant in waters deeper than 1 m although large patches also occurred in shallower waters (e.g., Transect 5 and Transect 7).
 - *Halophila decipens* also occurred throughout but often at lower densities than either of the other two seagrass species.
 - Seagrass beds are present under the jetty with *Zostera capricorni* being dominant but with fairly continuous beds of *Posidonia australis* also present. Both species drop out rapidly in deeper water where the ferry docks.
 - *Caulerpa taxifolia* was recorded in low densities and with a patchy distribution along the entire length of beach. The majority of records were for single plants or several individuals of this species rather than large patches.
- In 2019 there was mixed *Posidonia* and *Zostera* north of the wharf with a continuous *Posidonia* bed south of the wharf plus distinct bare areas indicated

either side of the wharf and the overall seagrass bed widths similar to the previous 2005 mapping.

In terms of explanations for the variation in mapping results over time, West & Williams (2008) compared temporal seagrass mapping results for Parramatta River estuary and noted that *inferences from direct comparisons of sequential NSW Fisheries' seagrass mapping should be cautious as mapping methods and precision have changed markedly over time*. Notwithstanding, West & Williams (2008) also noted that as a general rule, seagrass is variable in its cover, with extent expanding or contracting over time, and/or disappearing from one site and being found at an adjacent one, as also described in Meehan and West (2000) and Williams and Meehan (2004). They confirmed the same patterns for their review of Parramatta River estuary seagrass mapping, noting that:

"some seagrass beds were consistently found in the same location over the period from 1978 to 2003, but their extent varied over time. Other beds were ephemeral, appearing only on one of the four sample years".

Whilst West & Williams (2008) do not specify which seagrass species they are referring to, their project was more or less (but not completely) confined to the reaches of Parramatta River estuary that do not support *Posidonia* seagrass, and thus their comments and conclusions are considered to certainly apply to the *Zostera* and *Halophila* seagrass species that are known from these areas. Notwithstanding, and based on the variation of *Posidonia* seagrass mapping for both Currawong Beach and the adjacent Mackerel Beach over time, temporal variation would also appear to apply to *Posidonia* seagrass bed dynamics at Currawong Beach as well with 'at least' an overall depth expansion of seagrass cover over time with this expansion including an overall increase in *Posidonia* cover.

2 SITE AQUATIC ECOLOGY

An initial dive survey was undertaken on 14 April 22 to establish the extent and type of seagrass present in the near vicinity of the present wharf for preliminary design considerations. Poor underwater visibility following prolonged flood and swell conditions delayed ground-truthing of the complete extent of offshore seagrass and in the interim a bathymetric survey using dual sonar and side-scan was undertaken on 27 April 22, from which more detailed offshore seagrass limits could be derived. This extended mapping and speciation was then confirmed with a ground-truthing confirmation dive on 27 May 2022, when waters were reasonably clear with 4m underwater visibility.

For the present update report MPR undertook spot dives at the site in late September 2024 that indicated no substantial change in seagrass mapping from the 2022 survey. MPR then requested and was supplied with updated NearMap aerial imagery (supplied on 4 October 2024) that was used for update seagrass and bathymetric mapping.

Overlaying the bathymetry survey results onto the DPI Fisheries 2019 seagrass mapping (**Figure 7**) indicates that there has been scouring of the seabed offshore from the jetty head both to the north-east and to the south-east of the wharf, both consistent with high propeller wash scouring from ferries leaving the front of the wharf (for both north to south or south to north vessel directions). The results also indicate the following depth distributions for the 2019 seagrass distribution:

- Mixed *Zostera* and *Posidonia* extended from inshore to - 2m ISLW depth offshore to the north of the wharf, to -3.8m offshore from the wharf.
- Mixed *Posidonia* and *Zostera* extended to around -3.5m ISLW offshore from the wharf and to the south.

Figure 8 provides a drone view of the existing wharf facilities and the mapped seagrass habitats along with the bathymetry overlay:

- As noted above, there has been scouring of the seabed consistent with propeller scouring from ferries that has resulted in loss of seagrass cover and the extent of scouring would appear to have increased since the 2019 mapping.
- The 2022 mapping distinguished between mixed *Zostera* and *Posidonia* beds inshore from *Posidonia* beds offshore with the outer depth limit of the mixed bed decreasing from -2m depth at the sheltered north to -1m along the more exposed southern beach.
- The outer depth limit of any *Posidonia* growth showed a similar variation increasing from -2m to the north of the distribution to -4m depth for the southern

distribution, with the more even and dense bed outer limit generally following the -3m depth contour.

- Although the seabed slope angle decreases from north to south, there is a very shallow gradient between the -3m and -4m contours to the south-east of the south-east scour hole, indicating that the propeller-wash mobilised sediments have been deposited there. This area still supports sparse *Posidonia* growth indicating that the deposition is wide spread and not smothering *Posidonia* plants.

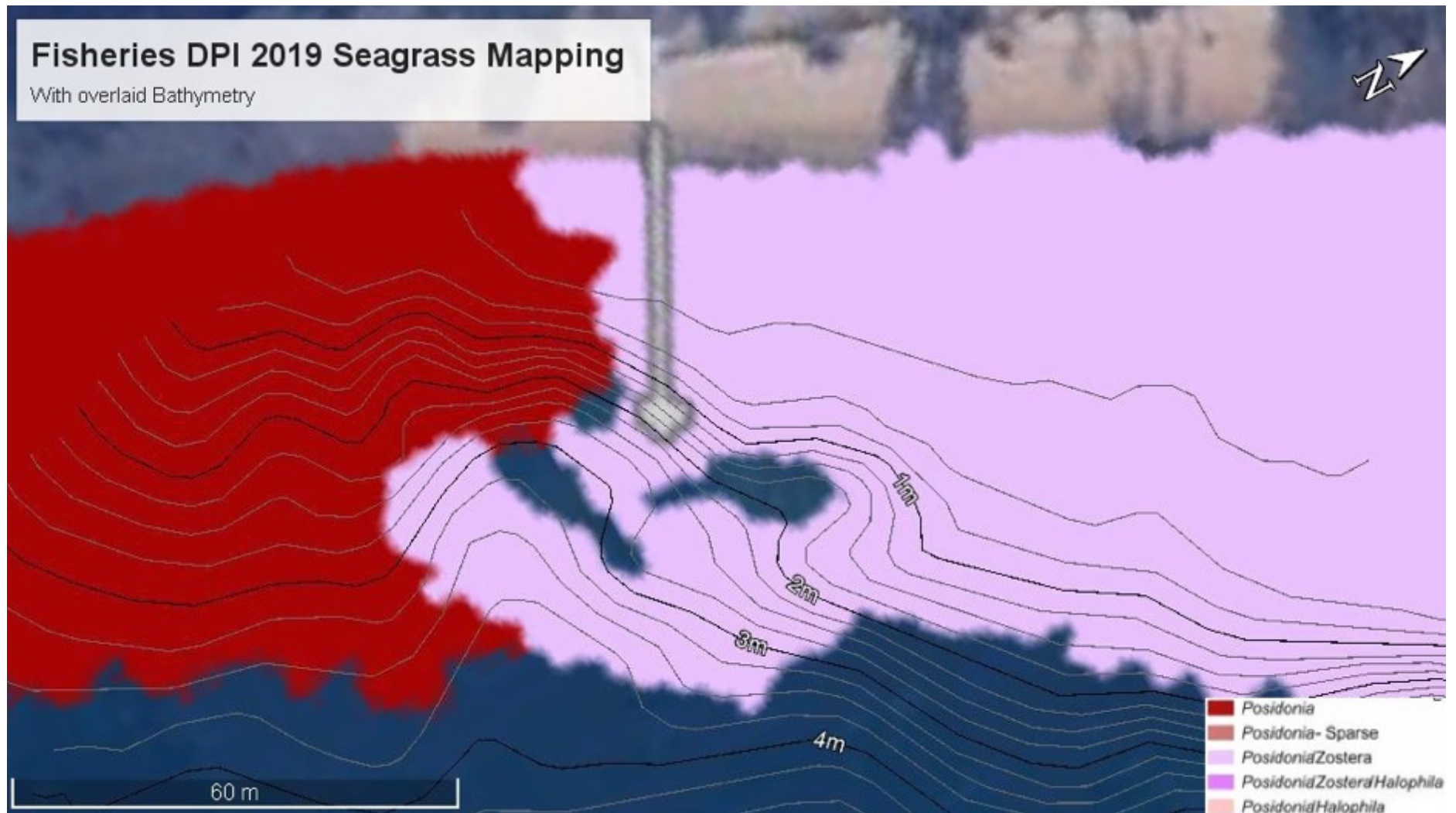


Figure 7 DPI Fisheries 2019 seagrass mapping with 2022 bathymetry overlaid.

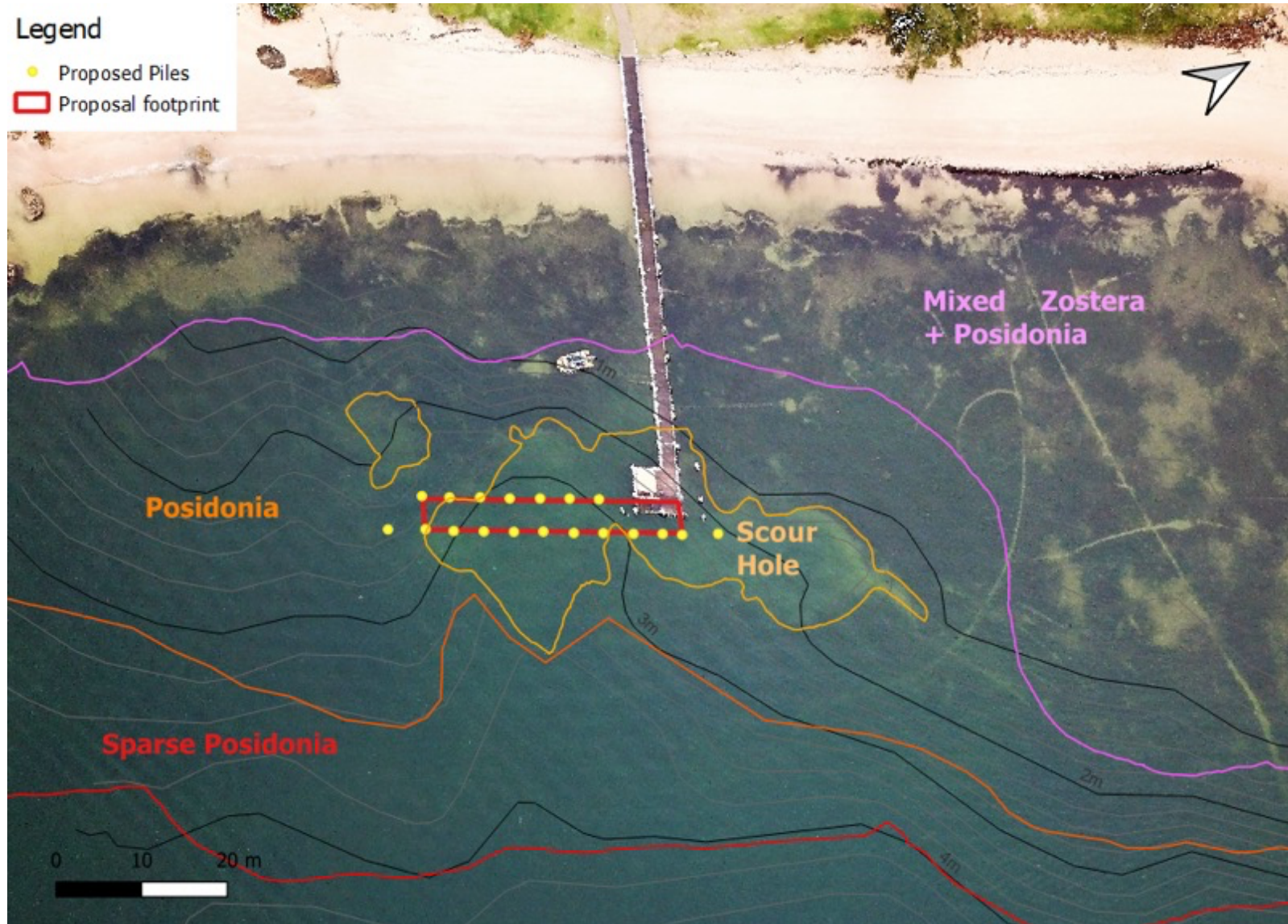


Figure 8 Drone image of Currawong Beach Wharf with 2022 seagrasses mapped and bathymetry overlaid.

Aquatic habitat assemblages at the site are described as follows:

- The intertidal beach comprises clean marine sands. The marine sands extend out offshore and gradually transition to silt/sands offshore from the seagrass beds.
- The inshore seagrass bed (with the exception of the ferry scour hole) starts around the 0m ISLW depth contour with inshore seagrass predominantly *Zostera* and mixed *Zostera* with *Posidonia* further offshore (**Figures 9 & 10**).
- **Figure 11** shows the change from mixed *Zostera* and *Posidonia* to medium density *Posidonia*, and **Figure 12** shows the sparser offshore *Posidonia* distribution.
- The scour holes supported no seagrass or any other marine vegetation and the smaller bare sand patch to the south of the wharf is considered to be the only (present) instance of smothering impact on the *Posidonia* bed associated with the dispersal of sediments mobilised by ferry propeller wash.
- *Halophila* was generally observed as a sparse and patchy distribution within the mixed *Zostera* and *Posidonia* beds, with proportionally more *Halophila* around the inshore wharf sections (**Figure 13**).
- Beyond the seagrass, the seabed is bare silty-sand sediment.
- Older wharf piles supported Sydney rock oysters *Saccostrea commercialis* and barnacles in intertidal waters, with barnacles extending to the seabed (**Figure 14**), and the newer HDPE sleeved piles currently support very little oyster growth (**Figure 15**). Subtidal pile sections supported mostly barnacles, bryozoans, encrusting sponges and *Dictyota sp.* with a minute amount of *Padina sp.* observed (**Figures 16 & 17**).
- Whilst there was generally bare sand with some isolated scattered rock fragments with attached *Sargassum sp.* (**Figure 18**) under the wharf, some of the outer sections of the wharf had continuous mixed *Posidonia* and *Zostera* cover underneath the structure.
- The pest algae *Caulerpa taxifolia* was present at the site but not as large beds or patches and was noted generally in disturbed areas around the wharf and around mooring block.



Figure 9 Mixed *Zostera* and *Halophila* inshore.



Figure 10 Mixed *Zostera* and *Posidonia* with small amounts of *Halophila*.

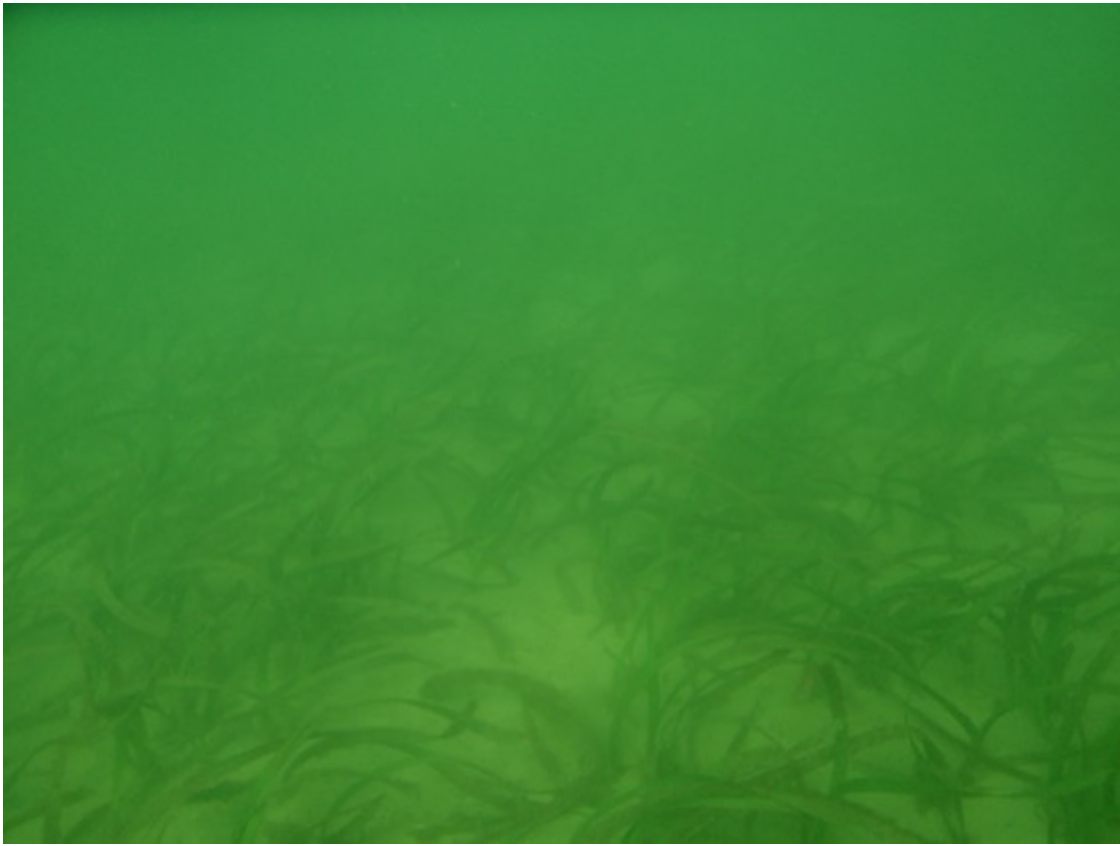


Figure 11 Medium density *Posidonia* offshore from Currawong Beach.



Figure12 Sparse *Posidonia* offshore towards the -4m ISLW bathymetry line in **Figure 8**.



Figure 13 Mixed *Zostera* and *Posidonia* with *Halophila* edging the wharf with only *Zostera* and *Halophila* underneath.



Figure 14 Intertidal oyster band on timber support pile.



Figure 15 Little to no oyster growth on HDPE sleeved piles.

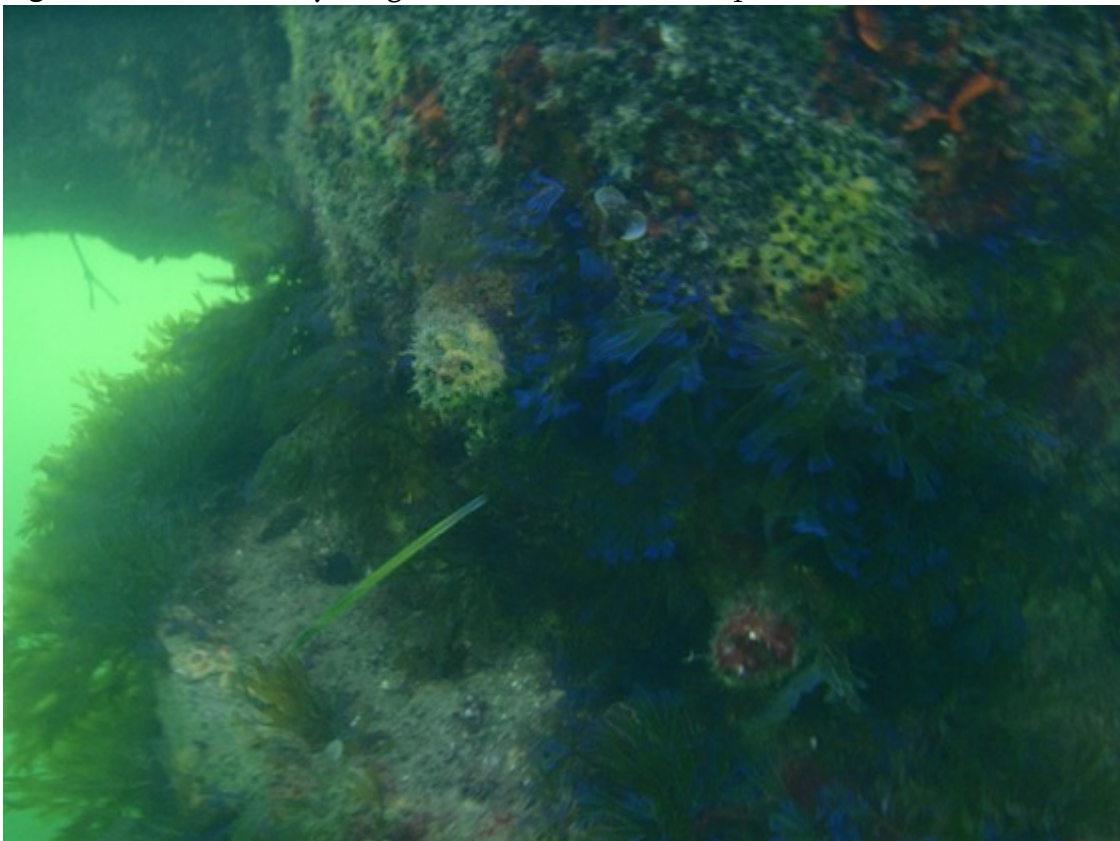


Figure 16 Barnacles, bryozoans, *Dictyota sp.* and a minute amount of *Padina sp.* on subtidal pile sections.



Figure 17 Bryozoans, barnacles, encrusting sponge and *Dictyota sp.* on subtidal pile sections.



Figure 18 Isolated rock underneath wharf with attached *Sargassum sp.*, and sparse *Zostera* and *Halophila*.

2.1 Threatened Species, Endangered Ecological Communities & Protected Species

The NSW *Fisheries Management Act 1994* (FMA), NSW *Biodiversity Conservation Act 2016* (BCA) and the Commonwealth *Environment Protection Biodiversity Conservation Act 1999* (EPBC) require that any proposed activity be assessed with respect to its potential impact on species or ecological communities listed as threatened under the Threatened Species Schedules of the Acts or listed as migratory species under the EPBC Act. The FMA and EPBC Act list a number of marine and estuarine shark and teleost fish species as Vulnerable Species under Schedule 5 of the Act. Syngnathiformes (seahorses, sea-dragons, pipefish, pipe-horses and sea-moths) are protected, under both the EPBC Act and the FMA, with Whites Seahorse *Hippocampus whitei* listed as *endangered* under the FMA. Seagrasses are protected under the FMA, and *Posidonia australis* seagrass is listed under both the FMA and EPBC Act as an *Endangered Ecological Community* in Pittwater.

- There are three FMA threatened species (Grey Nurse Shark, Great White shark plus Black Rock Cod) known from coastal waters at the mouth of Pittwater and White's Seahorse (listed as Threatened under the FMA) is known from the Pittwater Estuary.
- The two shark species could conceivably visit the outer estuary from time to time and would only be expected in the estuary when in pursuit of mobile prey species.
- The Black Rock Cod *Epinephelus daemelli* has been recorded from the outer estuary, however there was no suitable rock cave or crevice habitat found at the site.
- At least two seahorse species (White's Seahorse *Hippocampus whitei*, Bigbelly Seahorse *Hippocampus abdominalis*) and three pipefish (Wide-body Pipefish *Stigmatopora nigra*, Stick Pipefish *Trachyrhamphus bicoarctatus* and Hairy Pipefish *Urocampus carinirostris*) are expected or known from Pittwater. White's Seahorse was listed as *Endangered* under the FMA in 2019 and under the Commonwealth EPBC Act in 2020. The *Posidonia* seagrass which surrounds the proposal site provides suitable habitat for White's Seahorses. The sparse algal habitats on the existing piles may also provide potential habitat for White's Seahorses.
- There are three seagrass species recorded from Pittwater; *Zostera capricorni* and *Halophila ovalis*, are both protected under the FM Act and *Posidonia australis* seagrass is listed under both the FM and EPBC Acts as an Endangered Ecological Community in Pittwater. As described above, *Posidonia* is the dominant seagrass species at the site with mixed *Zostera* and *Halophila* inshore.

With regard to other aquatic species or ecological communities listed under the NSW

BCA and the Commonwealth *EPBC Act*, there is a nesting population of Little Penguins on Lion Island and Little Penguins are observed fishing and feeding throughout Pittwater and would likely visit the site from time to time. Various listed cetaceans (whales and dolphins), marine mammals (seals and sea lions), marine reptiles (turtles and sea-snakes) and sea-birds (ocean birds and waders) are known from Pittwater with many known to penetrate the estuary to and beyond the study area. Of the species that may occur in the vicinity of the site, most would be utilising the resources of the surrounding seagrass or the adjacent waters as transients or opportunistic feeders.

It is concluded that, other than Whites seahorse residing within the *Posidonia* beds and possibly on the sparse pile algal habitats, it is highly unlikely that there would be any threatened species listed under the FMA, BCA and EPBC Act residing within the immediate locality.

3 IMPACT ASSESSMENT

The new proposed design is provided in **Appendix A** of this report, and **Figure 8** provides the proposal footprint and pile placement in relation to the seagrass habitats and bathymetry. The design has been simplified from the previous proposal with removal of the hydraulic ramp and lift arrangement aligned east-west to a fixed stepped ramp wharf option set transverse to the present jetty (i.e., aligned north-south) keeping moored ferries within the existing scour hole.

The proposal involves minor demolition to the existing above water outer wharf structure to interface with the new ramped wharf. There will be no pile removal required, and the new fixed stepped ramp jetty will require 17 new support piles plus two guide piles (one either end) with two of the southern piles located just within the southern *Posidonia* seagrass bed and three right on the edge of the scour hole next to the *Posidonia* bed (**Figure 8**). All other new piles are to be placed into bare sediments.

3.1 Ferry & Other Vessel Berthing Impacts

This proposal will keep vessels within a similar depth over outer seagrass beds for entering and leaving the berthing positions with more depth (generally above 3m ISLW alongside the ramped wharf) and over the present scour hole for the critical exiting vessel propeller thrust for both south and north facing berthing arrangements. The north - south alignment also provides an improved ability to turn away from inshore seagrass beds when departing the wharf:

- For both ferries there is approximately 20m of bare sand along the eastern edge of the proposed wharf with -2.75 to -3.5m water depth at ISLW. There is an additional 20m of bare scour hole area to the north for vessels entering and exiting, and the *Posidonia* bed immediately to the south has depths always above -2.5m at LAT.
- For the deeper draft and higher angle propulsion *8 Seasons* Catamaran Ferry with a draft of 1.7m (at the lowest part of the propeller blades and a propulsion slope of 7.5° below the horizontal, the lower part of the thrust column created by the propellers when going forward would be directed some 7m behind the propellers to a -2.5m ISLW seabed and thus there is no risk of thrust impact on the sparse *Posidonia* seagrass offshore or inshore from the wharf when the vessel is berthing and departing facing south and only a low risk of thrust damage to *Posidonia* south of the wharf for the catamaran utilising the lowest portion of the ramped jetty when facing north.
- For the *Myra Spirit* Ferry with a similar below propeller draft of 1.7m but with a far shallower thrust angle of $\pm 3^\circ$, the distance for the propeller thrust column to reach

the seabed is some 20m thus, a negligible risk of departure thrust damage to *Posidonia* beds from the ferry departing at king low tide and facing north.

- For both vessels, reverse thrust used for slowing or stopping the vessel would always be directed towards the ship hull and surface waters and therefore it is unlikely for any reverse thrust risks for *Posidonia* seagrass beds.

As assessed above, it is apparent that the design has been adopted to minimise harm to seagrass beds, whilst meeting the public wharf usage needs of the Currawong Beach visitors. The project can be constructed and used with minimal risk to seagrass beds provided appropriate CEMP and OEMP measures are adopted. Further, by moving ferry services into deeper water there are possibilities for seagrass recolonisation into areas that will no longer be subjected to ferry propeller scour. The residual risk of loss of *Posidonia* to propeller thrust for very low tide north-facing use of the wharf can be managed by implementing an Operational EMP (OEMP) outlining the risk and providing vessel masters with directions on how to minimise the risk from vessel exits to the north.

3.2 Marine Habitat Losses and Gains

In terms of habitat losses and gains from piling and jetty works:

- The proposal does not include removal of piles from the existing wharf. However if on inspection prior to commencement of works piles will need to be replaced due to their condition the loss of habitat on these piles would be offset by the gain of wetted surface habitat on the new piles being installed for the proposed extension.
- The majority of new piles are to be placed into bare sediment (scour hole) habitat therefore there would be no direct loss of sediment-based marine vegetation, with the exception of two outer southern piles which could result in the direct loss of up to 0.25m² of patchy *Posidonia* seagrass (density shown in **Figure 11**) and some minor but additional potential *Posidonia* loss for three piles to be placed on the edge of the southern scour hole ($\pm 0.3\text{m}^2$ of potential *Posidonia* seagrass).

3.3 Potential Impact and Management of Construction Activities

In-water piling and wharf extension activities will require a barge plus crane and pile driving equipment. Work barges will most likely need to be manoeuvred into position using towing and/or pushing vessels and may need to be kept *in-situ* over multiple tide cycles.

Holding a barge in place for construction works is generally done using one or more barge-mounted stub piles pushed into the seabed to hold the barge in place or by using barge-mounted winches and wires connected to pre-placed mooring blocks.

The main potential impacts from the use of floating plant relate to the possible manoeuvring of work vessels and barges over the inshore seagrass beds (see **Figure 8**). There is thus potential to directly damage or disturb aquatic habitats *via* vessel or propeller strike or by excessive propeller wash. Damage to vegetated habitats can also occur *via* mooring or anchoring apparatus deployed in, on or over, these habitats *via* direct crushing or scalping from wires laid across the seabed.

These potential impacts can be mitigated by the inclusion of the following conditions in the project Construction Environment Management Plan (CEMP), see **Section 3.3.1** below for suggested aquatic CEMP inclusions

The listed pest algae species *Caulerpa taxifolia* has a fragmented and limited distribution around the wharf in disturbed areas, including at and around mooring blocks, and whilst it is unlikely large amounts of the pest *Caulerpa* algae will be mobilised by construction works, **Section 3.3.1** includes recommended construction vessel and *Caulerpa* management procedures.

3.3.1 Suggested Aquatic CEMP Inclusions for Construction Activities

The risk of additional losses of habitat to use of vessels for construction works can be minimised by including the following conditions to the project Construction Environmental Management Plan (CEMP). All contractors undertaking construction work associated with the project shall ensure that their activities do not cause any harm to the marine vegetation habitats (i.e., seagrass beds) adjoining the project footprint, as identified on **Figure 8**. They must also be made aware that there could be areas with the declared pest algae species *Caulerpa taxifolia* in the general location of the proposed works, and that their activities should be undertaken to minimise the risk of disturbance or spread of this alga. In order to achieve these aims, contractors shall implement the following precautions:

- There will be no stockpiling of construction materials on the seabed.
- By virtue of the shallow depths over the marine vegetation habitats either side of the project footprint area, no vessel is to be taken over or left over the indicated marine vegetation (seagrass bed) habitats unless there is adequate vessel clearance depth (including allowance for tidal movement plus wind, vessel and swell wave

heights). The estimations of clearance depths will also need to account for vessel propulsion clearance depths to ensure no propeller or wash scouring damage.

- No vessel is to be moored with anchor or other bottom tackle located in the marine vegetation habitats and, where possible, the construction contractor should utilise existing infrastructure for mooring rather than setting temporary mooring blocks. If offshore mooring blocks are required, they will still need to be set to ensure no crushing or scouring damage to offshore seagrass beds as indicated in **Figure 8**.
- No mooring lines or cables are to be laid across the marine vegetation habitats if there is any risk of these cables reaching the bottom due to wave action or low tides. If deployed, they must be suitably buoyed prior to laying, and kept buoyed once laid, to prevent cable drag and cable swing damage (scalping) to marine vegetation areas and to prevent disturbance and fragmentation of the pest algae species *Caulerpa*. Where this is impractical, contractors should use floating rope.
- In order to minimise wash and prevent bottom scouring of the marine vegetation habitats and to prevent mobilisation of the pest algae *Caulerpa*, towing or pushing vessels must not use excessive power to manoeuvre barges into place near the designated marine vegetation habitats. Scouring damage can also be minimised by ‘working the wind and tides’, i.e., only moving floating plant into place on high tides and under favourable or no winds.
- All the wetted surface areas of demolition or construction related materials taken from the waters must be inspected for attached *Caulerpa taxifolia* plants and these must be collected and disposed of into plastic bags then placed into garbage bins on shore (i.e., in the manner recommended in the NSW Fisheries' *Caulerpa* Management Plan).
- All construction related equipment that comes in contact with the seabed (including mooring tackle, cables, ropes and anchors), must be inspected for attached fragments of the declared pest algae species *Caulerpa taxifolia* (see **Figure 19** below) and any fragments found must be collected and disposed of into plastic bags then placed into garbage bins on shore.



Figure 19 The pest algae *Caulerpa taxifolia* attached to a segment of chain.

3.3.2 Recommended Pile Removal and Placement Management Plan

If pre-construction inspection indicates that existing piles will need to be removed due to their condition, the following Pile Removal and Placement Plan is provided to mitigate any residual environmental risk from the small amounts of sediments adhering to pulled piles:

1. Pile removal and placement works are to be enclosed using a floating silt curtain to facilitate rapid dispersal of disturbed sediments back to the seabed.
2. All seabed sedimental material on demolished piles is to be hosed off piles prior to piles leaving the silt curtain area, preferably as each pile is being pulled.
3. Piles or demolition material with adhered sub-surface seabed sediment that cannot be cleaned immediately but that needs to be stored exposed to air prior to cleaning, must be washed and hosed off into estuarine waters contained by the floating silt curtain as soon as practicable - with a maximum exposure time of 18 hours.
4. For any pile or other demolition material with adhered sediment that cannot be cleaned immediately, the operator/contractor must keep a log book entry of the time of extraction out of the water, the manner and place of storage of the material and the time, manner and placement of hosed off material (in accordance with point 3 above).

3.3 Proposal Recommendations and Suggestions for Impact Minimisation

The current proposal is intended to minimise seagrass impacts via relocating ferry berthing into deeper waters and changing the direction of approach. On the basis of this

impact assessment report, it is further recommended that additional protection of the seagrass beds and fauna could be achieved by including the following:

- While *Posidonia* transplants have mixed success rates, MPR proposes that *Posidonia* plants that will be directly impacted due to piling should be collected and relocated into old propeller scars or mooring block holes as appropriate.
- Additionally, if pre-construction inspections indicate that some existing wharf piles are to be removed, the piles and habitats around the immediate pile bases will need to be inspected prior to pulling for any seahorse presence, which would then need to be relocated to *Posidonia* beds.
- The residual risk of loss of *Posidonia* to propeller thrust for very low tide north-facing use of the wharf can be managed by implementing an Operational EMP (OEMP) outlining the risk and providing the vessel master with directions on how to minimise the propeller scouring risk for vessels exiting to the north.

4 ASSESSMENT AGAINST RELEVANT LEGISLATION

4.1 Key Fish Habitat & Permit Requirements (Fisheries Management Act 1994)

With regard to the Fisheries NSW waterway classification scheme as shown in Table 2 of the NSW Fisheries 2013 Policy and Guidelines document, Currawong Beach is a Class 1 “Major key fish habitat” (KFH) by virtue of it being an estuarine waterway. In regard to the sensitivity classification of the specific habitats within Currawong Beach (as defined in Table 1 of Fisheries NSW 2013):

- The *Posidonia and Zostera* seagrass beds and patches identified for this proposal in **Figures 5 & 8** are Type 1 “highly sensitive KFH”.
- The sparse algal habitats on the piles are classified as Type 2 “moderately sensitive KFH by the presence of *Sargassum sp.* macroalgae and Kelp *Ecklonia radiata*.”
- The remaining un-vegetated marine sand and shell habitats are Type 3 “minimally sensitive” KFH.

The proposal includes the placement of 19 new piles which will recolonise rapidly with marine growth similar to the current zonation. Impacts arising from the construction works plus the risk of vessel grounding on the seagrass beds can be managed satisfactorily by the implementation of appropriate safeguards as outlined in **Sections 3.3.1 & 3.3.2** above.

Approximately 4 of the new piles are proposed to be placed within or immediately next to seagrass areas which could result in the direct loss of approximately up to 0.6m² of sparse *Posidonia* seagrass. Part 7 of the Fisheries Management Act 1994 (FMA) sets out the conditions under which permits are required for various construction activities, and the conditions under which a permit may be granted are specified in the Fisheries NSW Policy and Guidelines (NSW Fisheries 2013). With respect to estuarine activities, permits are required *inter alia* for the “*taking or harming of marine vegetation*” or for “*reclamation or dredging works*”. The project does not require any dredging or reclamation but as there is likely to be some harm to marine vegetation, the project will require a Permit under the FMA. If pre-construction inspections indicate that existing wharf outer piles need to be replaced inspection for and relocation of White's Seahorses from the piles to be removed will also require the work to be undertaken by qualified persons who hold a permit for this activity under the FMA.

4.2 SEPP (BC) 21, SEPP(RH) 21 and CMA

Figure 22 shows the relevant SEPP (Resilience and Hazard) 2021 coastal zone mapping as defined under the *Coastal Management Act 2016* (CMA). The proposal area falls within the *Coastal Environmental Area Zone*:

- The site is included in the coastal environmental by virtue of it being in a tidal estuary.
- The site is not a coastal wetland nor is it located within 100m of a coastal wetland.



Figure 20 SEPP (Resilience and Hazard) 2021 Coastal Zone Mapping.

For the Coastal Management Act 2016 (CMA) the relevant management objective (Clause 8(2)a) is *to protect and enhance the coastal environmental values and natural processes of coastal waters, estuaries, coastal lakes and coastal lagoons, and enhance natural character, scenic value, biological diversity and ecosystem integrity*. This management objective is then encapsulated in SEPP(RH) Clause 2.10(1a-1d), and Clause 2.10(2) sets out the requirements for avoidance (2a), and where impacts cannot be avoided that suitable minimisation and mitigation of impacts is included (2b & 2c):

- Provided suitable and approved impact minimisation measures as set out in **Sections 3.3.1 & 3.3.2** of this report are incorporated into the project CEMP, it is concluded that the SEPP(R&H)2021 Section 2.10 Management Objectives can be satisfied.

4.3 Conclusions

It is concluded that the proposed Currawong Beach Wharf Upgrade can be undertaken with minimal impact on existing marine vegetation or other aquatic habitats in the locality provided that construction safeguards outlined in the above report are adopted.

It is also concluded that the proposed facility would eliminate or at least minimise the current scouring of seagrass beds by ferry traffic and accordingly the project could meet the aquatic ecological conservation requirements of the *Fisheries Management Act (1994)* as contained in the DPI Fisheries (2013) Fish Habitat Protection Guidelines to *avoid* damage to seagrass beds as much as possible by locating the structure in deeper water and within the existing scour hole as much as possible, to *minimise* residual damage by placing three of the necessary southern piles on the edge of the scour hole and *mitigate* residual potential loss by transplanting *Posidonia* shoots where possible from the locations of the two piles that need to be placed in the southern bed.

The upgrade project will most likely require a permit under the FMA as there is both construction and operational related risk of “*harm to marine vegetation*” associated with the project. This report concludes that residual construction related risk can be satisfactorily controlled by the implementation of an Aquatic CEMP to be incorporated into the project CEMP and that operational risk can be minimised by the provision of an Aquatic Operational Environmental Management Plan (Aquatic OEMP) to be managed by Council.

4 REFERENCES

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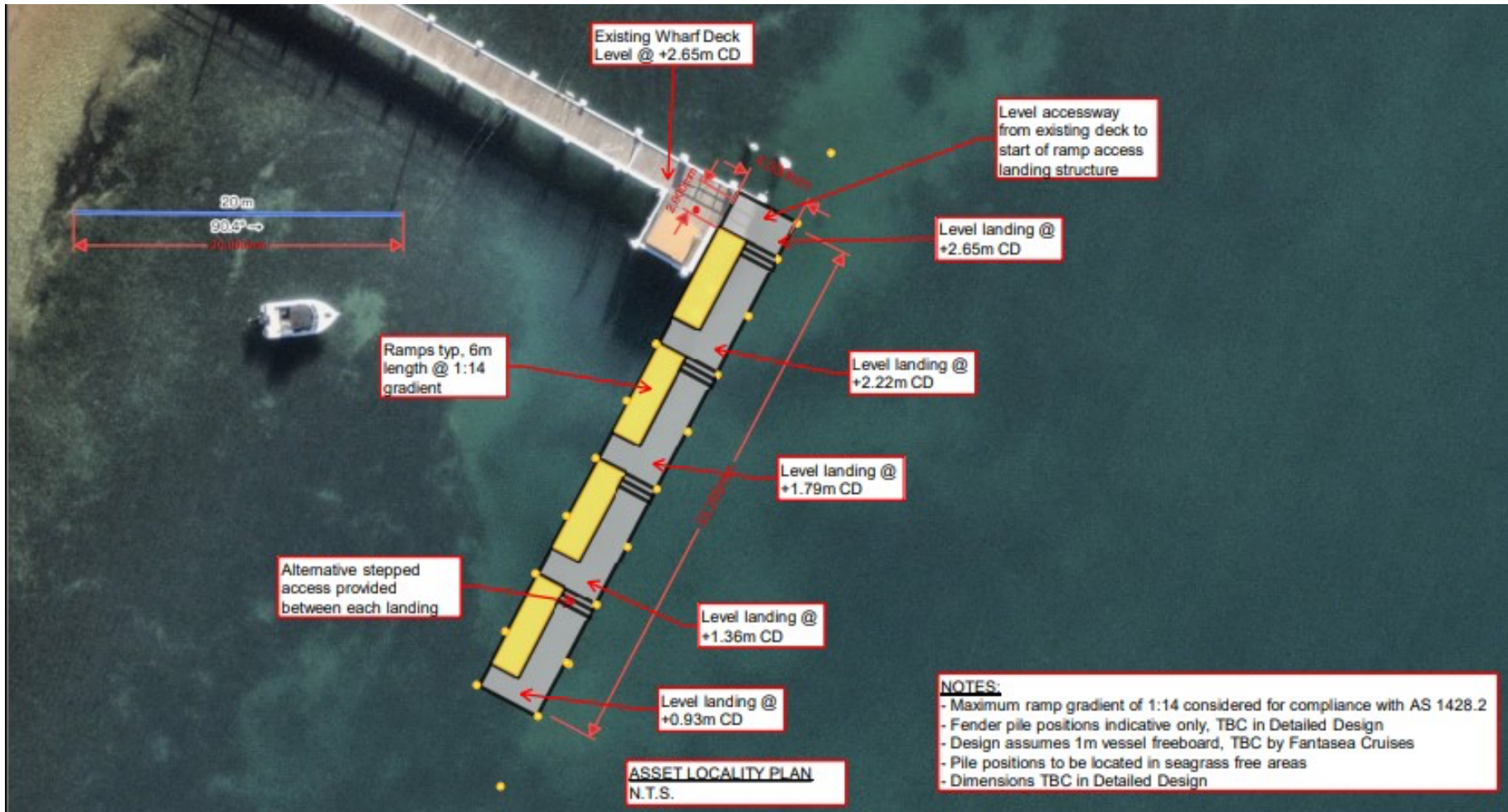
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Great Mackerel Beach Floodplain Risk Management Study and Plan. Report prepared for Pittwater Council November 2010.

Appendix A



MARINE POLLUTION RESEARCH PTY LTD

Marine, Estuarine and Freshwater Ecology, Sediment and Water Quality Dynamics

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Appendix D. Fisheries Management Act Full Schedule



NSW legislation

Fisheries Management Act 1994 No 38

Current version for 30 October 2023 to date (accessed 22 July 2024 at 12:14)

Schedule 4

Schedule 4 Endangered species, populations and ecological communities

(Section 220C)

Part 1 Endangered species

Fish

<i>Archaeophya adamsi</i> Fraser, 1959	Adam's Emerald Dragonfly
<i>Austrocordulia leonardi</i>	Sydney Hawk Dragonfly
* <i>Dendronephthya australis</i> (Kükenthal, 1905)	Cauliflower Soft Coral
<i>Hippocampus whitei</i> (Bleeker, 1855)	White's Seahorse
* <i>Maccullochella ikei</i> Rowland	Eastern Freshwater Cod
* <i>Maccullochella macquariensis</i> (Cuvier)	Trout Cod
* <i>Macquaria australasica</i> (Cuvier, 1830)	Macquarie Perch
<i>Mogurnda adpersa</i> (Castelnau, 1878)	Southern Purplespotted Gudgeon, Purple Spotted Gudgeon
<i>Nannoperca australis</i> Günther, 1861	Southern Pygmy Perch
* <i>Nannoperca oxleyana</i> Whitley	Oxleyan Pygmy Perch
* <i>Prototroctes maraena</i> (Günther, 1864)	Australian Grayling
<i>Sphyrna lewini</i> (Griffith & Smith, 1834)	Scalloped Hammerhead Shark
<i>Thunnus maccoyii</i>	Southern Bluefin Tuna

Marine vegetation

Part 2 Endangered populations

Fish

Ambassis agassizii Steindachner, 1866, Agassiz's glassfish, olive perchlet, western New South Wales population

Craterocephalus amniculus (Crowley and Ivanstoft, 1990), Darling River Hardyhead, Hunter River population

Gadopsis marmoratus, river blackfish, Snowy River population

Tandanus tandanus (Mitchell, 1838), freshwater catfish, eel tailed catfish, Murray-Darling Basin population

Marine vegetation

**Posidonia australis* Hook.f. (1858), seagrass, Port Hacking, Botany Bay, Sydney Harbour, Pittwater, Brisbane Waters and Lake Macquarie populations

Part 3 Endangered ecological communities

Aquatic ecological community in the natural drainage system of the lower Murray River catchment (as described in the recommendation of the Fisheries Scientific Committee to list the ecological community)

Aquatic ecological community in the natural drainage system of the lowland catchment of the Darling River (described in the recommendation of the Fisheries Scientific Committee to list that aquatic ecological community, as the area covered by that recommendation)

Aquatic ecological community in the natural drainage system of the lowland catchment of the Lachlan River (described in the recommendation of the Fisheries Scientific Committee to list that aquatic ecological community, as the area covered by that recommendation)

Aquatic ecological community in the catchment of the Snowy River in NSW (as described in the final determination of the Fisheries Scientific Committee to list that aquatic ecological community)

Part 4 Species presumed extinct

Fish

Hadrachaeta aspeta Hutchings, 1977

Marine Worm

**Pristis zijsron* Bleeker, 1851

Green Sawfish

Metaprotella haswelliana Mayer, 1882

Haswells Caprellid

Marine vegetation

**Vanvoorstia bennettiana* (Harvey) Papenfuss (1956)

Bennetts Seaweed



NSW legislation

Fisheries Management Act 1994 No 38

Current version for 30 October 2023 to date (accessed 22 July 2024 at 12:14)

Schedule 4A

Schedule 4A Critically endangered species and ecological communities

(Section 220C)

Part 1 Critically endangered species

Fish

* <i>Carcharias taurus</i> Rafinesque, 1810	Greynurse Shark
* <i>Craterocephalus fluviatilis</i> (McCulloch, 1913)	Murray Hardyhead
<i>Euastacus dharawalus</i> (Morgan, 1997)	Fitzroy Falls Spiny Crayfish
<i>Euastacus vesper</i> (McCormack & Ahyong, 2017)	Cudgegong Giant Spiny Crayfish
* <i>Galaxias brevissimus</i> (Raadik, 2014)	Short-tail Galaxias
<i>Galaxias rostratus</i>	Flathead Galaxias
* <i>Galaxias supremus</i> (Raadik, 2014)	Kosciuszko Galaxias
<i>Galaxias tantangara</i> (Raadik, 2014)	Stocky Galaxias
<i>Notopala hanleyi</i> (Frauenfeld, 1864)	Hanley's River Snail
<i>Notopala sublineata</i> (Conrad, 1850)	Darling River Snail
<i>Smeagol hilaris</i> Tillier & Ponder, 1992	Marine Slug

Marine vegetation

<i>Nereia lophocladia</i> J. Agardh (1897)	Marine Brown Alga
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Part 2 Critically endangered ecological communities



NSW legislation

Fisheries Management Act 1994 No 38

Current version for 30 October 2023 to date (accessed 22 July 2024 at 12:14)

Schedule 5

Schedule 5 Vulnerable species and ecological communities

(Section 220C)

Part 1 Vulnerable species

Fish

Austropetalia tonyana (Theischinger, 1995)

Bidyanus bidyanus (Mitchell, 1838)

Branchinella buchananensis Geddes, 1981

**Carcharodon carcharias* (Linnaeus, 1758)

Epinephelus daemeli (Günther, 1876)

Euastacus armatus (von Martens 1866)

Microrchestia bousfieldi Lowry & Peart, 2010

Sphyrna mokarran Ruppell, 1837

Alpine Redspot Dragonfly

Silver Perch

Buchanans Fairy Shrimp

White Shark, Great White Shark

Black Rockcod, Black Cod

Murray Crayfish

Bousfields Marsh-hopper

Great Hammerhead Shark




Marine vegetation

Part 2 Vulnerable ecological communities

Appendix E. Bionet Atlas Full Search

Data from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°C; ^^ rounded to 0.01°C. Copyright the State of NSW through the Department of Planning, Industry and Environment. Search criteria : Public Report of all Valid Records of Entities in selected area [North: -33.55 West: 151.25 East: 151.35 South: -33.65] returned a total of 36,224 records of 1,793 species.

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











Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records	Info
Animalia	Amphibia	Myobatrachidae	3134	<i>Crinia signifera</i>		Common Eastern Froglet	P		163	
Animalia	Amphibia	Myobatrachidae	3116	<i>Pseudophryne australis</i>		Red-crowned Toadlet	V,P		92	
Animalia	Amphibia	Myobatrachidae	3117	<i>Pseudophryne bibronii</i>		Bibron's Toadlet	P		1	
Animalia	Amphibia	Myobatrachidae	3158	<i>Uperoleia laevigata</i>		Smooth Toadlet	P		2	
Animalia	Amphibia	Limnodynastidae	3042	<i>Heleioporus australiacus</i>		Giant Burrowing Frog	V,P	V	71	
Animalia	Amphibia	Limnodynastidae	3058	<i>Limnodynastes dumerilii</i>		Eastern Banjo Frog	P		3	
Animalia	Amphibia	Limnodynastidae	3061	<i>Limnodynastes peronii</i>		Brown-striped Frog	P		199	
Animalia	Amphibia	Hylidae	3171	<i>Litoria caerulea</i>		Green Tree Frog	P		1	
Animalia	Amphibia	Hylidae	3180	<i>Litoria dentata</i>		Bleating Tree Frog	P		1	
Animalia	Amphibia	Hylidae	3182	<i>Litoria ewingii</i>		Brown Tree Frog	P		1	
Animalia	Amphibia	Hylidae	3183	<i>Litoria fallax</i>		Eastern Dwarf Tree Frog	P		2	
Animalia	Amphibia	Hylidae	3184	<i>Litoria freycineti</i>		Freycinet's Frog	P		22	
Animalia	Amphibia	Hylidae	3190	<i>Litoria jervisiensis</i>		Jervis Bay Tree Frog	P		1	
Animalia	Amphibia	Hylidae	3191	<i>Litoria latopalmata</i>		Broad-palmed Frog	P		1	
Animalia	Amphibia	Hylidae	3204	<i>Litoria peronii</i>		Peron's Tree Frog	P		237	
Animalia	Amphibia	Hylidae	3206	<i>Litoria phyllochroa</i>		Leaf-green Tree Frog	P		22	
Animalia	Amphibia	Hylidae	3215	<i>Litoria verreauxii</i>		Verreaux's Frog	P		2	
Animalia	Reptilia	Cheloniidae	2004	<i>Caretta caretta</i>		Loggerhead Turtle	E1,P	E	2	
Animalia	Reptilia	Cheloniidae	2007	<i>Chelonia mydas</i>		Green Turtle	V,P	V	11	
Animalia	Reptilia	Cheloniidae	T110	<i>Cheloniidae sp.</i>		unidentified sea turtle	P		2	
Animalia	Reptilia	Cheloniidae	2008	<i>Eretmochelys imbricata</i>		Hawksbill Turtle	P	V	8	
Animalia	Reptilia	Dermodochelyidae	2013	<i>Dermodochelys coriacea</i>		Leatherback Turtle	E1,P	E	1	
Animalia	Reptilia	Chelidae	2017	<i>Chelodina longicollis</i>		Eastern Snake-necked Turtle	P		17	
Animalia	Reptilia	Carphodactylidae	2129	<i>Phyllurus platurus</i>		Broad-tailed Gecko	P		24	
Animalia	Reptilia	Carphodactylidae	2687	<i>Saltuarius swaini</i>		Southern Leaf-tailed Gecko	P		2	
Animalia	Reptilia	Carphodactylidae	2138	<i>Underwoodisaurus milii</i>		Thick-tailed Gecko	P		2	
Animalia	Reptilia	Diplodactylidae	2118	<i>Amalasia lesueurii</i>		Lesueur's Velvet Gecko	P		3	
Animalia	Reptilia	Pygopodidae	2170	<i>Lialis burtonis</i>		Burton's Snake-lizard	P		7	
Animalia	Reptilia	Pygopodidae	2174	<i>Pygopus lepidopodus</i>		Common Scaly-foot	P		9	
Animalia	Reptilia	Scincidae	2464	<i>Acritoscincus platynotus</i>		Red-throated Skink	P		2	
Animalia	Reptilia	Scincidae	2559	<i>Concinnia tenuis</i>		Barred-sided Skink	P		3	
Animalia	Reptilia	Scincidae	5170	<i>Cryptoblepharus pulcher</i>		Elegant Snake-eyed Skink	P		2	
Animalia	Reptilia	Scincidae	2331	<i>Cryptoblepharus virgatus</i>		Cream-striped Shinning-skink	P		8	
Animalia	Reptilia	Scincidae	2375	<i>Ctenotus robustus</i>		Robust Ctenotus	P		4	
Animalia	Reptilia	Scincidae	2386	<i>Ctenotus taeniolatus</i>		Copper-tailed Skink	P		10	
Animalia	Reptilia	Scincidae	2408	<i>Egernia cunninghami</i>		Cunningham's Skink	P		10	
Animalia	Reptilia	Scincidae	2557	<i>Eulamprus quoyii</i>		Eastern Water-skink	P		19	
Animalia	Reptilia	Scincidae	2450	<i>Lampropholis delicata</i>		Dark-flecked Garden Sunskink	P		48	
Animalia	Reptilia	Scincidae	2451	<i>Lampropholis guichenoti</i>		Pale-flecked Garden Sunskink	P		50	
Animalia	Reptilia	Scincidae	T117	<i>Lampropholis sp.</i>		unidentified grass skink	P		3	
Animalia	Reptilia	Scincidae	2430	<i>Liopholis whitii</i>		White's Skink	P		4	
Animalia	Reptilia	Scincidae	2542	<i>Saiphos equalis</i>		Three-toed Skink	P		8	
Animalia	Reptilia	Scincidae	2452	<i>Saproscincus mustelinus</i>		Weasel Skink	P		10	
Animalia	Reptilia	Scincidae	2583	<i>Tiliqua rugosa</i>		Shingle-back	P		3	
Animalia	Reptilia	Scincidae	2580	<i>Tiliqua scincoides</i>		Eastern Blue-tongue	P		109	
Animalia	Reptilia	Scincidae	5056	<i>Tiliqua scincoides scincoides</i>			P		1	
Animalia	Reptilia	Agamidae	2194	<i>Amphibolurus muricatus</i>		Jacky Lizard	P		5	
Animalia	Reptilia	Agamidae	2252	<i>Intelligama lesueurii</i>		Eastern Water Dragon	P		77	
Animalia	Reptilia	Agamidae	5075	<i>Intelligama lesueurii lesueurii</i>		Eastern Water Dragon	P		1	
Animalia	Reptilia	Agamidae	2177	<i>Pogona barbata</i>		Bearded Dragon	P		6	
Animalia	Reptilia	Varanidae	2271	<i>Varanus gouldii</i>		Gould's Goanna	P		1	
Animalia	Reptilia	Varanidae	2287	<i>Varanus rosenbergi</i>		Rosenberg's Goanna	V,P		6	
Animalia	Reptilia	Varanidae	9056	<i>Varanus sp.</i>		Unidentified Goanna	P		1	

Animalia	Reptilia	Varanidae	2283	<i>Varanus varius</i>	Lace Monitor	P	53	
Animalia	Reptilia	Typhlopidae	2599	<i>Anilius nigrescens</i>	Blackish Blind Snake	P	7	
Animalia	Reptilia	Pythonidae	2625	<i>Morelia spilota</i>	Carpet & Diamond Pythons	P	5	
Animalia	Reptilia	Pythonidae	5096	<i>Morelia spilota spilota</i>	Diamond Python	P	34	
Animalia	Reptilia	Colubridae	2630	<i>Boiga irregularis</i>	Brown Tree Snake	P	30	
Animalia	Reptilia	Colubridae	2633	<i>Dendrelaphis punctulatus</i>	Common Tree Snake	P	84	
Animalia	Reptilia	Elapidae	2640	<i>Acanthophis antarcticus</i>	Common Death Adder	P	13	
Animalia	Reptilia	Elapidae	2647	<i>Cacophis squamulosus</i>	Golden-crowned Snake	P	96	
Animalia	Reptilia	Elapidae	5136	<i>Cryptophis nigrescens</i>	Eastern Small-eyed Snake	P	5	
Animalia	Reptilia	Elapidae	2655	<i>Demansia psammophis</i>	Yellow-faced Whip Snake	P	10	
Animalia	Reptilia	Elapidae	2669	<i>Furina diadema</i>	Red-naped Snake	P	4	
Animalia	Reptilia	Elapidae	2674	<i>Hemiaspis signata</i>	Black-bellied Swamp Snake	P	6	
Animalia	Reptilia	Elapidae	2754	<i>Hydrophis elegans</i>	Elegant Seasnake	P	1	
Animalia	Reptilia	Elapidae	2770	<i>Hydrophis platurus</i>	Yellow-bellied Seasnake	P	10	
Animalia	Reptilia	Elapidae	2681	<i>Notechis scutatus</i>	Tiger Snake	P	6	
Animalia	Reptilia	Elapidae	2693	<i>Pseudechis porphyriacus</i>	Red-bellied Black Snake	P	26	
Animalia	Reptilia	Elapidae	2699	<i>Pseudonaja textilis</i>	Eastern Brown Snake	P	19	
Animalia	Reptilia	Elapidae	2734	<i>Vermicella annulata</i>	Bandy-bandy	P	13	
Animalia	Aves	Megapodiidae	0008	<i>Alectura lathamii</i>	Australian Brush-turkey	P	227	
Animalia	Aves	Phasianidae	0009	<i>Coturnix pectoralis</i>	Stubble Quail	P	3	
Animalia	Aves	Phasianidae	9046	<i>Coturnix sp.</i>	Unidentified Quail	P	9	
Animalia	Aves	Phasianidae	0950	<i>Phasianus colchicus</i>	* Common Pheasant		2	
Animalia	Aves	Phasianidae	0011	<i>Synoicus ypsilophora</i>	Brown Quail	P	3	
Animalia	Aves	Anatidae	0210	<i>Anas castanea</i>	Chestnut Teal	P	4	
Animalia	Aves	Anatidae	0211	<i>Anas gracilis</i>	Grey Teal	P	4	
Animalia	Aves	Anatidae	0948	<i>Anas platyrhynchos</i>	* Mallard		4	
Animalia	Aves	Anatidae	0208	<i>Anas superciliosa</i>	Pacific Black Duck	P	47	
Animalia	Aves	Anatidae	0816	<i>Anas superciliosa x platyrhynchos</i>	* Pacific Black Duck Mallard Hybrid		1	
Animalia	Aves	Anatidae	0217	<i>Biziura lobata</i>	Musk Duck	P	1	
Animalia	Aves	Anatidae	0202	<i>Chenonetta jubata</i>	Australian Wood Duck	P	34	
Animalia	Aves	Anatidae	0203	<i>Cygnus atratus</i>	Black Swan	P	1	
Animalia	Aves	Columbidae	0033	<i>Chalcophaps indica</i>	Emerald Dove	P	10	
Animalia	Aves	Columbidae	0028	<i>Columba leucomela</i>	White-headed Pigeon	P	15	
Animalia	Aves	Columbidae	0957	<i>Columba livia</i>	* Rock Dove		5	
Animalia	Aves	Columbidae	0044	<i>Leucosarcia melanoleuca</i>	Wonga Pigeon	P	3	
Animalia	Aves	Columbidae	0027	<i>Lopholaimus antarcticus</i>	Topknot Pigeon	P	5	
Animalia	Aves	Columbidae	0029	<i>Macropygia phasianella</i>	Brown Cuckoo-Dove	P	5	
Animalia	Aves	Columbidae	0043	<i>Ocyphaps lophotes</i>	Crested Pigeon	P	53	
Animalia	Aves	Columbidae	0034	<i>Phaps chalcoptera</i>	Common Bronzewing	P	1	
Animalia	Aves	Columbidae	0035	<i>Phaps elegans</i>	Brush Bronzewing	P	8	
Animalia	Aves	Columbidae	0021	<i>Ptilinopus regina</i>	Rose-crowned Fruit-Dove	V,P	1	
Animalia	Aves	Columbidae	0023	<i>Ptilinopus superbus</i>	Superb Fruit-Dove	V,P	4	
Animalia	Aves	Columbidae	0989	<i>Spilopelia chinensis</i>	* Spotted Turtle-Dove		22	
Animalia	Aves	Podargidae	0313	<i>Podargus strigoides</i>	Tawny Frogmouth	P	243	
Animalia	Aves	Caprimulgidae	0330	<i>Eurostopodus mystacalis</i>	White-throated Nightjar	P	5	
Animalia	Aves	Aegothelidae	0317	<i>Aegotheles cristatus</i>	Australian Owllet-nightjar	P	8	
Animalia	Aves	Apodidae	0335	<i>Apus pacificus</i>	Fork-tailed Swift	P	C,J,K	2
Animalia	Aves	Apodidae	0334	<i>Hirundapus caudacutus</i>	White-throated Needletail	P	V,C,J,K	6
Animalia	Aves	Diomedeidae	0086	<i>Diomedea exulans</i>	Wandering Albatross	E1,P	E	3
Animalia	Aves	Diomedeidae	0847	<i>Diomedea gibsoni</i>	Gibson's Albatross	V,P	V	1
Animalia	Aves	Procellariidae	0070	<i>Ardenna grisea</i>	Sooty Shearwater	P	J	47
Animalia	Aves	Procellariidae	0069	<i>Ardenna pacifica</i>	Wedge-tailed Shearwater	P	J	349
Animalia	Aves	Procellariidae	0071	<i>Ardenna tenuirostris</i>	Short-tailed Shearwater	P	C,J,K	73
Animalia	Aves	Procellariidae	0081	<i>Halobaena caerulea</i>	Blue Petrel	P	V	3
Animalia	Aves	Procellariidae	0929	<i>Macronectes giganteus</i>	Southern Giant Petrel	E1,P	E	2
Animalia	Aves	Procellariidae	0068	<i>Puffinus gavia</i>	Fluttering Shearwater	P		6
Animalia	Aves	Spheniscidae	0005	<i>Eudyptula minor</i>	Little Penguin	P		4762
Animalia	Aves	Sulidae	0104	<i>Morus serrator</i>	Australasian Gannet	P		19
Animalia	Aves	Anhingidae	8731	<i>Anhinga novaehollandiae</i>	Australasian Darter	P		4
Animalia	Aves	Phalacrocoracidae	0100	<i>Microcarbo melanoleucos</i>	Little Pied Cormorant	P		80
Animalia	Aves	Phalacrocoracidae	0096	<i>Phalacrocorax carbo</i>	Great Cormorant	P		10
Animalia	Aves	Phalacrocoracidae	T021	<i>Phalacrocorax sp.</i>	Unidentified Cormorant	P		6
Animalia	Aves	Phalacrocoracidae	0097	<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant	P		24
Animalia	Aves	Phalacrocoracidae	0099	<i>Phalacrocorax varius</i>	Pied Cormorant	P		53
Animalia	Aves	Pelecanidae	0106	<i>Pelecanus conspicillatus</i>	Australian Pelican	P		36
Animalia	Aves	Ardeidae	T179	<i>Ardea/Egretta sp.</i>	Unidentified Egret	P		1
Animalia	Aves	Ardeidae	0193	<i>Butorides striata</i>	Striated Heron	P		10

Animalia	Aves	Ardeidae	8712	<i>Casmerodius modesta</i>	Eastern Great Egret	P		3	
Animalia	Aves	Ardeidae	0188	<i>Egretta novaehollandiae</i>	White-faced Heron	P		75	
Animalia	Aves	Ardeidae	0191	<i>Egretta sacra</i>	Eastern Reef Egret	P		1	
Animalia	Aves	Ardeidae	0192	<i>Nycticorax caledonicus</i>	Nankeen Night Heron	P		1	
Animalia	Aves	Threskiornithidae	0182	<i>Platalea flavipes</i>	Yellow-billed Spoonbill	P		1	
Animalia	Aves	Threskiornithidae	0181	<i>Platalea regia</i>	Royal Spoonbill	P		7	
Animalia	Aves	Threskiornithidae	0179	<i>Threskiornis moluccus</i>	Australian White Ibis	P		10	
Animalia	Aves	Threskiornithidae	0180	<i>Threskiornis spinicollis</i>	Straw-necked Ibis	P		2	
Animalia	Aves	Accipitridae	0222	<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk	P		2	
Animalia	Aves	Accipitridae	0221	<i>Accipiter fasciatus</i>	Brown Goshawk	P		12	
Animalia	Aves	Accipitridae	0220	<i>Accipiter novaehollandiae</i>	Grey Goshawk	P		1	
Animalia	Aves	Accipitridae	0224	<i>Aquila audax</i>	Wedge-tailed Eagle	P		9	
Animalia	Aves	Accipitridae	0234	<i>Aviceda subcristata</i>	Pacific Baza	P		16	
Animalia	Aves	Accipitridae	0232	<i>Elanus axillaris</i>	Black-shouldered Kite	P		2	
Animalia	Aves	Accipitridae	0226	<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V,P		50	
Animalia	Aves	Accipitridae	0228	<i>Haliastur sphenurus</i>	Whistling Kite	P		37	
Animalia	Aves	Accipitridae	0225	<i>Hieraaetus morphnoides</i>	Little Eagle	V,P		3	
Animalia	Aves	Accipitridae	0230	^^ <i>Lophoictinia isura</i>	Square-tailed Kite	V,P,3		2	
Animalia	Aves	Accipitridae	8739	^^ <i>Pandion cristatus</i>	Eastern Osprey	V,P,3		15	
Animalia	Aves	Falconidae	0240	<i>Falco cenchroides cenchroides</i>	Nankeen Kestrel	P		17	
Animalia	Aves	Falconidae	0235	<i>Falco longipennis</i>	Australian Hobby	P		1	
Animalia	Aves	Falconidae	0237	<i>Falco peregrinus</i>	Peregrine Falcon	P		16	
Animalia	Aves	Falconidae	9119	<i>Raptor sp.</i>	Unidentified Raptor	P		3	
Animalia	Aves	Rallidae	0056	<i>Gallinula tenebrosa</i>	Dusky Moorhen	P		1	
Animalia	Aves	Rallidae	0046	<i>Hypotaenidia philippensis</i>	Buff-banded Rail	P		16	
Animalia	Aves	Rallidae	0045	<i>Lewinia pectoralis</i>	Lewin's Rail	P		2	
Animalia	Aves	Rallidae	0058	<i>Porphyrio porphyrio</i>	Purple Swamphen	P		11	
Animalia	Aves	Rallidae	0050	<i>Porzana pusilla</i>	Baillon's Crane	P		1	
Animalia	Aves	Burhinidae	0174	<i>Burhinus grallarius</i>	Bush Stone-curlew	E1,P		44	
Animalia	Aves	Burhinidae	0175	<i>Esacus magirostris</i>	Beach Stone-curlew	E4A,P		1	
Animalia	Aves	Haematopodidae	0131	<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	V,P		5	
Animalia	Aves	Haematopodidae	0130	<i>Haematopus longirostris</i>	Pied Oystercatcher	E1,P		1	
Animalia	Aves	Recurvirostridae	0146	<i>Himantopus himantopus</i>	Black-winged Stilt	P		2	
Animalia	Aves	Charadriidae	0140	<i>Charadrius bicinctus</i>	Double-banded Plover	P		1	
Animalia	Aves	Charadriidae	0136	<i>Pluvialis squatarola</i>	Grey Plover	P	C,J,K	2	
Animalia	Aves	Charadriidae	0133	<i>Vanellus miles</i>	Masked Lapwing	P		83	
Animalia	Aves	Scolopacidae	0149	<i>Numenius madagascariensis</i>	Eastern Curlew	P	CE,C,J,K	8	
Animalia	Aves	Scolopacidae	0150	<i>Numenius phaeopus</i>	Whimbrel	P	C,J,K	3	
Animalia	Aves	Scolopacidae	0155	<i>Tringa brevipes</i>	Grey-tailed Tattler	P	C,J,K	1	
Animalia	Aves	Turnicidae	0014	<i>Turnix varius</i>	Painted Button-quail	P		9	
Animalia	Aves	Laridae	0122	<i>Anous stolidus</i>	Common Noddy	P	C,J	1	
Animalia	Aves	Laridae	0125	<i>Chroicocephalus novaehollandiae</i>	Silver Gull	P		148	
Animalia	Aves	Laridae	0112	<i>Hydroprogne caspia</i>	Caspian Tern	P	J	1	
Animalia	Aves	Laridae	0981	<i>Larus dominicanus</i>	Kelp Gull	P		1	
Animalia	Aves	Laridae	0120	<i>Onychoprion fuscata</i>	Sooty Tern	V,P		2	
Animalia	Aves	Laridae	0115	<i>Thalasseus bergii</i>	Crested Tern	P	J	43	
Animalia	Aves	Cacatuidae	0269	<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	P		361	
Animalia	Aves	Cacatuidae	0271	<i>Cacatua sanguinea</i>	Little Corella	P		31	
Animalia	Aves	Cacatuidae	T187	<i>Cacatua sp.</i>		P		5	
Animalia	Aves	Cacatuidae	0272	<i>Cacatua tenuirostris</i>	Long-billed Corella	P		8	
Animalia	Aves	Cacatuidae	0268	^^ <i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	V,P,3	E	1	
Animalia	Aves	Cacatuidae	8862	^ <i>Calyptorhynchus lathami lathami</i>	South-eastern Glossy Black-Cockatoo	V,P,2	V	65	
Animalia	Aves	Cacatuidae	0273	<i>Eolophus roseicapilla</i>	Galah	P		42	
Animalia	Aves	Cacatuidae	8867	<i>Eolophus roseicapilla albiceps</i>		P		2	
Animalia	Aves	Cacatuidae	0274	<i>Nymphicus hollandicus</i>	Cockatiel	P		2	
Animalia	Aves	Cacatuidae	0267	<i>Zanda funereus</i>	Yellow-tailed Black-Cockatoo	P		11	
Animalia	Aves	Psittacidae	0281	<i>Alisterus scapularis</i>	Australian King-Parrot	P		95	
Animalia	Aves	Psittacidae	0294	<i>Barnardius zonarius</i>	Australian Ringneck	P		1	
Animalia	Aves	Psittacidae	0258	<i>Glossopsitta concinna</i>	Musk Lorikeet	P		22	
Animalia	Aves	Psittacidae	0260	<i>Glossopsitta pusilla</i>	Little Lorikeet	V,P		3	
Animalia	Aves	Psittacidae	0309	<i>Lathamus discolor</i>	Swift Parrot	E1,P	CE	9	
Animalia	Aves	Psittacidae	0310	<i>Melopsittacus undulatus</i>	Budgerigar	P		1	
Animalia	Aves	Psittacidae	0302	^^ <i>Neophema pulchella</i>	Turquoise Parrot	V,P,3		5	

Animalia	Aves	Psittacidae	0282	<i>Platycercus elegans</i>	Crimson Rosella	P	35	
Animalia	Aves	Psittacidae	0288	<i>Platycercus eximius</i>	Eastern Rosella	P	52	
Animalia	Aves	Psittacidae	T039	<i>Platycercus sp.</i>	Unidentified Rosella	P	6	
Animalia	Aves	Psittacidae	0295	<i>Psephodus haematonotus</i>	Red-rumped Parrot	P	1	
Animalia	Aves	Psittacidae	0290	<i>Purpureicephalus spurius</i>	Red-capped Parrot	P	1	
Animalia	Aves	Psittacidae	0256	<i>Trichoglossus chlorolepidotus</i>	Scaly-breasted Lorikeet	P	13	
Animalia	Aves	Psittacidae	9947	<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	P	709	
Animalia	Aves	Psittacidae	8882	<i>Trichoglossus haematodus moluccanus</i>		P	5	
Animalia	Aves	Cuculidae	0338	<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo	P	18	
Animalia	Aves	Cuculidae	0339	<i>Cacomantis variolosus</i>	Brush Cuckoo	P	2	
Animalia	Aves	Cuculidae	0349	<i>Centropus phasianinus</i>	Pheasant Coucal	P	12	
Animalia	Aves	Cuculidae	0342	<i>Chalcites basalis</i>	Horsfield's Bronze-Cuckoo	P	1	
Animalia	Aves	Cuculidae	0343	<i>Chalcites lucidus</i>	Shining Bronze-Cuckoo	P	2	
Animalia	Aves	Cuculidae	0347	<i>Eudynamis orientalis</i>	Eastern Koel	P	46	
Animalia	Aves	Cuculidae	8930	<i>Eudynamis orientalis cyanocephala</i>		P	1	
Animalia	Aves	Cuculidae	0337	<i>Heteroscenes pallidus</i>	Pallid Cuckoo	P	1	
Animalia	Aves	Cuculidae	0348	<i>Scythrops novaehollandiae</i>	Channel-billed Cuckoo	P	53	
Animalia	Aves	Strigidae	0246	<i>Ninox connivens</i>	Barking Owl	V,P,3	15	
Animalia	Aves	Strigidae	9922	<i>Ninox novaeseelandiae</i>	Southern Boobook	P	65	
Animalia	Aves	Strigidae	0248	<i>Ninox strenua</i>	Powerful Owl	V,P,3	231	
Animalia	Aves	Tytonidae	9923	<i>Tyto javanica</i>	Eastern Barn Owl	P	3	
Animalia	Aves	Tytonidae	0250	<i>Tyto novaehollandiae</i>	Masked Owl	V,P,3	5	
Animalia	Aves	Tytonidae	9924	<i>Tyto tenebricosa</i>	Sooty Owl	V,P,3	2	
Animalia	Aves	Alcedinidae	0319	<i>Ceyx azureus</i>	Azure Kingfisher	P	9	
Animalia	Aves	Alcedinidae	0322	<i>Dacelo novaeguineae</i>	Laughing Kookaburra	P	434	
Animalia	Aves	Alcedinidae	0324	<i>Todiramphus macleayii</i>	Forest Kingfisher	P	1	
Animalia	Aves	Alcedinidae	0326	<i>Todiramphus sanctus</i>	Sacred Kingfisher	P	14	
Animalia	Aves	Meropidae	0329	<i>Merops ornatus</i>	Rainbow Bee-eater	P	1	
Animalia	Aves	Coraciidae	0318	<i>Eurystomus orientalis</i>	Dollarbird	P	43	
Animalia	Aves	Pittidae	0352	<i>Pitta versicolor</i>	Noisy Pitta	P	3	
Animalia	Aves	Menuridae	0350	<i>Menura novaehollandiae</i>	Superb Lyrebird	P	36	
Animalia	Aves	Climacteridae	0560	<i>Climacteris erythropis</i>	Red-browed Treecreeper	P	1	
Animalia	Aves	Climacteridae	0558	<i>Cormobates leucophaea</i>	White-throated Treecreeper	P	5	
Animalia	Aves	Ptilonorhynchidae	0676	<i>Ailuroedus crassirostris</i>	Green Catbird	P	1	
Animalia	Aves	Ptilonorhynchidae	0679	<i>Ptilonorhynchus violaceus</i>	Satin Bowerbird	P	3	
Animalia	Aves	Maluridae	0529	<i>Malurus cyaneus</i>	Superb Fairy-wren	P	53	
Animalia	Aves	Maluridae	0536	<i>Malurus lamberti</i>	Variiegated Fairy-wren	P	30	
Animalia	Aves	Maluridae	8131	<i>Malurus lamberti lamberti</i>		P	6	
Animalia	Aves	Maluridae	9038	<i>Malurus sp.</i>	Unidentified Fairy-wren	P	2	
Animalia	Aves	Dasyornithidae	0519	<i>Dasyornis brachypterus</i>	Eastern Bristlebird	E1,P,2	E 1	
Animalia	Aves	Acanthizidae	0486	<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	P	2	
Animalia	Aves	Acanthizidae	0470	<i>Acanthiza lineata</i>	Striated Thornbill	P	4	
Animalia	Aves	Acanthizidae	0471	<i>Acanthiza nana</i>	Yellow Thornbill	P	4	
Animalia	Aves	Acanthizidae	0475	<i>Acanthiza pusilla</i>	Brown Thornbill	P	26	
Animalia	Aves	Acanthizidae	0484	<i>Acanthiza reguloides</i>	Buff-rumped Thornbill	P	2	
Animalia	Aves	Acanthizidae	0460	<i>Gerygone levigaster</i>	Mangrove Gerygone	P	1	
Animalia	Aves	Acanthizidae	0454	<i>Gerygone mouki</i>	Brown Gerygone	P	6	
Animalia	Aves	Acanthizidae	0498	<i>Hylacola pyrrhopygia</i>	Chestnut-rumped Heathwren	P	13	
Animalia	Aves	Acanthizidae	0488	<i>Sericornis frontalis</i>	White-browed Scrubwren	P	45	
Animalia	Aves	Acanthizidae	0494	<i>Sericornis magnirostra</i>	Large-billed Scrubwren	P	3	
Animalia	Aves	Pardalotidae	0565	<i>Pardalotus punctatus</i>	Spotted Pardalote	P	40	
Animalia	Aves	Pardalotidae	0976	<i>Pardalotus striatus</i>	Striated Pardalote	P	4	
Animalia	Aves	Meliphagidae	0640	<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater	P	2	
Animalia	Aves	Meliphagidae	0591	<i>Acanthorhynchus tenuirostris</i>	Eastern Spinebill	P	17	
Animalia	Aves	Meliphagidae	0638	<i>Anthochaera carunculata</i>	Red Wattlebird	P	67	
Animalia	Aves	Meliphagidae	0710	<i>Anthochaera chrysoptera</i>	Little Wattlebird	P	73	
Animalia	Aves	Meliphagidae	0603	<i>Anthochaera phrygia</i>	Regent Honeyeater	E4A,P,2	CE 3	
Animalia	Aves	Meliphagidae	T210	<i>Anthochaera sp.</i>	Unidentified Wattlebird	P	5	
Animalia	Aves	Meliphagidae	0614	<i>Caligavis chrysops</i>	Yellow-faced Honeyeater	P	32	
Animalia	Aves	Meliphagidae	0619	<i>Lichenostomus melanops</i>	Yellow-tufted Honeyeater	P	13	
Animalia	Aves	Meliphagidae	0634	<i>Manorina melanocephala</i>	Noisy Miner	P	297	
Animalia	Aves	Meliphagidae	0633	<i>Manorina melanophrys</i>	Bell Miner	P	4	
Animalia	Aves	Meliphagidae	0605	<i>Meliphaga lewinii</i>	Lewin's Honeyeater	P	20	
Animalia	Aves	Meliphagidae	0583	<i>Melithreptus brevirostris</i>	Brown-headed Honeyeater	P	1	
Animalia	Aves	Meliphagidae	0578	<i>Melithreptus lunatus</i>	White-naped Honeyeater	P	23	
Animalia	Aves	Meliphagidae	8311	<i>Melithreptus lunatus</i>		P	1	
Animalia	Aves	Meliphagidae	0586	<i>Myzomela sanguinolenta</i>	Scarlet Honeyeater	P	5	

Animalia	Aves	Meliphagidae	0617	<i>Nesoptilotis leucotis</i>	White-eared Honeyeater	P	15
Animalia	Aves	Meliphagidae	0645	<i>Philemon corniculatus</i>	Noisy Friarbird	P	17
Animalia	Aves	Meliphagidae	0632	<i>Phylidonyris niger</i>	White-cheeked Honeyeater	P	22
Animalia	Aves	Meliphagidae	8339	<i>Phylidonyris niger niger</i>		P	4
Animalia	Aves	Meliphagidae	0631	<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	P	64
Animalia	Aves	Meliphagidae	0613	<i>Ptilotula fusca</i>	Fuscous Honeyeater	P	4
Animalia	Aves	Cinclosomatidae	0436	<i>Cinclosoma punctatum</i>	Spotted Quail-thrush	P	2
Animalia	Aves	Psophodidae	0421	<i>Psophodes olivaceus</i>	Eastern Whipbird	P	97
Animalia	Aves	Campephagidae	0424	<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	P	42
Animalia	Aves	Campephagidae	8525	<i>Coracina novaehollandiae melanops</i>		P	3
Animalia	Aves	Pachycephalidae	0408	<i>Colluricincla harmonica</i>	Grey Shrike-thrush	P	20
Animalia	Aves	Pachycephalidae	0398	<i>Pachycephala pectoralis</i>	Golden Whistler	P	26
Animalia	Aves	Pachycephalidae	0401	<i>Pachycephala rufiventris</i>	Rufous Whistler	P	1
Animalia	Aves	Pachycephalidae	8426	<i>Pachycephala rufiventris rufiventris</i>		P	3
Animalia	Aves	Oriolidae	0671	<i>Oriolus sagittatus</i>	Olive-backed Oriole	P	3
Animalia	Aves	Oriolidae	0432	<i>Sphecotheres vieilloti</i>	Australasian Figbird	P	10
Animalia	Aves	Artamidae	8519	<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V,P	2
Animalia	Aves	Artamidae	0543	<i>Artamus leucorhynchus</i>	White-breasted Woodswallow	P	2
Animalia	Aves	Artamidae	0700	<i>Cracticus nigrogularis</i>	Pied Butcherbird	P	24
Animalia	Aves	Artamidae	T022	<i>Cracticus sp.</i>	Unidentified Butcherbird	P	19
Animalia	Aves	Artamidae	0702	<i>Cracticus torquatus</i>	Grey Butcherbird	P	88
Animalia	Aves	Artamidae	8489	<i>Cracticus torquatus torquatus</i>		P	4
Animalia	Aves	Artamidae	0705	<i>Gymnorhina tibicen</i>	Australian Magpie	P	238
Animalia	Aves	Artamidae	8499	<i>Gymnorhina tibicen tibicen</i>		P	6
Animalia	Aves	Artamidae	0694	<i>Strepera graculina</i>	Pied Currawong	P	129
Animalia	Aves	Artamidae	T906	<i>Strepera sp.</i>		P	6
Animalia	Aves	Artamidae	0697	<i>Strepera versicolor</i>	Grey Currawong	P	5
Animalia	Aves	Dicruridae	0673	<i>Dicrurus bracteatus</i>	Spangled Drongo	P	4
Animalia	Aves	Rhipiduridae	0361	<i>Rhipidura albiscapa</i>	Grey Fantail	P	29
Animalia	Aves	Rhipiduridae	8447	<i>Rhipidura albiscapa alisteri</i>		P	4
Animalia	Aves	Rhipiduridae	0364	<i>Rhipidura leucophrys</i>	Willie Wagtail	P	15
Animalia	Aves	Rhipiduridae	0362	<i>Rhipidura rufifrons</i>	Rufous Fantail	P	2
Animalia	Aves	Corvidae	0930	<i>Corvus coronoides</i>	Australian Raven	P	81
Animalia	Aves	Corvidae	9067	<i>Corvus sp.</i>	Unidentified Corvid	P	3
Animalia	Aves	Corvidae	0867	<i>Corvus splendens</i>	House Crow	*	1
Animalia	Aves	Monarchidae	0415	<i>Gallina cyanoleuca</i>	Magpie-lark	P	14
Animalia	Aves	Monarchidae	0373	<i>Monarcha melanopsis</i>	Black-faced Monarch	P	3
Animalia	Aves	Monarchidae	0366	<i>Myiagra cyanoleuca</i>	Satin Flycatcher	P	1
Animalia	Aves	Petroicidae	0392	<i>Eopsaltria australis</i>	Eastern Yellow Robin	P	22
Animalia	Aves	Petroicidae	8363	<i>Eopsaltria australis australis</i>		P	3
Animalia	Aves	Petroicidae	0377	<i>Microeca fascians</i>	Jacky Winter	P	3
Animalia	Aves	Petroicidae	0380	<i>Petroica boodang</i>	Scarlet Robin	V,P	4
Animalia	Aves	Petroicidae	0384	<i>Petroica rosea</i>	Rose Robin	P	1
Animalia	Aves	Locustellidae	0522	<i>Poodytes gramineus</i>	Little Grassbird	P	1
Animalia	Aves	Hirundinidae	0357	<i>Hirundo neoxena</i>	Welcome Swallow	P	52
Animalia	Aves	Hirundinidae	8568	<i>Hirundo neoxena neoxena</i>		P	2
Animalia	Aves	Hirundinidae	0360	<i>Petrochelidon ariel</i>	Fairy Martin	P	2
Animalia	Aves	Hirundinidae	0359	<i>Petrochelidon nigricans</i>	Tree Martin	P	1
Animalia	Aves	Pycnonotidae	0990	<i>Pycnonotus jocosus</i>	Red-whiskered Bulbul	*	9
Animalia	Aves	Sturnidae	0998	<i>Acridotheres tristis</i>	Common Myna	*	27
Animalia	Aves	Sturnidae	0999	<i>Sturnus vulgaris</i>	Common Starling	*	3
Animalia	Aves	Zosteropidae	0574	<i>Zosterops lateralis</i>	Silvereye	P	37
Animalia	Aves	Dicaeidae	0564	<i>Dicaeum hirundinaceum</i>	Mistletoebird	P	5
Animalia	Aves	Estrildidae	0662	<i>Neochmia temporalis</i>	Red-browed Finch	P	18
Animalia	Aves	Estrildidae	8621	<i>Neochmia temporalis temporalis</i>		P	1
Animalia	Aves	Passeridae	0995	<i>Passer domesticus</i>	House Sparrow	*	5
Animalia	Aves	Fringillidae	0996	<i>Carduelis carduelis</i>	European Goldfinch	*	1
Animalia	Mammalia	Ornithorhynchidae	1001	<i>Ornithorhynchus anatinus</i>	Platypus	P	2
Animalia	Mammalia	Tachyglossidae	1003	<i>Tachyglossus aculeatus</i>	Short-beaked Echidna	P	51
Animalia	Mammalia	Dasyuridae	1956	<i>Antechinus mimetes</i>	Mainland Dusky Antechinus	P	1

Animalia	Mammalia	Dasyuridae	T093	<i>Antechinus sp.</i>	Unidentified Antechinus	P		1	
Animalia	Mammalia	Dasyuridae	1674	<i>Antechinus stuartii</i>	Brown Antechinus	P		54	
Animalia	Mammalia	Dasyuridae	1008	<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V,P	E	4	
Animalia	Mammalia	Peramelidae	1710	<i>Isoodon obesulus obesulus</i>	Southern Brown Bandicoot (eastern)	E1,P	E	58	
Animalia	Mammalia	Peramelidae	9047	<i>Isoodon sp.</i>	Unidentified Brown Bandicoot	P		1	
Animalia	Mammalia	Peramelidae	T081	<i>Isoodon/Perameles sp.</i>	unidentified Bandicoot	P		48	
Animalia	Mammalia	Peramelidae	1097	<i>Perameles nasuta</i>	Long-nosed Bandicoot	P		407	
Animalia	Mammalia	Phascolarctidae	1162	<i>Phascolarctos cinereus</i>	Koala	E1,P	E	97	
Animalia	Mammalia	Vombatidae	1165	<i>Vombatus ursinus</i>	Bare-nosed Wombat	P		1	
Animalia	Mammalia	Burramyidae	1150	<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V,P		25	
Animalia	Mammalia	Petauridae	1138	<i>Petaurus breviceps</i>	Sugar Glider	P		18	
Animalia	Mammalia	Petauridae	1137	<i>Petaurus norfolcensis</i>	Squirrel Glider on Barrenjoey Peninsula, north of Bushrangers Hill	E2,V,P		1	
Animalia	Mammalia	Petauridae	1137	<i>Petaurus norfolcensis</i>	Squirrel Glider	V,P		2	
Animalia	Mammalia	Petauridae	T084	<i>Petaurus sp.</i>	Glider	P		1	
Animalia	Mammalia	Pseudocheiridae	1133	<i>Petauroides volans</i>	Southern Greater Glider	E1,P	E	1	
Animalia	Mammalia	Pseudocheiridae	1129	<i>Pseudocheirus peregrinus</i>	Common Ringtail Possum	P		735	
Animalia	Mammalia	Acrobatidae	1147	<i>Acrobates pygmaeus</i>	Feathertail Glider	P		15	
Animalia	Mammalia	Phalangeridae	T082	<i>Trichosurus sp.</i>	brushtail possum	P		50	
Animalia	Mammalia	Phalangeridae	1113	<i>Trichosurus vulpecula</i>	Common Brushtail Possum	P		700	
Animalia	Mammalia	Phalangeridae	1739	<i>Trichosurus vulpecula vulpecula</i>		P		1	
Animalia	Mammalia	Macropodidae	T108	<i>Macropod sp.</i>	unidentified macropod	P		3	
Animalia	Mammalia	Macropodidae	1265	<i>Macropus giganteus</i>	Eastern Grey Kangaroo	P		2	
Animalia	Mammalia	Macropodidae	T085	<i>Macropus sp.</i>	kangaroo / wallaby	P		40	
Animalia	Mammalia	Macropodidae	1266	<i>Osphranter robustus</i>	Common Wallaroo	P		1	
Animalia	Mammalia	Macropodidae	1242	<i>Wallabia bicolor</i>	Swamp Wallaby	P		3967	
Animalia	Mammalia	Pteropodidae	1280	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V,P	V	83	
Animalia	Mammalia	Pteropodidae	T087	<i>Pteropus sp.</i>	Flying-fox	P		21	
Animalia	Mammalia	Rhinolophidae	1303	<i>Rhinolophus megaphyllus</i>	Eastern Horseshoe-bat	P		18	
Animalia	Mammalia	Emballonuridae	1321	<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V,P		1	
Animalia	Mammalia	Molossidae	1324	<i>Austronomus australis</i>	White-striped Freetail-bat	P		11	
Animalia	Mammalia	Molossidae	1329	<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V,P		4	
Animalia	Mammalia	Molossidae	1938	<i>Ozimops ridei</i>	Eastern Free-tailed Bat	P		11	
Animalia	Mammalia	Vespertilionidae	1353	<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V,P	V	6	
Animalia	Mammalia	Vespertilionidae	1349	<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	P		36	
Animalia	Mammalia	Vespertilionidae	1351	<i>Chalinolobus morio</i>	Chocolate Wattled Bat	P		7	
Animalia	Mammalia	Vespertilionidae	1357	<i>Myotis macropus</i>	Southern Myotis	V,P		6	
Animalia	Mammalia	Vespertilionidae	T092	<i>Nyctophilus sp.</i>	long-eared bat	P		1	
Animalia	Mammalia	Vespertilionidae	1361	<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V,P		4	
Animalia	Mammalia	Vespertilionidae	1365	<i>Scotorepens orion</i>	Eastern Broad-nosed Bat	P		1	
Animalia	Mammalia	Vespertilionidae	1022	<i>Vespadelus darlingtoni</i>	Large Forest Bat	P		3	
Animalia	Mammalia	Vespertilionidae	1377	<i>Vespadelus pumilus</i>	Eastern Forest Bat	P		1	
Animalia	Mammalia	Vespertilionidae	1378	<i>Vespadelus regulus</i>	Southern Forest Bat	P		2	
Animalia	Mammalia	Vespertilionidae	1025	<i>Vespadelus troughtoni</i>	Eastern Cave Bat	V,P		2	
Animalia	Mammalia	Vespertilionidae	1379	<i>Vespadelus vulturinus</i>	Little Forest Bat	P		14	
Animalia	Mammalia	Miniopteridae	1346	<i>Miniopterus australis</i>	Little Bent-winged Bat	V,P		25	
Animalia	Mammalia	Miniopteridae	3330	<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V,P		28	
Animalia	Mammalia	Muridae	1415	<i>Hydromys chrysogaster</i>	Water-rat	P		3	
Animalia	Mammalia	Muridae	1412	<i>Mus musculus</i>	House Mouse	*		4	
Animalia	Mammalia	Muridae	1455	<i>Pseudomys novaehollandiae</i>	New Holland Mouse	P	V	9	
Animalia	Mammalia	Muridae	1395	<i>Rattus fuscipes</i>	Bush Rat	P		360	
Animalia	Mammalia	Muridae	1398	<i>Rattus lutreolus</i>	Swamp Rat	P		3	
Animalia	Mammalia	Muridae	1409	<i>Rattus norvegicus</i>	Brown Rat	*		7	
Animalia	Mammalia	Muridae	1408	<i>Rattus rattus</i>	Black Rat	*		52	
Animalia	Mammalia	Otariidae	1543	<i>Arctocephalus forsteri</i>	New Zealand Fur-seal	V,P		9	
Animalia	Mammalia	Otariidae	1882	<i>Arctocephalus pusillus doriferus</i>	Australian Fur-seal	V,P		5	

Animalia	Mammalia	Otariidae	T099	<i>Arctocephalus sp.</i>	Unidentified Fur-seal	P	2	
Animalia	Mammalia	Otariidae	1013	<i>Arctocephalus tropicalis</i>	Subantarctic Fur-seal	P	2	
Animalia	Mammalia	Otariidae	9040	<i>Seal sp.</i>	Unidentified Seal	P	26	
Animalia	Mammalia	Phocidae	1549	<i>Hydrurga leptonyx</i>	Leopard Seal	P	2	
Animalia	Mammalia	Canidae	1905	<i>Canis familiaris</i>	Dog	*	14	
Animalia	Mammalia	Canidae	1531	<i>Canis lupus</i>	Dingo, domestic dog	*	8	
Animalia	Mammalia	Canidae	1532	<i>Vulpes vulpes</i>	Fox	*	51	
Animalia	Mammalia	Felidae	1536	<i>Felis catus</i>	Cat	*	24	
Animalia	Mammalia	Leporidae	1510	<i>Oryctolagus cuniculus</i>	Rabbit	*	18	
Animalia	Mammalia	Balaenidae	1561	<i>Eubalaena australis</i>	Southern Right Whale	E1,P	E	9
Animalia	Mammalia	Balaenopteridae	1575	<i>Megaptera novaeangliae</i>	Humpback Whale	P	13	
Animalia	Mammalia	Physeteridae	1578	<i>Physeter macrocephalus</i>	Sperm Whale	V,P	1	
Animalia	Mammalia	Kogiidae	1581	<i>Kogia breviceps</i>	Pygmy Sperm Whale	P	4	
Animalia	Mammalia	Delphinidae	1616	<i>Delphinus delphis</i>	Common Dolphin	P	24	
Animalia	Mammalia	Delphinidae	9039	<i>Dolphin sp.</i>	Unidentified Dolphin	P	3	
Animalia	Mammalia	Delphinidae	1609	<i>Grampus griseus</i>	Risso's Dolphin	P	2	
Animalia	Mammalia	Delphinidae	1621	<i>Stenella attenuata</i>	Pantropical Spotted Dolphin	P	2	
Animalia	Mammalia	Delphinidae	1899	<i>Tursiops aduncus</i>	Indo-Pacific Bottlenose Dolphin	P	5	
Animalia	Mammalia	Delphinidae	1900	<i>Tursiops truncatus</i>	Bottlenose Dolphin	P	4	
Animalia	Arachnida	Hexathelidae	I018	<i>Atrax robustus</i>	Sydney funnelweb spider		1	
Animalia	Arachnida	Araneidae	I203	<i>Argiope keyserlingi</i>	St Andrew's Cross spider		1	
Animalia	Arachnida	Tetragnathidae	I132	<i>Nephila plumipes</i>			1	
Animalia	Arachnida	Tetragnathidae	I103	<i>Phonognatha graeffei</i>	leafcurling spider		1	
Animalia	Arachnida	Salticidae	T1044	<i>Maratus amabilis</i>	Peacock spider		2	
Animalia	Arachnida	Salticidae	T1045	<i>Maratus sp. 'Ku-ring-gai Chase NP'</i>	Undescribed peacock spider		1	
Animalia	Arachnida	Salticidae	T1040	<i>Maratus volans</i>	Peacock spider		5	
Animalia	Insecta	Apidae	I081	<i>Apis mellifera</i>	honey bee	*	1	
Animalia	Insecta	Petaluridae	I007	<i>Petalura gigantea</i>	Giant Dragonfly	E1	2	
Animalia	Gastropoda	Camaenidae	I2177	<i>Meridolum maryae</i>	Maroubra Woodland Snail	E1	1	
Animalia	Unknown	Unknown Fauna	T350	<i>Fauna sp.</i>	Unidentified Fauna		48	
Animalia	Unknown	Unknown Fauna	T351	<i>Mammal sp.</i>	Unidentified Mammal		6	
Animalia	Unknown	Unknown Fauna	T202	<i>Microchiroptera suborder</i>	Unidentified Microbat		9	
Animalia	Unknown	Unknown Fauna	T1049	<i>Possum sp.</i>	unidentified possum		29	
Plantae	Flora	Acanthaceae	11324	<i>Acanthus mollis</i>	Bear's Breeches	*	1	
Plantae	Flora	Acanthaceae	10427	<i>Avicennia marina subsp. australasica</i>	Grey Mangrove		9	
Plantae	Flora	Acanthaceae	1003	<i>Brunoniella australis</i>	Blue Trumpet		4	
Plantae	Flora	Acanthaceae	1004	<i>Brunoniella pumilio</i>	Dwarf Blue Trumpet		6	
Plantae	Flora	Acanthaceae	1010	<i>Pseuderanthemum variabile</i>	Pastel Flower		77	
Plantae	Flora	Acanthaceae	12631	<i>Ruellia squarrosa</i>		*	1	
Plantae	Flora	Acanthaceae	1012	<i>Thunbergia alata</i>	Black-eyed Susan	*	9	
Plantae	Flora	Adoxaceae	11676	<i>Viburnum tinus</i>		*	4	
Plantae	Flora	Agavaceae	1016	<i>Agave americana</i>	Century Plant	*	9	
Plantae	Flora	Agavaceae	11669	<i>Agave attenuata</i>		*	4	
Plantae	Flora	Agavaceae	AGAV	<i>Agave spp.</i>		*	5	
Plantae	Flora	Agavaceae	11768	<i>Beaucarnea recurvata</i>		*	1	
Plantae	Flora	Agavaceae	1021	<i>Yucca aloifolia</i>	Spanish Bayonet	*	1	
Plantae	Flora	Aizoaceae	1023	<i>Carpobrotus aequilaterus</i>	Angled Pigface	*	1	
Plantae	Flora	Aizoaceae	1025	<i>Carpobrotus glaucescens</i>	Pigface	*	9	
Plantae	Flora	Aizoaceae	1032	<i>Lampranthus tegens</i>		*	1	
Plantae	Flora	Aizoaceae	11185	<i>Tetragonia tetragonioides</i>	New Zealand Spinach	*	16	
Plantae	Flora	Alliaceae	11777	<i>Agapanthus africanus</i>	Lily of the Nile	*	2	
Plantae	Flora	Alliaceae	10418	<i>Agapanthus praecox subsp. orientalis</i>		*	26	
Plantae	Flora	Alliaceae	AGAP	<i>Agapanthus spp.</i>		*	9	
Plantae	Flora	Alliaceae	8963	<i>Nothoscordum borbonicum</i>	Onion Weed	*	5	
Plantae	Flora	Alstroemeriaceae	6970	<i>Alstroemeria pulchella</i>	Parrot Alstroemeria	*	3	
Plantae	Flora	Alstroemeriaceae	ALSR	<i>Alstroemeria spp.</i>		*	1	
Plantae	Flora	Amaranthaceae	6478	<i>Alternanthera denticulata</i>	Lesser Joyweed	*	2	
Plantae	Flora	Amaryllidaceae	3516	<i>Amaryllis belladonna</i>	Belladonna Lily	*	1	
Plantae	Flora	Amaryllidaceae	11699	<i>Clivia miniata</i>		*	3	
Plantae	Flora	Amaryllidaceae	CLIV	<i>Clivia spp.</i>		*	2	
Plantae	Flora	Amaryllidaceae	3539	<i>Crinum pedunculatum</i>	Swamp Lily	*	6	
Plantae	Flora	Amaryllidaceae	CRIN	<i>Crinum spp.</i>		*	1	
Plantae	Flora	Anacardiaceae	11673	<i>Harpephyllum caffrum</i>		*	1	

Plantae	Flora	Anacardiaceae	9351	<i>Mangifera indica</i>	*	Mango	1
Plantae	Flora	Anacardiaceae	14230	<i>Mangifera spp.</i>	*		2
Plantae	Flora	Anacardiaceae	1086	<i>Schinus areira</i>	*	Pepper Tree	2
Plantae	Flora	Anacardiaceae	10918	<i>Schinus terebinthifolius</i>	*	Brazilian Pepper Tree	1
Plantae	Flora	Anacardiaceae	10050	<i>Toxicodendron succedaneum</i>	*	Rhus Tree	9
Plantae	Flora	Anthericaceae	3535	<i>Caesia parviflora</i>		Pale Grass-lily	11
Plantae	Flora	Anthericaceae	7183	<i>Caesia parviflora var. parviflora</i>			5
Plantae	Flora	Anthericaceae	7333	<i>Caesia parviflora var. vittata</i>			12
Plantae	Flora	Anthericaceae	3538	<i>Chlorophytum comosum</i>	*	Spider Plant	27
Plantae	Flora	Anthericaceae	3556	<i>Laxmannia gracilis</i>		Slender Wire Lily	3
Plantae	Flora	Anthericaceae	3567	<i>Sowerbaea juncea</i>		Vanilla Plant	1
Plantae	Flora	Anthericaceae	3572	<i>Thysanotus juncifolius</i>			2
Plantae	Flora	Anthericaceae	3574	<i>Thysanotus tuberosus</i>		Common Fringe-lily	3
Plantae	Flora	Anthericaceae	6427	<i>Thysanotus tuberosus subsp. tuberosus</i>			6
Plantae	Flora	Anthericaceae	7355	<i>Tricoryne elatior</i>		Yellow Autumn-lily	5
Plantae	Flora	Anthericaceae	3577	<i>Tricoryne simplex</i>			2
Plantae	Flora	Aphanopetalaceae	2266	<i>Aphanopetalum resinosum</i>		Gum Vine	1
Plantae	Flora	Apiaceae	1094	<i>Actinotus helianthi</i>		Flannel Flower	P 34
Plantae	Flora	Apiaceae	1095	<i>Actinotus minor</i>		Lesser Flannel Flower	54
Plantae	Flora	Apiaceae	1104	<i>Apium prostratum</i>		Sea Celery	4
Plantae	Flora	Apiaceae	1106	<i>Centella asiatica</i>		Indian Pennywort	24
Plantae	Flora	Apiaceae	11195	<i>Cyclospermum leptophyllum</i>	*	Slender Celery	7
Plantae	Flora	Apiaceae	1118	<i>Foeniculum vulgare</i>	*	Fennel	4
Plantae	Flora	Apiaceae	7959	<i>Hydrocotyle acutiloba</i>			2
Plantae	Flora	Apiaceae	1123	<i>Hydrocotyle bonariensis</i>	*		23
Plantae	Flora	Apiaceae	1126	<i>Hydrocotyle geraniifolia</i>		Forest Pennywort	1
Plantae	Flora	Apiaceae	1128	<i>Hydrocotyle laxiflora</i>		Stinking Pennywort	15
Plantae	Flora	Apiaceae	7961	<i>Hydrocotyle sibthorpioides</i>			21
Plantae	Flora	Apiaceae	1143	<i>Platysace ericoides</i>			1
Plantae	Flora	Apiaceae	1144	<i>Platysace lanceolata</i>		Shrubby Platysace	11
Plantae	Flora	Apiaceae	1145	<i>Platysace linearifolia</i>			53
Plantae	Flora	Apiaceae	1162	<i>Xanthosia pilosa</i>		Woolly Xanthosia	10
Plantae	Flora	Apiaceae	1163	<i>Xanthosia tridentata</i>		Rock Xanthosia	27
Plantae	Flora	Apocynaceae	11047	<i>Araujia sericifera</i>	*	Moth Vine	11
Plantae	Flora	Apocynaceae	1224	<i>Asclepias curassavica</i>	*	Blood Flower	2
Plantae	Flora	Apocynaceae	1227	<i>Gomphocarpus fruticosus</i>	*	Narrow-leaved Cotton Bush	1
Plantae	Flora	Apocynaceae	1228	<i>Gomphocarpus physocarpus</i>	*	Balloon Cotton Bush	2
Plantae	Flora	Apocynaceae	1234	<i>Marsdenia rostrata</i>		Milk Vine	14
Plantae	Flora	Apocynaceae	1235	<i>Marsdenia suaveolens</i>		Scented Marsdenia	3
Plantae	Flora	Apocynaceae	10204	<i>Nerium oleander</i>	*	Oleander	16
Plantae	Flora	Apocynaceae	1185	<i>Parsonsia straminea</i>		Common Silkpod	12
Plantae	Flora	Apocynaceae	11702	<i>Plumeria rubra</i>	*	Frangipani	3
Plantae	Flora	Apocynaceae	PLMR	<i>Plumeria spp.</i>	*	Frangipani	3
Plantae	Flora	Apocynaceae	11745	<i>Trachelospermum jasminoides</i>	*		7
Plantae	Flora	Apocynaceae	1240	<i>Tylophora barbata</i>		Bearded Tylophora	14
Plantae	Flora	Apocynaceae	1189	<i>Vinca major</i>	*	Periwinkle	1
Plantae	Flora	Aquifoliaceae	1191	<i>Ilex aquifolium</i>	*	English Holly	1
Plantae	Flora	Araceae	8672	<i>Alocasia brisbanensis</i>		Cunjevoi	1
Plantae	Flora	Araceae	1194	<i>Colocasia esculenta</i>	*	Taro	1
Plantae	Flora	Araceae	COLC	<i>Colocasia spp.</i>	*		1
Plantae	Flora	Araceae	1195	<i>Gymnostachys anceps</i>		Settler's Twine	26
Plantae	Flora	Araceae	11289	<i>Monstera deliciosa</i>	*	Fruit Salad Plant	32
Plantae	Flora	Araceae	11329	<i>Philodendron bipinnatifidum</i>	*	Philodendron	4
Plantae	Flora	Araceae	PHIO	<i>Philodendron spp.</i>	*		2
Plantae	Flora	Araceae	1198	<i>Zantedeschia aethiopica</i>	*	Arum Lily	1
Plantae	Flora	Araliaceae	1201	<i>Astrotricha floccosa</i>			33
Plantae	Flora	Araliaceae	1202	<i>Astrotricha latifolia</i>			8
Plantae	Flora	Araliaceae	1207	<i>Hedera helix</i>	*	English Ivy	23
Plantae	Flora	Araliaceae	1211	<i>Polyscias sambucifolia</i>		Elderberry Panax	27
Plantae	Flora	Araliaceae	12373	<i>Polyscias sambucifolia subsp. sambucifolia</i>			11
Plantae	Flora	Araliaceae	8701	<i>Schefflera actinophylla</i>	*	Umbrella Tree	19
Plantae	Flora	Araliaceae	11728	<i>Schefflera arboricola</i>	*		1
Plantae	Flora	Araliaceae	1212	<i>Tetrapanax papyrifer</i>	*	Rice Paper Plant	1
Plantae	Flora	Araliaceae	1154	<i>Trachymene incisa</i>		Trachymene	1
Plantae	Flora	Araucariaceae	11794	<i>Agathis robusta</i>	*	Queensland Kauri	3

Plantae	Flora	Araucariaceae	1214	<i>Araucaria heterophylla</i>	*	Norfolk Island Pine	8
Plantae	Flora	Arecaceae	6458	<i>Archontophoenix cunninghamiana</i>		Bangalow Palm	P 25
Plantae	Flora	Arecaceae	11853	<i>Cocos nucifera</i>	*	Coconut Palm	2
Plantae	Flora	Arecaceae	11671	<i>Dypsis lutescens</i>	*	Yellow Butterfly Palm	3
Plantae	Flora	Arecaceae	11997	<i>Dypsis madagascariensis</i>	*		1
Plantae	Flora	Arecaceae	1218	<i>Howea forsteriana</i>		Kentia Palm	P 1
Plantae	Flora	Arecaceae	1221	<i>Livistona australis</i>		Cabbage Palm	P 186
Plantae	Flora	Arecaceae	13829	<i>Livistona chinensis</i>	*	Chinese fan palm	1
Plantae	Flora	Arecaceae	11354	<i>Phoenix canariensis</i>	*	Canary Island Date Palm	23
Plantae	Flora	Arecaceae	14501	<i>Rhapis excelsa</i>	*		3
Plantae	Flora	Arecaceae	11731	<i>Syagrus romanzoffiana</i>	*	Cocos Palm	14
Plantae	Flora	Arecaceae	11597	<i>Washingtonia robusta</i>	*	Washington Fan Palm	1
Plantae	Flora	Arecaceae	WASH	<i>Washingtonia spp.</i>	*		1
Plantae	Flora	Asparagaceae	3517	<i>Arthropodium milleflorum</i>		Pale Vanilla-lily	7
Plantae	Flora	Asparagaceae	3518	<i>Arthropodium minus</i>		Small Vanilla Lily	1
Plantae	Flora	Asparagaceae	11784	<i>Asparagus aethiopicus</i>	*	Asparagus Fern	154
Plantae	Flora	Asparagaceae	12136	<i>Asparagus africanus</i>	*		1
Plantae	Flora	Asparagaceae	3519	<i>Asparagus asparagoides</i>	*	Bridal Creeper	7
Plantae	Flora	Asparagaceae	3521	<i>Asparagus officinalis</i>	*	Asparagus	5
Plantae	Flora	Asparagaceae	11785	<i>Asparagus plumosus</i>	*	Climbing Asparagus Fern	9
Plantae	Flora	Asparagaceae	11918	<i>Dracaena marginata</i>	*		3
Plantae	Flora	Asparagaceae	13703	<i>Dracaena spp.</i>	*		1
Plantae	Flora	Asphodelaceae	1048	<i>Aloe arborescens</i>	*		1
Plantae	Flora	Asphodelaceae	7831	<i>Aloe maculata</i>	*	Common Soap Aloe	3
Plantae	Flora	Asphodelaceae	11778	<i>Aloe vera</i>	*		4
Plantae	Flora	Asphodelaceae	3540	<i>Dianella caerulea</i>		Blue Flax-lily	80
Plantae	Flora	Asphodelaceae	6811	<i>Dianella caerulea var. aspera</i>			7
Plantae	Flora	Asphodelaceae	6700	<i>Dianella caerulea var. caerulea</i>			7
Plantae	Flora	Asphodelaceae	7337	<i>Dianella caerulea var. producta</i>			68
Plantae	Flora	Asphodelaceae	7864	<i>Dianella congesta</i>			2
Plantae	Flora	Asphodelaceae	7783	<i>Dianella longifolia</i>		Blueberry Lily	2
Plantae	Flora	Asphodelaceae	8725	<i>Dianella longifolia var. lonaiifolia</i>			2
Plantae	Flora	Asphodelaceae	3542	<i>Dianella revoluta</i>		Blueberry Lily	10
Plantae	Flora	Asphodelaceae	7580	<i>Dianella revoluta var. revoluta</i>			4
Plantae	Flora	Asphodelaceae	DIAN	<i>Dianella spp.</i>			1
Plantae	Flora	Aspleniaceae	8031	<i>Asplenium australasicum</i>		Bird's Nest Fern	P 24
Plantae	Flora	Aspleniaceae	7415	<i>Asplenium difforme</i>			1
Plantae	Flora	Aspleniaceae	8033	<i>Asplenium flabellifolium</i>		Necklace Fern	3
Plantae	Flora	Aspleniaceae	8037	<i>Asplenium polyodon</i>		Sickle Spleenwort	P 1
Plantae	Flora	Asteliaceae	11423	<i>Cordyline australis</i>	*	Cabbage Tree	1
Plantae	Flora	Asteliaceae	CORD	<i>Cordyline spp.</i>			1
Plantae	Flora	Asteliaceae	1018	<i>Cordyline stricta</i>		Narrow-leaved Palm Lily	P 3
Plantae	Flora	Asteraceae	13920	<i>Actites megalocarpus</i>		Dune Thistle	3
Plantae	Flora	Asteraceae	1255	<i>Ageratina adenophora</i>	*	Crofton Weed	49
Plantae	Flora	Asteraceae	1256	<i>Ageratina riparia</i>	*	Mistflower	8
Plantae	Flora	Asteraceae	1258	<i>Ageratum houstonianum</i>	*		5
Plantae	Flora	Asteraceae	ASER	<i>Aster spp.</i>	*		1
Plantae	Flora	Asteraceae	1280	<i>Aster subulatus</i>	*	Wild Aster	2
Plantae	Flora	Asteraceae	ASTRC	<i>Asteraceae indeterminate</i>		Daisies	1
Plantae	Flora	Asteraceae	1283	<i>Bidens pilosa</i>	*	Cobbler's Pegs	78
Plantae	Flora	Asteraceae	1284	<i>Bidens subalternans</i>	*	Greater Beggar's Ticks	2
Plantae	Flora	Asteraceae	7218	<i>Brachyscome aculeata</i>		Hill Daisy	1
Plantae	Flora	Asteraceae	13832	<i>Brachyscome linearifolia</i>			4
Plantae	Flora	Asteraceae	1360	<i>Cassinia aculeata</i>		Dolly Bush	4
Plantae	Flora	Asteraceae	1364	<i>Cassinia compacta</i>			1
Plantae	Flora	Asteraceae	1366	<i>Cassinia denticulata</i>			1
Plantae	Flora	Asteraceae	14946	<i>Cassinia sifton</i>			1
Plantae	Flora	Asteraceae	1392	<i>Chrysanthemoides monilifera</i>	*		14
Plantae	Flora	Asteraceae	9400	<i>Chrysanthemoides monilifera subsp. monilifera</i>	*	Boneseed	16
Plantae	Flora	Asteraceae	8686	<i>Chrysanthemoides monilifera subsp. rotundata</i>	*	Bitou Bush	10
Plantae	Flora	Asteraceae	1399	<i>Cirsium arvense</i>	*	Perennial Thistle	1
Plantae	Flora	Asteraceae	CIRS	<i>Cirsium spp.</i>	*		1
Plantae	Flora	Asteraceae	1400	<i>Cirsium vulgare</i>	*	Spear Thistle	4
Plantae	Flora	Asteraceae	1404	<i>Conyza bonariensis</i>	*	Flaxleaf Fleabane	34

Plantae	Flora	Asteraceae	10138	<i>Conyza canadensis</i> var. <i>canadensis</i>	*	Canadian Fleabane	4
Plantae	Flora	Asteraceae	CONY	<i>Conyza</i> spp.	*		17
Plantae	Flora	Asteraceae	10442	<i>Conyza sumatrensis</i>	*	Tall fleabane	16
Plantae	Flora	Asteraceae	1409	<i>Coreopsis lanceolata</i>	*	Coreopsis	8
Plantae	Flora	Asteraceae	1412	<i>Cotula australis</i>	*	Common Cotula	3
Plantae	Flora	Asteraceae	1421	<i>Crassocephalum crepidioides</i>	*	Thickhead	5
Plantae	Flora	Asteraceae	15365	<i>Cyanthillium cinereum</i> var. <i>cinereum</i>	*		2
Plantae	Flora	Asteraceae	6454	<i>Delairea odorata</i>	*	Cape Ivy	5
Plantae	Flora	Asteraceae	14577	<i>Dimorphotheca ecklonis</i>	*	Cape Daisy	18
Plantae	Flora	Asteraceae	1432	<i>Dimorphotheca pluvialis</i>	*	Cape Marigold	1
Plantae	Flora	Asteraceae	1439	<i>Erechtites valerianifolia</i>	*	Brazilian Fireweed	2
Plantae	Flora	Asteraceae	11691	<i>Erigeron glaucus</i>	*	Seaside Fleabane	1
Plantae	Flora	Asteraceae	1441	<i>Erigeron karvinskianus</i>	*	Bony-tip Fleabane	15
Plantae	Flora	Asteraceae	EUCH	<i>Euchiton</i> spp.			4
Plantae	Flora	Asteraceae	1450	<i>Galinsoga parviflora</i>	*	Potato Weed	3
Plantae	Flora	Asteraceae	14493	<i>Gamochaeta coerctata</i>	*		2
Plantae	Flora	Asteraceae	12748	<i>Gamochaeta purpurea</i>	*	Purple Cudweed	6
Plantae	Flora	Asteraceae	11722	<i>Gamochaeta</i> spp.	*		3
Plantae	Flora	Asteraceae	9111	<i>Gazania rigens</i>	*		2
Plantae	Flora	Asteraceae	GAZA	<i>Gazania</i> spp.	*		2
Plantae	Flora	Asteraceae	1540	<i>Hypochaeris glabra</i>	*	Smooth Catsear	12
Plantae	Flora	Asteraceae	8788	<i>Hypochaeris radicata</i>	*	Catsear	20
Plantae	Flora	Asteraceae	1551	<i>Lagenifera stipitata</i>	*	Blue Bottle-daisy	3
Plantae	Flora	Asteraceae	11960	<i>Lagenophora stipitata</i>	*	Common Lagenophora	1
Plantae	Flora	Asteraceae	1560	<i>Leucanthemum vulgare</i>	*	Oxeye Daisy	1
Plantae	Flora	Asteraceae	1601	<i>Olearia microphylla</i>	*		1
Plantae	Flora	Asteraceae	1617	<i>Olearia tomentosa</i>	*	Toothed Daisy-bush	7
Plantae	Flora	Asteraceae	8884	<i>Onopordum acanthium</i> subsp. <i>acanthium</i>	*	Scotch Thistle	1
Plantae	Flora	Asteraceae	8557	<i>Ozothamnus diosmifolius</i>	*	White Dogwood	12
Plantae	Flora	Asteraceae	7780	<i>Pseudognaphalium luteoalbum</i>	*	Jersey Cudweed	2
Plantae	Flora	Asteraceae	6614	<i>Roldana petasitis</i>	*		2
Plantae	Flora	Asteraceae	11161	<i>Senecio angulatus</i>	*		1
Plantae	Flora	Asteraceae	1664	<i>Senecio hispidulus</i>	*	Hill Fireweed	6
Plantae	Flora	Asteraceae	1667	<i>Senecio linearifolius</i>	*	Fireweed Groundsel	1
Plantae	Flora	Asteraceae	6465	<i>Senecio madagascariensis</i>	*	Fireweed	9
Plantae	Flora	Asteraceae	12811	<i>Senecio pinnatifolius</i> var. <i>pinnatifolius</i>	*		1
Plantae	Flora	Asteraceae	SENE	<i>Senecio</i> spp.		Groundsel, Fireweed	2
Plantae	Flora	Asteraceae	10171	<i>Senecio tamoides</i>	*		1
Plantae	Flora	Asteraceae	11237	<i>Senecio vagus</i> subsp. <i>eglandulosus</i>	*		3
Plantae	Flora	Asteraceae	8789	<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>	*	Indian Weed	10
Plantae	Flora	Asteraceae	1686	<i>Soliva anthemifolia</i>	*	Dwarf Jo-jo	1
Plantae	Flora	Asteraceae	7851	<i>Soliva sessilis</i>	*	Bindyi	3
Plantae	Flora	Asteraceae	SOLV	<i>Soliva</i> spp.	*		1
Plantae	Flora	Asteraceae	1689	<i>Sonchus asper</i>	*	Prickly Sowthistle	2
Plantae	Flora	Asteraceae	1690	<i>Sonchus oleraceus</i>	*	Common Sowthistle	32
Plantae	Flora	Asteraceae	SONC	<i>Sonchus</i> spp.		Sowthistle	1
Plantae	Flora	Asteraceae	1695	<i>Tagetes minuta</i>	*	Stinking Roger	2
Plantae	Flora	Asteraceae	1698	<i>Taraxacum officinale</i>	*	Dandelion	13
Plantae	Flora	Asteraceae	TARA	<i>Taraxacum</i> spp.		Dandelion	1
Plantae	Flora	Asteraceae	6737	<i>Vittadinia cuneata</i> var. <i>cuneata</i>	*		1
Plantae	Flora	Balsaminaceae	11431	<i>Impatiens balsamina</i>	*	Spotted snapweed	1
Plantae	Flora	Balsaminaceae	IMPA	<i>Impatiens</i> spp.	*		1
Plantae	Flora	Balsaminaceae	9112	<i>Impatiens walleriana</i>	*		9
Plantae	Flora	Basellaceae	1733	<i>Anredera cordifolia</i>	*	Madeira Vine	8
Plantae	Flora	Betulaceae	11591	<i>Betula pendula</i>	*	European White Birch	1
Plantae	Flora	Bignoniaceae	8688	<i>Jacaranda mimosifolia</i>	*	Jacaranda	29
Plantae	Flora	Bignoniaceae	1739	<i>Pandorea jasminoides</i>	*	Bower Vine	2
Plantae	Flora	Bignoniaceae	1740	<i>Pandorea pandorana</i>	*	Wonga Wonga Vine	124
Plantae	Flora	Bignoniaceae	10485	<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	*	Wonga Wonga Vine	1
Plantae	Flora	Bignoniaceae	10205	<i>Tecoma capensis</i>	*	Cape Honeysuckle	2
Plantae	Flora	Bignoniaceae	10206	<i>Tecoma stans</i>	*	Yellow Bignonia	2
Plantae	Flora	Blandfordiaceae	3529	<i>Blandfordia nobilis</i>		Christmas Bells	P 1
Plantae	Flora	Blechnaceae	8050	<i>Blechnum ambiguum</i>			2
Plantae	Flora	Blechnaceae	8052	<i>Blechnum cartilagineum</i>		Gristle Fern	31

Plantae	Flora	Blechnaceae	14900	<i>Blechnum neohollandicum</i>		34
Plantae	Flora	Blechnaceae	8058	<i>Blechnum nudum</i>	Fishbone Water Fern	2
Plantae	Flora	Blechnaceae	8060	<i>Blechnum patersonii</i>	Strap Water Fern	1
Plantae	Flora	Blechnaceae	14901	<i>Blechnum spinulosum</i>	Small Rasp Fern	1
Plantae	Flora	Blechnaceae	BLEC	<i>Blechnum</i> spp.		2
Plantae	Flora	Blechnaceae	14930	<i>Telmatoblechnum indicum</i>	Swamp Water Fern	1
Plantae	Flora	Boraginaceae	7370	<i>Ehretia acuminata</i> var. <i>acuminata</i>	Koda	1
Plantae	Flora	Boraginaceae	1758	<i>Heliotropium amplexicaule</i> *	Blue Heliotrope	1
Plantae	Flora	Brassicaceae	BRAS	<i>Brassica</i> spp.	Brassica	5
Plantae	Flora	Brassicaceae	1791	<i>Cakile edentula</i> *	American Sea Rocket	6
Plantae	Flora	Brassicaceae	1792	<i>Cakile maritima</i> *	Sea Rocket	2
Plantae	Flora	Brassicaceae	1794	<i>Capsella bursa-pastoris</i> *	Shepherd's Purse	1
Plantae	Flora	Brassicaceae	1795	<i>Cardamine hirsuta</i> *	Common Bittercress	5
Plantae	Flora	Brassicaceae	1833	<i>Lobularia maritima</i> *	Sweet Alyssum	1
Plantae	Flora	Bromeliaceae	BILB	<i>Billbergia</i> spp.		2
Plantae	Flora	Bromeliaceae	11800	<i>Neoregelia carolinae</i> *		1
Plantae	Flora	Buxaceae	11688	<i>Buxus microphylla</i> *		3
Plantae	Flora	Buxaceae	13709	<i>Buxus</i> spp.		1
Plantae	Flora	Cactaceae	1875	<i>Opuntia stricta</i> *	Common Prickly Pear	1
Plantae	Flora	Campanulaceae	10465	<i>Lobelia anceps</i>		3
Plantae	Flora	Campanulaceae	14464	<i>Lobelia andrewsii</i>	Trailing Lobelia	3
Plantae	Flora	Campanulaceae	7072	<i>Lobelia dentata</i>		1
Plantae	Flora	Campanulaceae	14415	<i>Lobelia purpurascens</i>	whiteroot	62
Plantae	Flora	Campanulaceae	1934	<i>Wahlenbergia gracilis</i>	Sprawling Bluebell	6
Plantae	Flora	Cannaceae	1941	<i>Canna indica</i> *	Tous-les-mois Arrowroot	13
Plantae	Flora	Caprifoliaceae	10755	<i>Abelia x grandiflora</i> *		1
Plantae	Flora	Caprifoliaceae	1952	<i>Lonicera japonica</i> *	Japanese Honeysuckle	29
Plantae	Flora	Caricaceae	11760	<i>Carica papaya</i> *	Papaya, Pawpaw	1
Plantae	Flora	Caryophyllaceae	1960	<i>Cerastium glomeratum</i> *	Mouse-ear Chickweed	3
Plantae	Flora	Caryophyllaceae	10550	<i>Cerastium vulgare</i> *	Mouse-ear Chickweed	1
Plantae	Flora	Caryophyllaceae	1979	<i>Polycarpon tetraphyllum</i> *	Four-leaved Allseed	2
Plantae	Flora	Caryophyllaceae	7020	<i>Silene gallica</i> var. <i>gallica</i> *	French Catchfly	1
Plantae	Flora	Caryophyllaceae	2006	<i>Stellaria media</i> *	Common Chickweed	10
Plantae	Flora	Caryophyllaceae	STEL	<i>Stellaria</i> spp.	Prickly Starwort	1
Plantae	Flora	Casuarinaceae	2010	<i>Allocasuarina distyla</i>		65
Plantae	Flora	Casuarinaceae	2012	<i>Allocasuarina littoralis</i>	Black She-Oak	85
Plantae	Flora	Casuarinaceae	2014	<i>Allocasuarina nana</i>	Dwarf She-oak	1
Plantae	Flora	Casuarinaceae	2015	<i>Allocasuarina paludosa</i>		1
Plantae	Flora	Casuarinaceae	ALLC	<i>Allocasuarina</i> spp.		3
Plantae	Flora	Casuarinaceae	2017	<i>Allocasuarina torulosa</i>	Forest Oak	211
Plantae	Flora	Casuarinaceae	2018	<i>Allocasuarina verticillata</i>	Drooping Sheoak	6
Plantae	Flora	Casuarinaceae	9006	<i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i>	River Oak	2
Plantae	Flora	Casuarinaceae	2022	<i>Casuarina glauca</i>	Swamp Oak	36
Plantae	Flora	Casuarinaceae	CASU	<i>Casuarina</i> spp.		8
Plantae	Flora	Celastraceae	14670	<i>Denhamia silvestris</i>	Narrow-leaved Orangebark	9
Plantae	Flora	Celastraceae	2029	<i>Elaeodendron australe</i>		2
Plantae	Flora	Celastraceae	12523	<i>Elaeodendron australe</i> var. <i>australe</i>		4
Plantae	Flora	Chenopodiaceae	2046	<i>Atriplex australasica</i>		1
Plantae	Flora	Chenopodiaceae	1000	<i>Atriplex cinerea</i>	Grey Saltbush	2
Plantae	Flora	Chenopodiaceae	2084	<i>Chenopodium album</i> *	Fat Hen	1
Plantae	Flora	Chenopodiaceae	2111	<i>Einadia nutans</i>	Climbing Saltbush	1
Plantae	Flora	Chenopodiaceae	2113	<i>Einadia trigonos</i>	Fishweed	1
Plantae	Flora	Chenopodiaceae	7808	<i>Rhagodia candolleana</i> subsp. <i>candolleana</i>		6
Plantae	Flora	Chenopodiaceae	7923	<i>Salsola kali</i> var. <i>kali</i>	Buckbush	1

Plantae	Flora	Chenopodiaceae	9423	<i>Sarcocornia quinqueflora</i>			3
				<i>subsp. quinqueflora</i>			
Plantae	Flora	Chenopodiaceae	2200	<i>Suaeda australis</i>			3
Plantae	Flora	Colchicaceae	3533	<i>Burchardia umbellata</i>		Milkmaids	5
Plantae	Flora	Commelinaceae	2207	<i>Aneilema biflorum</i>			1
Plantae	Flora	Commelinaceae	2209	<i>Commelina cyanea</i>		Native Wandering Jew	77
Plantae	Flora	Commelinaceae	10508	<i>Tradescantia fluminensis</i>	*	Wandering Jew	59
Plantae	Flora	Commelinaceae	12262	<i>Tradescantia pallida</i>	*	Purple Queen	1
Plantae	Flora	Commelinaceae	8969	<i>Tradescantia zebrina</i>	*	Silvery Inch Plant	1
Plantae	Flora	Convallariaceae	11328	<i>Ophiopogon japonicus</i>	*	Dwarf lilyturf	1
Plantae	Flora	Convolvulaceae	2218	<i>Calystegia soldanella</i>			7
Plantae	Flora	Convolvulaceae	2220	<i>Convolvulus erubescens</i>		Pink Bindweed	1
Plantae	Flora	Convolvulaceae	2286	<i>Cuscuta australis</i>		Australian Dodder	1
Plantae	Flora	Convolvulaceae	2287	<i>Cuscuta campestris</i>	*	Golden Dodder	1
Plantae	Flora	Convolvulaceae	CUSC	<i>Cuscuta spp.</i>		Dodder	1
Plantae	Flora	Convolvulaceae	2222	<i>Dichondra repens</i>		Kidney Weed	56
Plantae	Flora	Convolvulaceae	2225	<i>Ipomoea cairica</i>	*		6
Plantae	Flora	Convolvulaceae	2227	<i>Ipomoea indica</i>	*	Morning Glory	38
Plantae	Flora	Convolvulaceae	IPOM	<i>Ipomoea spp.</i>			1
Plantae	Flora	Convolvulaceae	2231	<i>Polymeria calycina</i>			1
Plantae	Flora	Crassulaceae	8813	<i>Bryophyllum delagoense</i>	*	Mother of millions	21
Plantae	Flora	Crassulaceae	6827	<i>Bryophyllum pinnatum</i>	*	Resurrection Plant	3
Plantae	Flora	Crassulaceae	2240	<i>Crassula multicava</i>	*		5
Plantae	Flora	Crassulaceae	11780	<i>Crassula ovata</i>	*	Jade Plant	3
Plantae	Flora	Crassulaceae	9933	<i>Crassula sarmentosa var. sarmentosa</i>	*		1
Plantae	Flora	Crassulaceae	6840	<i>Sedum praealtum</i>	*		1
Plantae	Flora	Cucurbitaceae	2255	<i>Cucurbita maxima</i>	*	Ironbark Pumpkin	1
Plantae	Flora	Cucurbitaceae	2260	<i>Sechium edule</i>	*	Choko	1
Plantae	Flora	Cunoniaceae	7219	<i>Bauera microphylla</i>			3
Plantae	Flora	Cunoniaceae	2268	<i>Bauera rubioides</i>		River Rose	13
Plantae	Flora	Cunoniaceae	2270	<i>Callicoma serratifolia</i>		Black Wattle	4
Plantae	Flora	Cunoniaceae	2271	<i>Ceratopetalum apetalum</i>		Coachwood	9
Plantae	Flora	Cunoniaceae	2272	<i>Ceratopetalum aummiferum</i>		Christmas Bush	27
Plantae	Flora	Cunoniaceae	2275	<i>Schizomeria ovata</i>		Crabapple	2
Plantae	Flora	Cupressaceae	2282	<i>Callitris muelleri</i>			1
Plantae	Flora	Cupressaceae	11428	<i>Cupressus spp.</i>	*		4
Plantae	Flora	Cupressaceae	11361	<i>Juniperus spp.</i>	*	Juniper	1
Plantae	Flora	Cyatheaceae	8074	<i>Cyathea australis</i>		Rough Treefern	P 18
Plantae	Flora	Cyatheaceae	8076	<i>Cyathea cooperi</i>		Straw Treefern	P 21
Plantae	Flora	Cyatheaceae	8079	<i>Cyathea leichhardtiana</i>		Prickly Treefern	P 2
Plantae	Flora	Cyatheaceae	CYAT	<i>Cyathea spp.</i>			P 2
Plantae	Flora	Cycadaceae	11751	<i>Cycas revoluta</i>	*		2
Plantae	Flora	Cyperaceae	8856	<i>Abildgaardia ovata</i>			1
Plantae	Flora	Cyperaceae	2305	<i>Bolboschoenus caldwellii</i>			1
Plantae	Flora	Cyperaceae	BOLB	<i>Bolboschoenus spp.</i>			1
Plantae	Flora	Cyperaceae	2310	<i>Carex appressa</i>		Tall Sedge	1
Plantae	Flora	Cyperaceae	2313	<i>Carex breviculmis</i>			1
Plantae	Flora	Cyperaceae	2327	<i>Carex inversa</i>		Knob Sedge	3
Plantae	Flora	Cyperaceae	2331	<i>Carex longibrachiata</i>			4
Plantae	Flora	Cyperaceae	2335	<i>Carex pumila</i>			1
Plantae	Flora	Cyperaceae	CARE	<i>Carex spp.</i>			4
Plantae	Flora	Cyperaceae	2341	<i>Caustis flexuosa</i>		Curly Wig	P 26
Plantae	Flora	Cyperaceae	2342	<i>Caustis pentandra</i>		Thick Twist Rush	P 15
Plantae	Flora	Cyperaceae	2347	<i>Cyathochaeta diandra</i>			27
Plantae	Flora	Cyperaceae	8845	<i>Cyperus aggregatus</i>	*		1
Plantae	Flora	Cyperaceae	2353	<i>Cyperus brevifolius</i>	*		1
Plantae	Flora	Cyperaceae	2358	<i>Cyperus congestus</i>	*		1
Plantae	Flora	Cyperaceae	2364	<i>Cyperus eragrostis</i>	*	Umbrella Sedge	10
Plantae	Flora	Cyperaceae	2374	<i>Cyperus gracilis</i>		Slender Flat-sedge	4
Plantae	Flora	Cyperaceae	2380	<i>Cyperus laevis</i>			1
Plantae	Flora	Cyperaceae	8483	<i>Cyperus polystachyos</i>			4
Plantae	Flora	Cyperaceae	2393	<i>Cyperus rotundus</i>	*	Nutgrass	1
Plantae	Flora	Cyperaceae	2398	<i>Cyperus sesquiflorus</i>	*		2
Plantae	Flora	Cyperaceae	CYPE	<i>Cyperus spp.</i>			4
Plantae	Flora	Cyperaceae	12416	<i>Ficinia nodosa</i>		Knobby Club-rush	12
Plantae	Flora	Cyperaceae	7435	<i>Fimbristylis dichotoma</i>		Common Fringe-sedge	1
Plantae	Flora	Cyperaceae	2431	<i>Gahnia aspera</i>		Rough Saw-sedge	16
Plantae	Flora	Cyperaceae	2432	<i>Gahnia clarkei</i>		Tall Saw-sedge	13
Plantae	Flora	Cyperaceae	2433	<i>Gahnia erythrocarpa</i>			3
Plantae	Flora	Cyperaceae	2439	<i>Gahnia melanocarpa</i>		Black Fruit Saw-sedge	29

Plantae	Flora	Cyperaceae	2441	<i>Gahnia radula</i>			7
Plantae	Flora	Cyperaceae	2442	<i>Gahnia sieberiana</i>	Red-fruit Saw-sedge	P	16
Plantae	Flora	Cyperaceae	GAHN	<i>Gahnia</i> spp.			9
Plantae	Flora	Cyperaceae	2445	<i>Gymnoschoenus sphaerocephalus</i>	Button Grass		1
Plantae	Flora	Cyperaceae	2454	<i>Isolepis inundata</i>	Club-rush		2
Plantae	Flora	Cyperaceae	8380	<i>Lepidosperma concavum</i>			6
Plantae	Flora	Cyperaceae	8379	<i>Lepidosperma elatius</i>			11
Plantae	Flora	Cyperaceae	12903	<i>Lepidosperma ensiforme</i>	*		1
Plantae	Flora	Cyperaceae	2465	<i>Lepidosperma filiforme</i>			12
Plantae	Flora	Cyperaceae	2467	<i>Lepidosperma forsythii</i>			1
Plantae	Flora	Cyperaceae	8749	<i>Lepidosperma gunnii</i>			1
Plantae	Flora	Cyperaceae	6402	<i>Lepidosperma laterale</i>	Variable Sword-sedge		74
Plantae	Flora	Cyperaceae	LEPD	<i>Lepidosperma</i> spp.			1
Plantae	Flora	Cyperaceae	11028	<i>Lepidosperma viscidum</i>			5
Plantae	Flora	Cyperaceae	15318	<i>Machaerina acuta</i>	Pale Twig-rush		2
Plantae	Flora	Cyperaceae	15323	<i>Machaerina juncea</i>	Bare Twig-rush		6
Plantae	Flora	Cyperaceae	15325	<i>Machaerina nuda</i>			1
Plantae	Flora	Cyperaceae	MACH	<i>Machaerina</i> spp.			1
Plantae	Flora	Cyperaceae	8956	<i>Ptilothrix deusta</i>			7
Plantae	Flora	Cyperaceae	2491	<i>Schoenus apogon</i>	Fluke Bogrush		1
Plantae	Flora	Cyperaceae	2492	<i>Schoenus brevifolius</i>			3
Plantae	Flora	Cyperaceae	2495	<i>Schoenus ericetorum</i>			4
Plantae	Flora	Cyperaceae	2496	<i>Schoenus imberbis</i>			12
Plantae	Flora	Cyperaceae	9057	<i>Schoenus lepidosperma</i> subsp. <i>pachylepis</i>			2
Plantae	Flora	Cyperaceae	2500	<i>Schoenus melanostachys</i>			14
Plantae	Flora	Cyperaceae	2501	<i>Schoenus moorei</i>			1
Plantae	Flora	Cyperaceae	2504	<i>Schoenus paludosus</i>			1
Plantae	Flora	Cyperaceae	2516	<i>Tetragia capillaris</i>			2
Plantae	Flora	Cyperaceae	2518	<i>Tricostularia pauciflora</i>			3
Plantae	Flora	Davalliaceae	8086	<i>Arthropteris tenella</i>			2
Plantae	Flora	Davalliaceae	10647	<i>Davallia solida</i> var. <i>pyxidata</i>	Hare's Foot Fern		10
Plantae	Flora	Davalliaceae	8088	<i>Nephrolepis cordifolia</i>	Fishbone Fern		76
Plantae	Flora	Davalliaceae	8089	<i>Rumohra adiantiformis</i>			1
Plantae	Flora	Dennstaedtiaceae	7271	<i>Histiopteris incisa</i>	Bat's Wing Fern		3
Plantae	Flora	Dennstaedtiaceae	7749	<i>Hypolepis muelleri</i>	Harsh Ground Fern		17
Plantae	Flora	Dennstaedtiaceae	6403	<i>Pteridium esculentum</i>	Bracken		161
Plantae	Flora	Dicksoniaceae	8341	<i>Calochlaena dubia</i>	Rainbow Fern		79
Plantae	Flora	Dicksoniaceae	8082	<i>Dicksonia antarctica</i>	Soft Treefern	P	2
Plantae	Flora	Dilleniaceae	2527	<i>Hibbertia aspera</i>	Rough Guinea Flower		10
Plantae	Flora	Dilleniaceae	2528	<i>Hibbertia bracteata</i>			10
Plantae	Flora	Dilleniaceae	8349	<i>Hibbertia circumdans</i>			2
Plantae	Flora	Dilleniaceae	2532	<i>Hibbertia dentata</i>	Twining Guinea Flower		45
Plantae	Flora	Dilleniaceae	2533	<i>Hibbertia diffusa</i>	Wedge Guinea Flower		2
Plantae	Flora	Dilleniaceae	10863	<i>Hibbertia empetrifolia</i> subsp. <i>empetrifolia</i>			34
Plantae	Flora	Dilleniaceae	2536	<i>Hibbertia fasciculata</i>			2
Plantae	Flora	Dilleniaceae	2539	<i>Hibbertia linearis</i>			4
Plantae	Flora	Dilleniaceae	2540	<i>Hibbertia monogyna</i>			10
Plantae	Flora	Dilleniaceae	2541	<i>Hibbertia nitida</i>			3
Plantae	Flora	Dilleniaceae	2542	<i>Hibbertia obtusifolia</i>	Hoary Guinea Flower		7
Plantae	Flora	Dilleniaceae	2545	<i>Hibbertia riparia</i>			3
Plantae	Flora	Dilleniaceae	2546	<i>Hibbertia rufa</i>	Brown Guinea Flower		1
Plantae	Flora	Dilleniaceae	2548	<i>Hibbertia scandens</i>	Climbing Guinea Flower		30
Plantae	Flora	Dilleniaceae	HIBB	<i>Hibbertia</i> spp.			3
Plantae	Flora	Doryanthaceae	1019	<i>Doryanthes excelsa</i>	Gynea Lily	P	7
Plantae	Flora	Droseraceae	2556	<i>Drosera auriculata</i>			3
Plantae	Flora	Droseraceae	2557	<i>Drosera binata</i>	Forked Sundew		4
Plantae	Flora	Droseraceae	2559	<i>Drosera peltata</i>			4
Plantae	Flora	Droseraceae	2560	<i>Drosera pygmaea</i>	Pymgy Sundew		1
Plantae	Flora	Droseraceae	2561	<i>Drosera spatulata</i>			9
Plantae	Flora	Droseraceae	DROS	<i>Drosera</i> spp.			1
Plantae	Flora	Dryopteridaceae	8012	<i>Arachniodes aristata</i>	Prickly Shield Fern		1
Plantae	Flora	Dryopteridaceae	12350	<i>Cyrtomium falcatum</i> 'Rochfordii'	Holly Fern	*	4
Plantae	Flora	Dryopteridaceae	8015	<i>Lastreopsis decomposita</i>	Trim Shield Fern		5
Plantae	Flora	Dryopteridaceae	11102	<i>Lastreopsis microsora</i> subsp. <i>microsora</i>	Creeping Shield Fern		3

Plantae	Flora	Dryopteridaceae	8023	<i>Polystichum australiense</i>	Harsh Shield Fern		3
Plantae	Flora	Ebenaceae	2562	<i>Diospyros australis</i>	Black Plum		14
Plantae	Flora	Elaeocarpaceae	2574	<i>Elaeocarpus reticulatus</i>	Blueberry Ash		132
Plantae	Flora	Elaeocarpaceae	6204	<i>Tetratheca ericifolia</i>			14
Plantae	Flora	Elaeocarpaceae	TETA	<i>Tetratheca spp.</i>			1
Plantae	Flora	Elaeocarpaceae	6214	<i>Tetratheca thymifolia</i>	Black-eyed Susan		2
Plantae	Flora	Ericaceae	2581	<i>Acrotriche divaricata</i>			11
Plantae	Flora	Ericaceae	11592	<i>Arbutus unedo</i>	*	Strawberry Tree	1
Plantae	Flora	Ericaceae	2584	<i>Astroloma humifusum</i>	Native Cranberry		1
Plantae	Flora	Ericaceae	2585	<i>Astroloma pinifolium</i>	Pine Heath		1
Plantae	Flora	Ericaceae	2586	<i>Brachyloma daphnoides</i>	Daphne Heath		2
Plantae	Flora	Ericaceae	2598	<i>Epacris longiflora</i>	Fuchsia Heath		10
Plantae	Flora	Ericaceae	2599	<i>Epacris microphylla</i>	Coral Heath		39
Plantae	Flora	Ericaceae	2602	<i>Epacris obtusifolia</i>	Blunt-leaf Heath		3
Plantae	Flora	Ericaceae	2605	<i>Epacris pulchella</i>	Wallum Heath		28
Plantae	Flora	Ericaceae	EPAC	<i>Epacris spp.</i>			1
Plantae	Flora	Ericaceae	2610	<i>Leucopogon amplexicaulis</i>	Beard-heath		1
Plantae	Flora	Ericaceae	2611	<i>Leucopogon appressus</i>			2
Plantae	Flora	Ericaceae	2616	<i>Leucopogon ericoides</i>	Pink Beard-heath		6
Plantae	Flora	Ericaceae	2617	<i>Leucopogon esquamatus</i>			23
Plantae	Flora	Ericaceae	2623	<i>Leucopogon juniperinus</i>	Prickly Beard-heath		17
Plantae	Flora	Ericaceae	2624	<i>Leucopogon lanceolatus</i>			2
Plantae	Flora	Ericaceae	12936	<i>Leucopogon lanceolatus</i> subsp. group E			1
Plantae	Flora	Ericaceae	2629	<i>Leucopogon microphyllus</i>			22
Plantae	Flora	Ericaceae	7216	<i>Leucopogon microphyllus</i> var. <i>microphyllus</i>			5
Plantae	Flora	Ericaceae	2632	<i>Leucopogon parviflorus</i>	Coastal Beard-heath		6
Plantae	Flora	Ericaceae	2639	<i>Leucopogon virgatus</i>			1
Plantae	Flora	Ericaceae	2642	<i>Lissanthe strigosa</i>	Peach Heath		2
Plantae	Flora	Ericaceae	10713	<i>Lissanthe strigosa</i> subsp. <i>striaosa</i>			1
Plantae	Flora	Ericaceae	11108	<i>Lissanthe strigosa</i> subsp. <i>subulata</i>	Peach Heath		1
Plantae	Flora	Ericaceae	2647	<i>Monotoca elliptica</i>	Tree Broom-heath		14
Plantae	Flora	Ericaceae	2649	<i>Monotoca scoparia</i>			13
Plantae	Flora	Ericaceae	RDND	<i>Rhododendron spp.</i>	*	Rhododendron, Azalea	2
Plantae	Flora	Ericaceae	2654	<i>Sprengelia incarnata</i>	Pink Swamp Heath	P	1
Plantae	Flora	Ericaceae	12949	<i>Sprengelia incarnata</i> f. <i>'incarnata'</i>		P	1
Plantae	Flora	Ericaceae	2655	<i>Sprengelia sprengelioides</i>			1
Plantae	Flora	Ericaceae	10193	<i>Styphelia laeta</i> subsp. <i>latifolia</i>			1
Plantae	Flora	Ericaceae	2659	<i>Styphelia longifolia</i>			2
Plantae	Flora	Ericaceae	2660	<i>Styphelia triflora</i>	Pink Five-Corners		1
Plantae	Flora	Ericaceae	12953	<i>Styphelia triflora</i> subsp. group C			1
Plantae	Flora	Ericaceae	2661	<i>Styphelia tubiflora</i>	Red Five-Corner		6
Plantae	Flora	Ericaceae	2663	<i>Trochocarpa laurina</i>	Tree Heath		13
Plantae	Flora	Ericaceae	2664	<i>Woollsia pungens</i>			18
Plantae	Flora	Escalloniaceae	3220	<i>Abrophyllum ornans</i>	Native Hydrangea		1
Plantae	Flora	Euphorbiaceae	9705	<i>Acalypha australis</i>	*		1
Plantae	Flora	Euphorbiaceae	11367	<i>Acalypha wilkesiana</i>	*	Redleaf	4
Plantae	Flora	Euphorbiaceae	2677	<i>Amperea xiphochlada</i>			2
Plantae	Flora	Euphorbiaceae	9713	<i>Amperea xiphochlada</i> var. <i>xiphochlada</i>			2
Plantae	Flora	Euphorbiaceae	7159	<i>Bertya brownii</i>			1
Plantae	Flora	Euphorbiaceae	9851	<i>Chamaesyce psammogeton</i>	Sand Spurge	E1	2
Plantae	Flora	Euphorbiaceae	2698	<i>Claoxylon australe</i>	Brittlewood		1
Plantae	Flora	Euphorbiaceae	2721	<i>Euphorbia peplus</i>	*	Petty Spurge	11
Plantae	Flora	Euphorbiaceae	2723	<i>Euphorbia prostrata</i>	*	Red Caustic Weed	1
Plantae	Flora	Euphorbiaceae	11325	<i>Euphorbia pulcherrima</i>	*	Poinsettia	1
Plantae	Flora	Euphorbiaceae	11947	<i>Homalanthus populifolius</i>			39
Plantae	Flora	Euphorbiaceae	2759	<i>Ricinocarpus pinifolius</i>	Wedding Bush		6
Plantae	Flora	Euphorbiaceae	2761	<i>Ricinus communis</i>	*	Castor Oil Plant	2
Plantae	Flora	Eupomatiaceae	2768	<i>Eupomatia laurina</i>	Bolwarra		23
Plantae	Flora	Fabaceae (Caesalpinioideae		<i>Bauhinia spp.</i>	*		1
Plantae	Flora	Fabaceae (Caesalpinioideae	1879	<i>Caesalpinia gilliesii</i>	*	Bird-of-paradise Shrub	1



Plantae	Flora	Fabaceae (Caesalpinioideae)	1901	<i>Gleditsia triacanthos</i>	*	Honey Locust	1
Plantae	Flora	Fabaceae (Caesalpinioideae)	14602	<i>Senna barronfieldii</i>			4
Plantae	Flora	Fabaceae (Caesalpinioideae)	7377	<i>Senna pendula</i> var. <i>glabrata</i>	*		79
Plantae	Flora	Fabaceae (Caesalpinioideae)	10505	<i>Senna septemtrionalis</i>	*	Arsenic Bush	10
Plantae	Flora	Fabaceae (Faboideae)	2770	<i>Aotus ericoides</i>			6
Plantae	Flora	Fabaceae (Faboideae)	2771	<i>Aotus lanigera</i>			1
Plantae	Flora	Fabaceae (Faboideae)	2778	<i>Bossiaea ensata</i>		Sword Bossiaea	8
Plantae	Flora	Fabaceae (Faboideae)	2780	<i>Bossiaea heterophylla</i>		Variable Bossiaea	20
Plantae	Flora	Fabaceae (Faboideae)	2789	<i>Bossiaea scolopendria</i>			13
Plantae	Flora	Fabaceae (Faboideae)	7248	<i>Canavalia rosea</i>		Coastal Jack Bean	2
Plantae	Flora	Fabaceae (Faboideae)	2796	<i>Castanospermum australe</i>		Black Bean	4
Plantae	Flora	Fabaceae (Faboideae)	2797	<i>Chorizema parviflorum</i>		Eastern Flame Pea	1
Plantae	Flora	Fabaceae (Faboideae)	11075	<i>Cytisus scoparius</i> subsp. <i>scoparius</i>	*	English Broom	4
Plantae	Flora	Fabaceae (Faboideae)	2831	<i>Daviesia alata</i>			3
Plantae	Flora	Fabaceae (Faboideae)	2827	<i>Daviesia ulicifolia</i>		Gorse Bitter Pea	5
Plantae	Flora	Fabaceae (Faboideae)	10830	<i>Daviesia ulicifolia</i> subsp. <i>stenophylla</i>			1
Plantae	Flora	Fabaceae (Faboideae)	2828	<i>Daviesia umbellulata</i>			1
Plantae	Flora	Fabaceae (Faboideae)	DESM	<i>Desmodium</i> spp.		Tick-trefoil	1
Plantae	Flora	Fabaceae (Faboideae)	8824	<i>Desmodium uncinatum</i>	*	Silver-leaved Desmodium	1
Plantae	Flora	Fabaceae (Faboideae)	2841	<i>Dillwynia acicularis</i>			1
Plantae	Flora	Fabaceae (Faboideae)	2843	<i>Dillwynia floribunda</i>			8
Plantae	Flora	Fabaceae (Faboideae)	2850	<i>Dillwynia retorta</i>			32
Plantae	Flora	Fabaceae (Faboideae)	7950	<i>Dillwynia rudis</i>			1
Plantae	Flora	Fabaceae (Faboideae)	8734	<i>Dillwynia sieberi</i>			1
Plantae	Flora	Fabaceae (Faboideae)	9357	<i>Erythrina crista-galli</i>	*	Cockspur Coral Tree	4
Plantae	Flora	Fabaceae (Faboideae)	ERYH	<i>Erythrina</i> spp.			4
Plantae	Flora	Fabaceae (Faboideae)	8689	<i>Erythrina x sykesii</i>	*	Coral tree	16
Plantae	Flora	Fabaceae (Faboideae)	2856	<i>Genista linifolia</i>	*	Flaxleaf Broom	1
Plantae	Flora	Fabaceae (Faboideae)	2858	<i>Genista monspessulana</i>	*	Montpellier Broom	1
Plantae	Flora	Fabaceae (Faboideae)	2860	<i>Glycine clandestina</i>		Twining glycine	42
Plantae	Flora	Fabaceae (Faboideae)	7208	<i>Glycine microphylla</i>		Small-leaf Glycine	13
Plantae	Flora	Fabaceae (Faboideae)	2861	<i>Glycine tabacina</i>		Variable Glycine	21
Plantae	Flora	Fabaceae (Faboideae)	2864	<i>Gompholobium glabratum</i>		Dainty Wedge Pea	3
Plantae	Flora	Fabaceae (Faboideae)	2865	<i>Gompholobium arandiflorum</i>		Large Wedge Pea	13
Plantae	Flora	Fabaceae (Faboideae)	2866	<i>Gompholobium latifolium</i>		Golden Glory Pea	15
Plantae	Flora	Fabaceae (Faboideae)	2867	<i>Gompholobium minus</i>		Dwarf Wedge Pea	4
Plantae	Flora	Fabaceae (Faboideae)	15314	<i>Grona varians</i>			11
Plantae	Flora	Fabaceae (Faboideae)	2873	<i>Hardenbergia violacea</i>		False Sarsaparilla	51
Plantae	Flora	Fabaceae (Faboideae)	11015	<i>Hovea heterophylla</i>			2
Plantae	Flora	Fabaceae (Faboideae)	2876	<i>Hovea linearis</i>			10
Plantae	Flora	Fabaceae (Faboideae)	2882	<i>Indigofera australis</i>		Australian Indigo	2

Plantae	Flora	Fabaceae (Faboideae)	2892	<i>Jacksonia scoparia</i>	Dogwood	7
Plantae	Flora	Fabaceae (Faboideae)	2896	<i>Kennedia prostrata</i>	Running Postman	2
Plantae	Flora	Fabaceae (Faboideae)	2898	<i>Kennedia rubicunda</i>	Dusky Coral Pea	38
Plantae	Flora	Fabaceae (Faboideae)	2905	<i>Lotus angustissimus</i>	* Slender Birds-foot Trefoil	1
Plantae	Flora	Fabaceae (Faboideae)	2912	<i>Lupinus cosentinii</i>	* Sandplain Lupin	1
Plantae	Flora	Fabaceae (Faboideae)	15369	<i>Maekawaea rhytidophylla</i>		18
Plantae	Flora	Fabaceae (Faboideae)	2920	<i>Medicago minima</i>	* Woolly Burr Medic	1
Plantae	Flora	Fabaceae (Faboideae)	2922	<i>Medicago polymorpha</i>	* Burr Medic	2
Plantae	Flora	Fabaceae (Faboideae)	2924	<i>Medicago sativa</i>	* Lucerne	1
Plantae	Flora	Fabaceae (Faboideae)	2938	<i>Mirbelia rubiifolia</i>	Heathy Mirbelia	14
Plantae	Flora	Fabaceae (Faboideae)	2939	<i>Mirbelia speciosa</i>		1
Plantae	Flora	Fabaceae (Faboideae)	2949	<i>Oxylobium cordifolium</i>	Heart-leaved Shaggy Pea	2
Plantae	Flora	Fabaceae (Faboideae)	15128	<i>Oxytes brachypoda</i>	Large Tick-trefoil	3
Plantae	Flora	Fabaceae (Faboideae)	2956	<i>Phyllota grandiflora</i>	Heath Phyllota	15
Plantae	Flora	Fabaceae (Faboideae)	2958	<i>Phyllota phylloides</i>	Heath Phyllota	28
Plantae	Flora	Fabaceae (Faboideae)	2961	<i>Platylobium formosum</i>		42
Plantae	Flora	Fabaceae (Faboideae)	14702	<i>Platylobium parviflorum</i>	Small-flowered Flat-pea	5
Plantae	Flora	Fabaceae (Faboideae)	9912	<i>Podolobium ilicifolium</i>	Prickly Shaggy Pea	42
Plantae	Flora	Fabaceae (Faboideae)	2969	<i>Psoralea pinnata</i>	* African Scurf-pea	1
Plantae	Flora	Fabaceae (Faboideae)	15315	<i>Pullenia gunnii</i>		6
Plantae	Flora	Fabaceae (Faboideae)	2977	<i>Pultenaea blakelyi</i>		1
Plantae	Flora	Fabaceae (Faboideae)	2985	<i>Pultenaea daphnoides</i>	Large-leaf Bush-pea	31
Plantae	Flora	Fabaceae (Faboideae)	2992	<i>Pultenaea ferruginea</i>		19
Plantae	Flora	Fabaceae (Faboideae)	2993	<i>Pultenaea flexilis</i>		21
Plantae	Flora	Fabaceae (Faboideae)	2997	<i>Pultenaea hispida</i>		2
Plantae	Flora	Fabaceae (Faboideae)	3002	<i>Pultenaea linophylla</i>		4
Plantae	Flora	Fabaceae (Faboideae)	3014	<i>Pultenaea retusa</i>		1
Plantae	Flora	Fabaceae (Faboideae)	3015	<i>Pultenaea rosmarinifolia</i>		1
Plantae	Flora	Fabaceae (Faboideae)	3016	<i>Pultenaea scabra</i>		1
Plantae	Flora	Fabaceae (Faboideae)	3018	<i>Pultenaea stipularis</i>		3
Plantae	Flora	Fabaceae (Faboideae)	11386	<i>Pultenaea tuberculata</i>		53
Plantae	Flora	Fabaceae (Faboideae)	3023	<i>Pultenaea villosa</i>	Hairy Bush-pea	1
Plantae	Flora	Fabaceae (Faboideae)	3033	<i>Sphaerolobium vimineum</i>		1
Plantae	Flora	Fabaceae (Faboideae)	3067	<i>Tephrosia grandiflora</i>	*	1
Plantae	Flora	Fabaceae (Faboideae)	3074	<i>Trifolium campestre</i>	* Hop Clover	1
Plantae	Flora	Fabaceae (Faboideae)	3085	<i>Trifolium repens</i>	* White Clover	11
Plantae	Flora	Fabaceae (Faboideae)	TRIF	<i>Trifolium spp.</i>	*	2
Plantae	Flora	Fabaceae (Faboideae)	3097	<i>Vicia sativa</i>	* Common vetch	3
Plantae	Flora	Fabaceae (Faboideae)	11703	<i>Vicia sativa subsp. nigra</i>	* Narrow-leaved Vetch	1
Plantae	Flora	Fabaceae (Faboideae)	8794	<i>Vicia sativa subsp. sativa</i>	* Common Vetch	1
Plantae	Flora	Fabaceae (Faboideae)	VICI	<i>Vicia spp.</i>	* Vetch	1
Plantae	Flora	Fabaceae (Faboideae)	3105	<i>Viminaria juncea</i>	Native Broom	5
Plantae	Flora	Fabaceae (Faboideae)	11332	<i>Wisteria sinensis</i>	* Chinese wisteria	5

Plantae	Flora	Fabaceae (Faboideae)	WIST	<i>Wisteria spp.</i>	*	1
Plantae	Flora	Fabaceae (Mimosoideae)	3710	<i>Acacia baileyana</i>		Cootamundra Wattle 2
Plantae	Flora	Fabaceae (Mimosoideae)	3717	<i>Acacia binervia</i>		Coast Myall 3
Plantae	Flora	Fabaceae (Mimosoideae)	3720	<i>Acacia boormanii</i>		Snowy River Wattle 2
Plantae	Flora	Fabaceae (Mimosoideae)	3723	<i>Acacia brownii</i>		Heath Wattle 2
Plantae	Flora	Fabaceae (Mimosoideae)	3762	<i>Acacia decurrens</i>		Black Wattle 1
Plantae	Flora	Fabaceae (Mimosoideae)	3767	<i>Acacia echinula</i>		Hedgehog Wattle 1
Plantae	Flora	Fabaceae (Mimosoideae)	3768	<i>Acacia elata</i>		Mountain Cedar Wattle 2
Plantae	Flora	Fabaceae (Mimosoideae)	3769	<i>Acacia elongata</i>		Swamp Wattle 1
Plantae	Flora	Fabaceae (Mimosoideae)	3771	<i>Acacia falcata</i>		9
Plantae	Flora	Fabaceae (Mimosoideae)	3774	<i>Acacia fimbriata</i>		Fringed Wattle 1
Plantae	Flora	Fabaceae (Mimosoideae)	3777	<i>Acacia floribunda</i>		White Sally 21
Plantae	Flora	Fabaceae (Mimosoideae)	3790	<i>Acacia hispidula</i>		1
Plantae	Flora	Fabaceae (Mimosoideae)	3792	<i>Acacia implexa</i>		Hickory Wattle 49
Plantae	Flora	Fabaceae (Mimosoideae)	3794	<i>Acacia irrorata</i>		Green Wattle 4
Plantae	Flora	Fabaceae (Mimosoideae)	6597	<i>Acacia leiocalyx subsp. leiocalyx</i>		Curracabah 1
Plantae	Flora	Fabaceae (Mimosoideae)	3814	<i>Acacia linifolia</i>		White Wattle 5
Plantae	Flora	Fabaceae (Mimosoideae)	3816	<i>Acacia longifolia</i>		14
Plantae	Flora	Fabaceae (Mimosoideae)	10790	<i>Acacia longifolia subsp. longifolia</i>		Sydney Golden Wattle 15
Plantae	Flora	Fabaceae (Mimosoideae)	10791	<i>Acacia longifolia subsp. sophorae</i>		Coastal Wattle 24
Plantae	Flora	Fabaceae (Mimosoideae)	3817	<i>Acacia longissima</i>		Long-leaf Wattle 24
Plantae	Flora	Fabaceae (Mimosoideae)	3821	<i>Acacia maidenii</i>		Maiden's Wattle 2
Plantae	Flora	Fabaceae (Mimosoideae)	3824	<i>Acacia melanoxylon</i>		Blackwood 1
Plantae	Flora	Fabaceae (Mimosoideae)	3834	<i>Acacia myrtifolia</i>		Red-stemmed Wattle 21
Plantae	Flora	Fabaceae (Mimosoideae)	3844	<i>Acacia oxycedrus</i>		Spike Wattle 3
Plantae	Flora	Fabaceae (Mimosoideae)	3846	<i>Acacia parramattensis</i>		Parramatta Wattle 9
Plantae	Flora	Fabaceae (Mimosoideae)	3847	<i>Acacia parvipinnula</i>		Silver-stemmed Wattle 1
Plantae	Flora	Fabaceae (Mimosoideae)	3853	<i>Acacia podalyriifolia</i>		Queensland Silver Wattle 4
Plantae	Flora	Fabaceae (Mimosoideae)	3857	<i>Acacia prominens</i>		Gosford Wattle 2
Plantae	Flora	Fabaceae (Mimosoideae)	3869	<i>Acacia rubida</i>		Red-stemmed Wattle 1
Plantae	Flora	Fabaceae (Mimosoideae)	3873	<i>Acacia saligna</i>	*	Golden Wreath Wattle 15
Plantae	Flora	Fabaceae (Mimosoideae)	ACAC	<i>Acacia spp.</i>		Wattle 1
Plantae	Flora	Fabaceae (Mimosoideae)	3880	<i>Acacia stricta</i>		Straight Wattle 1
Plantae	Flora	Fabaceae (Mimosoideae)	3881	<i>Acacia suaveolens</i>		Sweet Wattle 57
Plantae	Flora	Fabaceae (Mimosoideae)	3885	<i>Acacia terminalis</i>		Sunshine Wattle 13
Plantae	Flora	Fabaceae (Mimosoideae)	10793	<i>Acacia terminalis subsp. angustifolia</i>		1
Plantae	Flora	Fabaceae (Mimosoideae)	10794	<i>Acacia terminalis subsp. aurea</i>		1
Plantae	Flora	Fabaceae (Mimosoideae)	3893	<i>Acacia ulicifolia</i>		Prickly Moses 76
Plantae	Flora	Fabaceae (Mimosoideae)	8840	<i>Pararchidendron pruinosum var. pruinosum</i>		Snow Wood 2
Plantae	Flora	Fabaceae (Mimosoideae)	11224	<i>Paraserianthes lophantha subsp. lophantha</i>	*	Crested Wattle 3
Plantae	Flora	Flacourtiaceae	3110	<i>Scolopia braunii</i>		Flintwood 1
Plantae	Flora	Flagellariaceae	7106	<i>Flagellaria indica</i>		Whip Vine 1
Plantae	Flora	Fumariaceae	9367	<i>Fumaria muralis subsp. muralis</i>	*	Wall Fumitory 1

Plantae	Flora	Fumariaceae	3129	<i>Fumaria officinalis</i>	*		1
Plantae	Flora	Gentianaceae	3131	<i>Centaurium erythraea</i>	*	Common Centaury	1
Plantae	Flora	Geraniaceae	3148	<i>Geranium homeanum</i>			15
Plantae	Flora	Geraniaceae	10093	<i>Geranium molle</i> subsp. <i>molle</i>	*	Cranesbill Geranium	2
Plantae	Flora	Geraniaceae	3152	<i>Geranium potentilloides</i>			1
Plantae	Flora	Geraniaceae	3156	<i>Geranium solanderi</i>		Native Geranium	3
Plantae	Flora	Geraniaceae	8226	<i>Geranium solanderi</i> var. <i>solanderi</i>			2
Plantae	Flora	Geraniaceae	GERA	<i>Geranium</i> spp.			9
Plantae	Flora	Geraniaceae	3157	<i>Pelargonium australe</i>		Native Storksbill	4
Plantae	Flora	Geraniaceae	PELA	<i>Pelargonium</i> spp.			1
Plantae	Flora	Gleicheniaceae	7138	<i>Gleichenia dicarpa</i>		Pouched Coral Fern	11
Plantae	Flora	Gleicheniaceae	6708	<i>Gleichenia microphylla</i>		Scrambling Coral Fern	2
Plantae	Flora	Gleicheniaceae	8093	<i>Gleichenia rupestris</i>			3
Plantae	Flora	Gleicheniaceae	GLEI	<i>Gleichenia</i> spp.			1
Plantae	Flora	Gleicheniaceae	11175	<i>Sticherus flabellatus</i> var. <i>flabellatus</i>		Umbrella Fern	P 3
Plantae	Flora	Gleicheniaceae	STIC	<i>Sticherus</i> spp.			1
Plantae	Flora	Goodeniaceae	3172	<i>Dampiera purpurea</i>			10
Plantae	Flora	Goodeniaceae	3174	<i>Dampiera stricta</i>			30
Plantae	Flora	Goodeniaceae	3175	<i>Goodenia bellidifolia</i>			3
Plantae	Flora	Goodeniaceae	8711	<i>Goodenia bellidifolia</i> subsp. <i>bellidifolia</i>			1
Plantae	Flora	Goodeniaceae	3188	<i>Goodenia hederacea</i>		Ivy Goodenia	3
Plantae	Flora	Goodeniaceae	9279	<i>Goodenia hederacea</i> subsp. <i>hederacea</i>			1
Plantae	Flora	Goodeniaceae	3190	<i>Goodenia heterophylla</i>			1
Plantae	Flora	Goodeniaceae	8755	<i>Goodenia heterophylla</i> subsp. <i>ealandulosa</i>			5
Plantae	Flora	Goodeniaceae	10197	<i>Goodenia heterophylla</i> subsp. <i>heterophylla</i>			2
Plantae	Flora	Goodeniaceae	3192	<i>Goodenia ovata</i>		Hop Goodenia	21
Plantae	Flora	Goodeniaceae	GOOD	<i>Goodenia</i> spp.			1
Plantae	Flora	Goodeniaceae	3197	<i>Goodenia stelligera</i>		Spiked Goodenia	2
Plantae	Flora	Goodeniaceae	3203	<i>Scaevola calendulacea</i>			13
Plantae	Flora	Goodeniaceae	3208	<i>Scaevola ramosissima</i>		Purple Fan-flower	16
Plantae	Flora	Goodeniaceae	3214	<i>Velleia lyrata</i>			1
Plantae	Flora	Grammitidaceae	10518	<i>Grammitis billardierei</i>		Finger Fern	2
Plantae	Flora	Haemodoraceae	ANIG	<i>Anigozanthos</i> spp.	*		1
Plantae	Flora	Haemodoraceae	6435	<i>Haemodorum corymbosum</i>			3
Plantae	Flora	Haemodoraceae	3236	<i>Haemodorum planifolium</i>			2
Plantae	Flora	Haemodoraceae	13128	<i>Haemodorum planifolium</i> subsp. <i>planifolium</i>			1
Plantae	Flora	Haloragaceae	3243	<i>Gonocarpus micranthus</i>			1
Plantae	Flora	Haloragaceae	3247	<i>Gonocarpus tetragynus</i>		Poverty Raspwort	4
Plantae	Flora	Haloragaceae	3248	<i>Gonocarpus teucrioides</i>		Germander Raspwort	26
Plantae	Flora	Hyacinthaceae	12000	<i>Eucomis comosa</i>	*		1
Plantae	Flora	Hydrangeaceae	11742	<i>Hydrangea macrophylla</i>	*		7
Plantae	Flora	Hydrangeaceae	11663	<i>Hydrangea</i> spp.	*		1
Plantae	Flora	Hydrocharitaceae	10855	<i>Ottelia ovalifolia</i> subsp. <i>ovalifolia</i>		Swamp Lily	1
Plantae	Flora	Hymenophyllaceae	8107	<i>Hymenophyllum cupressiforme</i>		Common Filmy Fern	4
Plantae	Flora	Iridaceae	3277	<i>Anomatheca laxa</i>	*		1
Plantae	Flora	Iridaceae	9722	<i>Aristea ecklonii</i>	*		1
Plantae	Flora	Iridaceae	CROC	<i>Crocospia</i> spp.	*		1
Plantae	Flora	Iridaceae	10271	<i>Crocospia x crocosmiiflora</i>	*	Montbretia	4
Plantae	Flora	Iridaceae	11579	<i>Dietes bicolor</i>	*		6
Plantae	Flora	Iridaceae	11690	<i>Dietes grandiflora</i>	*		7
Plantae	Flora	Iridaceae	14109	<i>Freesia alba x leichtlinii</i>	*		1
Plantae	Flora	Iridaceae	10698	<i>Freesia hybrid</i>	*	Freesia	3
Plantae	Flora	Iridaceae	FREE	<i>Freesia</i> spp.	*		3
Plantae	Flora	Iridaceae	3288	<i>Gladiolus guezinii</i>	*		3
Plantae	Flora	Iridaceae	3298	<i>Libertia paniculata</i>		Branching Grass-flag	1
Plantae	Flora	Iridaceae	3300	<i>Patersonia fragilis</i>		Swamp Iris	2
Plantae	Flora	Iridaceae	3301	<i>Patersonia glabrata</i>		Leafy Purple-flag	40
Plantae	Flora	Iridaceae	3302	<i>Patersonia longifolia</i>			1
Plantae	Flora	Iridaceae	3303	<i>Patersonia sericea</i>		Silky Purple-Flag	29
Plantae	Flora	Iridaceae	PATE	<i>Patersonia</i> spp.			1
Plantae	Flora	Iridaceae	9237	<i>Watsonia meriana</i>	*		8
Plantae	Flora	Iridaceae	WATS	<i>Watsonia</i> spp.	*		2

Plantae	Flora	Juncaceae	9311	<i>Juncus acutus</i> subsp. <i>acutus</i> *	Sharp Rush	4
Plantae	Flora	Juncaceae	3326	<i>Juncus continuus</i>		3
Plantae	Flora	Juncaceae	7430	<i>Juncus kraussii</i> subsp. <i>australiensis</i>	Sea Rush	5
Plantae	Flora	Juncaceae	3350	<i>Juncus usitatus</i>		5
Plantae	Flora	Lamiaceae	6484	<i>Clerodendrum tomentosum</i>	Hairy Clerodendrum	31
Plantae	Flora	Lamiaceae	3375	<i>Hemigenia cuneifolia</i>		1
Plantae	Flora	Lamiaceae	3376	<i>Hemigenia purpurea</i>		19
Plantae	Flora	Lamiaceae	11425	<i>Lavandula</i> spp. *		3
Plantae	Flora	Lamiaceae	3378	<i>Lavandula stoechas</i> *	Italian Lavender	1
Plantae	Flora	Lamiaceae	MENT	<i>Mentha</i> spp.		1
Plantae	Flora	Lamiaceae	3396	<i>Plectranthus graveolens</i>		1
Plantae	Flora	Lamiaceae	3397	<i>Plectranthus parviflorus</i>		14
Plantae	Flora	Lamiaceae	3405	<i>Prostanthera denticulata</i>	Rough Mint-bush	17
Plantae	Flora	Lamiaceae	3417	<i>Prostanthera linearis</i>	Narrow-leaved Mint-bush	1
Plantae	Flora	Lamiaceae	10243	<i>Prostanthera saxicola</i> var. <i>saxicola</i>		1
Plantae	Flora	Lamiaceae	3430	<i>Prostanthera scutellarioides</i>		1
Plantae	Flora	Lamiaceae	PROS	<i>Prostanthera</i> spp.		1
Plantae	Flora	Lamiaceae	11331	<i>Rosmarinus officinalis</i> *	Rosemary	2
Plantae	Flora	Lamiaceae	3450	<i>Stachys arvensis</i> *	Stagger Weed	1
Plantae	Flora	Lamiaceae	3459	<i>Westringia fruticosa</i>	Coastal Rosemary	26
Plantae	Flora	Lauraceae	3467	<i>Cassytha glabella</i>		21
Plantae	Flora	Lauraceae	9274	<i>Cassytha glabella</i> f. <i>glabella</i>		9
Plantae	Flora	Lauraceae	3469	<i>Cassytha pubescens</i>	Downy Dodder-laurel	40
Plantae	Flora	Lauraceae	CASY	<i>Cassytha</i> spp.		1
Plantae	Flora	Lauraceae	3471	<i>Cinnamomum camphora</i> *	Camphor Laurel	25
Plantae	Flora	Lauraceae	3479	<i>Cryptocarya glaucescens</i>	Jackwood	4
Plantae	Flora	Lauraceae	3483	<i>Cryptocarya microneura</i>	Murrogun	11
Plantae	Flora	Lauraceae	3495	<i>Endiandra sieberi</i>	Hard Corkwood	7
Plantae	Flora	Lauraceae	14521	<i>Laurus nobilis</i> *	Bay Laurel	1
Plantae	Flora	Lauraceae	9363	<i>Persea americana</i> *	Avocado	1
Plantae	Flora	Lentibulariaceae	9235	<i>Utricularia uniflora</i>		1
Plantae	Flora	Liliaceae	11436	<i>Aspidistra elatior</i> *		3
Plantae	Flora	Liliaceae	3559	<i>Lilium formosanum</i> *	Formosan Lily	38
Plantae	Flora	Liliaceae	11842	<i>Liriope muscari</i> *	big blue lilyturf	3
Plantae	Flora	Lindsaeaceae	6406	<i>Lindsaea linearis</i>	Screw Fern	30
Plantae	Flora	Lindsaeaceae	6401	<i>Lindsaea microphylla</i>	Lacy Wedge Fern	8
Plantae	Flora	Loganiaceae	3595	<i>Mitrasacme polymorpha</i>		19
Plantae	Flora	Loganiaceae	MITR	<i>Mitrasacme</i> spp.		1
Plantae	Flora	Lomandraceae	6296	<i>Lomandra brevis</i>		2
Plantae	Flora	Lomandraceae	6297	<i>Lomandra confertifolia</i>	Matrush	5
Plantae	Flora	Lomandraceae	7709	<i>Lomandra confertifolia</i> subsp. <i>pallida</i>	Matrush	7
Plantae	Flora	Lomandraceae	7573	<i>Lomandra confertifolia</i> subsp. <i>rubiginosa</i>		8
Plantae	Flora	Lomandraceae	6298	<i>Lomandra cylindrica</i>		11
Plantae	Flora	Lomandraceae	6302	<i>Lomandra filiformis</i>	Wattle Matt-rush	16
Plantae	Flora	Lomandraceae	6511	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	Wattle Matt-rush	2
Plantae	Flora	Lomandraceae	7931	<i>Lomandra filiformis</i> subsp. <i>filiformis</i>		23
Plantae	Flora	Lomandraceae	6303	<i>Lomandra fluvialilis</i>		4
Plantae	Flora	Lomandraceae	6304	<i>Lomandra glauca</i>	Pale Mat-rush	51
Plantae	Flora	Lomandraceae	6305	<i>Lomandra gracilis</i>		13
Plantae	Flora	Lomandraceae	6308	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	206
Plantae	Flora	Lomandraceae	8802	<i>Lomandra multiflora</i> subsp. <i>multiflora</i>	Many-flowered Mat-rush	34
Plantae	Flora	Lomandraceae	6312	<i>Lomandra obliqua</i>		51
Plantae	Flora	Lomandraceae	LOMA	<i>Lomandra</i> spp.	Mat-rush	2
Plantae	Flora	Loranthaceae	3599	<i>Amyema cambagei</i>	Needle-leaf Mistletoe	1
Plantae	Flora	Loranthaceae	6856	<i>Amyema congener</i> subsp. <i>congener</i>		1
Plantae	Flora	Loranthaceae	3613	<i>Dendrophthoe vitellina</i>		1
Plantae	Flora	Luzuriagaceae	6015	<i>Eustrephus latifolius</i>	Wombat Berry	122
Plantae	Flora	Luzuriagaceae	6016	<i>Geitonoplesium cymosum</i>	Scrambling Lily	124
Plantae	Flora	Lycopodiaceae	9293	<i>Lycopodiella lateralis</i>	Slender Clubmoss	2
Plantae	Flora	Lycopodiaceae	6409	<i>Lycopodium deuterodensum</i>	Bushy Clubmoss	P 1
Plantae	Flora	Lythraceae	11362	<i>Lagerstroemia indica</i> *		4
Plantae	Flora	Magnoliaceae	11666	<i>Magnolia grandiflora</i> *	Southern Magnolia	2

Plantae	Flora	Magnoliaceae	MAGN	<i>Magnolia spp.</i>	*		1
Plantae	Flora	Magnoliaceae	11741	<i>Michelia figo</i>	*		1
Plantae	Flora	Malaceae	8640	<i>Cotoneaster franchetii</i>	*		1
Plantae	Flora	Malaceae	5612	<i>Cotoneaster glaucophyllus</i>	*		7
Plantae	Flora	Malaceae	5614	<i>Cotoneaster pannosus</i>	*		7
Plantae	Flora	Malaceae	COTO	<i>Cotoneaster spp.</i>	*		2
Plantae	Flora	Malaceae	5618	<i>Eriobotrya japonica</i>	*	Loquat	17
Plantae	Flora	Malaceae	7596	<i>Malus domestica</i>	*	Apple	1
Plantae	Flora	Malaceae	5631	<i>Raphiolepis indica</i>	*	Indian Hawthorn	14
Plantae	Flora	Malvaceae	3628	<i>Abutilon grandifolium</i>	*		1
Plantae	Flora	Malvaceae	6126	<i>Brachychiton acerifolius</i>		Illawarra Flame Tree	42
Plantae	Flora	Malvaceae	8961	<i>Brachychiton populneus</i> <i>subsp. populneus</i>			1
Plantae	Flora	Malvaceae	14591	<i>Commersonia</i> <i>hermanniifolia</i>			4
Plantae	Flora	Malvaceae	8877	<i>Hibiscus heterophyllus</i> <i>subsp. heterophyllus</i>		Native Rosella	1
Plantae	Flora	Malvaceae	11695	<i>Hibiscus rosa-sinensis</i>	*	Chinese Hibiscus	3
Plantae	Flora	Malvaceae	HIBI	<i>Hibiscus spp.</i>			9
Plantae	Flora	Malvaceae	13769	<i>Hibiscus syriacus</i>	*	althea, rose of Sharon	1
Plantae	Flora	Malvaceae	3649	<i>Howittia trilocularis</i>			1
Plantae	Flora	Malvaceae	3650	<i>Lagunaria patersonia</i>		Norfolk Island Hibiscus	4
Plantae	Flora	Malvaceae	6139	<i>Lasiopetalum ferrugineum</i>			26
Plantae	Flora	Malvaceae	9175	<i>Lasiopetalum ferrugineum</i> <i>var. cordatum</i>			3
Plantae	Flora	Malvaceae	9008	<i>Lasiopetalum ferrugineum</i> <i>var. ferrugineum</i>			18
Plantae	Flora	Malvaceae	6142	<i>Lasiopetalum macrophyllum</i>		Shrubby Velvet-bush	10
Plantae	Flora	Malvaceae	6144	<i>Lasiopetalum rufum</i>			2
Plantae	Flora	Malvaceae	3657	<i>Malva parviflora</i>	*	Small-flowered Mallow	1
Plantae	Flora	Malvaceae	3660	<i>Modiola caroliniana</i>	*	Red-flowered Mallow	4
Plantae	Flora	Malvaceae	3673	<i>Sida rhombifolia</i>	*	Paddy's Lucerne	32
Plantae	Flora	Melastomataceae	TIBO	<i>Tibouchina spp.</i>	*		1
Plantae	Flora	Meliaceae	3680	<i>Melia azedarach</i>		White Cedar	10
Plantae	Flora	Meliaceae	11178	<i>Synoum glandulosum subsp.</i> <i>glandulosum</i>		Scentless Rosewood	75
Plantae	Flora	Meliaceae	8839	<i>Toona ciliata</i>		Red Cedar	1
Plantae	Flora	Menispermaceae	3688	<i>Sarcopetalum harveyanum</i>		Pearl Vine	29
Plantae	Flora	Menispermaceae	3690	<i>Stephania japonica</i>		Snake vine	29
Plantae	Flora	Menispermaceae	8428	<i>Stephania japonica var.</i> <i>discolor</i>		Snake Vine	35
Plantae	Flora	Monimiaceae	3915	<i>Palmeria scandens</i>		Anchor Vine	1
Plantae	Flora	Monimiaceae	3918	<i>Wilkiea huegeliana</i>		Veiny Wilkiea	41
Plantae	Flora	Moraceae	11429	<i>Ficus benjamina</i>	*	Weeping Fig	4
Plantae	Flora	Moraceae	11662	<i>Ficus carica</i>	*	Common Fig	1
Plantae	Flora	Moraceae	7479	<i>Ficus coronata</i>		Creek Sandpaper Fig	37
Plantae	Flora	Moraceae	11430	<i>Ficus lyrata</i>	*		1
Plantae	Flora	Moraceae	3922	<i>Ficus macrophylla</i>			5
Plantae	Flora	Moraceae	8446	<i>Ficus microcarpa</i>	*		2
Plantae	Flora	Moraceae	7301	<i>Ficus obliqua</i>		Small-leaved Fig	1
Plantae	Flora	Moraceae	3923	<i>Ficus pumila</i>	*	Creeping Fig	5
Plantae	Flora	Moraceae	3924	<i>Ficus rubiginosa</i>		Port Jackson Fig	53
Plantae	Flora	Moraceae	11720	<i>Ficus rubiginosa f.</i> <i>rubiginosa</i>			2
Plantae	Flora	Moraceae	FICU	<i>Ficus spp.</i>			1
Plantae	Flora	Moraceae	3930	<i>Morus alba</i>	*	White Mulberry	11
Plantae	Flora	Moraceae	8693	<i>Morus nigra</i>	*	Black Mulberry	1
Plantae	Flora	Moraceae	10417	<i>Trophis scandens subsp.</i> <i>scandens</i>		Burny Vine	1
Plantae	Flora	Musaceae	11327	<i>Musa acuminata</i>	*	Edible banana	2
Plantae	Flora	Musaceae	11783	<i>Musa paradisiaca</i>	*		1
Plantae	Flora	Musaceae	MUSA	<i>Musa spp.</i>	*	Banana	4
Plantae	Flora	Myrtaceae	3968	<i>Acmena smithii</i>		Lilly Pilly	62
Plantae	Flora	Myrtaceae	ACME	<i>Acmena spp.</i>			1
Plantae	Flora	Myrtaceae	11432	<i>Agonis flexuosa</i>	*		3
Plantae	Flora	Myrtaceae	3969	<i>Angophora bakeri</i>		Narrow-leaved Apple	2
Plantae	Flora	Myrtaceae	3970	<i>Angophora costata</i>		Sydney Red Gum	160
Plantae	Flora	Myrtaceae	9012	<i>Angophora crassifolia</i>			2
Plantae	Flora	Myrtaceae	3971	<i>Angophora floribunda</i>		Rough-barked Apple	110

Plantae	Flora	Myrtaceae	3972	<i>Angophora hispida</i>	Dwarf Apple				34
Plantae	Flora	Myrtaceae	3974	<i>Angophora subvelutina</i>	Broad-leaved Apple				1
Plantae	Flora	Myrtaceae	3982	<i>Austromyrtus tenuifolia</i>					1
Plantae	Flora	Myrtaceae	3984	<i>Backhousia myrtifolia</i>	Grey Myrtle				11
Plantae	Flora	Myrtaceae	3986	<i>Baeckea brevifolia</i>					2
Plantae	Flora	Myrtaceae	3993	<i>Baeckea diosmifolia</i>	Fringed Baeckea				6
Plantae	Flora	Myrtaceae	3995	<i>Baeckea imbricata</i>					7
Plantae	Flora	Myrtaceae	3997	<i>Baeckea linifolia</i>	Weeping Baeckea		P		2
Plantae	Flora	Myrtaceae	4004	<i>Callistemon citrinus</i>	Crimson Bottlebrush				8
Plantae	Flora	Myrtaceae	4007	<i>Callistemon linearifolius</i>	Netted Bottle Brush		V,3		46 
Plantae	Flora	Myrtaceae	4008	<i>Callistemon linearis</i>	Narrow-leaved Bottlebrush				5
Plantae	Flora	Myrtaceae	4014	<i>Callistemon rigidus</i>	Stiff Bottlebrush				10
Plantae	Flora	Myrtaceae	4015	<i>Callistemon salignus</i>	Willow Bottlebrush				7
Plantae	Flora	Myrtaceae	CALL	<i>Callistemon spp.</i>					10
Plantae	Flora	Myrtaceae	4019	<i>Callistemon viminalis</i>	Weeping Bottlebrush				4
Plantae	Flora	Myrtaceae	4021	<i>Calytrix tetragona</i>	Common Fringe-myrtle				14
Plantae	Flora	Myrtaceae	11748	<i>Corymbia citriodora</i>	Lemon-scented Gum			*	1
Plantae	Flora	Myrtaceae	9743	<i>Corymbia eximia</i>	Yellow Bloodwood				2
Plantae	Flora	Myrtaceae	9687	<i>Corymbia gummifera</i>	Red Bloodwood				148
Plantae	Flora	Myrtaceae	9692	<i>Corymbia maculata</i>	Spotted Gum				168
Plantae	Flora	Myrtaceae	4027	<i>Darwinia fascicularis</i>					21
Plantae	Flora	Myrtaceae	6508	<i>Darwinia fascicularis subsp. fascicularis</i>					6
Plantae	Flora	Myrtaceae	7027	<i>Eucalyptus acmenoides</i>	White Mahogany				2
Plantae	Flora	Myrtaceae	7189	<i>Eucalyptus baueriana</i>	Blue Box				1
Plantae	Flora	Myrtaceae	4059	<i>Eucalyptus bosistoana</i>	Coast Grey Box				1
Plantae	Flora	Myrtaceae	4060	<i>Eucalyptus botryoides</i>	Bangalay				64
Plantae	Flora	Myrtaceae	9959	<i>Eucalyptus botryoides <--> saliana</i>					1
Plantae	Flora	Myrtaceae	4067	<i>Eucalyptus camfieldii</i>	Camfield's Stringybark		V	V	8 
Plantae	Flora	Myrtaceae	4069	<i>Eucalyptus capitellata</i>	Brown Stringybark				4
Plantae	Flora	Myrtaceae	4074	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark				1
Plantae	Flora	Myrtaceae	4082	<i>Eucalyptus dives</i>	Broad-leaved Peppermint				1
Plantae	Flora	Myrtaceae	4091	<i>Eucalyptus fibrosa</i>	Red Ironbark				2
Plantae	Flora	Myrtaceae	4097	<i>Eucalyptus globoidea</i>	White Stringybark				3
Plantae	Flora	Myrtaceae	4104	<i>Eucalyptus haemastoma</i>	Broad-leaved Scribbly Gum				55
Plantae	Flora	Myrtaceae	4116	<i>Eucalyptus luehmanniana</i>	Yellow Top Mallee Ash				4
Plantae	Flora	Myrtaceae	4128	<i>Eucalyptus microcorys</i>	Tallowwood				1
Plantae	Flora	Myrtaceae	4133	<i>Eucalyptus multicaulis</i>	Whipstick Ash				2
Plantae	Flora	Myrtaceae	4134	<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint		V	V	1 
Plantae	Flora	Myrtaceae	4141	<i>Eucalyptus oblonga</i>	Stringybark				19
Plantae	Flora	Myrtaceae	10029	<i>Eucalyptus obstans</i>	Port Jackson Mallee				6
Plantae	Flora	Myrtaceae	4149	<i>Eucalyptus paniculata</i>	Grey Ironbark				48
Plantae	Flora	Myrtaceae	8831	<i>Eucalyptus paniculata subsp. paniculata</i>					37
Plantae	Flora	Myrtaceae	4155	<i>Eucalyptus pilularis</i>	Blackbutt				6
Plantae	Flora	Myrtaceae	4156	<i>Eucalyptus piperita</i>	Sydney Peppermint				33
Plantae	Flora	Myrtaceae	4165	<i>Eucalyptus punctata</i>	Grey Gum				53
Plantae	Flora	Myrtaceae	4168	<i>Eucalyptus racemosa</i>	Narrow-leaved Scribbly Gum				1
Plantae	Flora	Myrtaceae	4169	<i>Eucalyptus radiata</i>	Narrow-leaved Peppermint				1
Plantae	Flora	Myrtaceae	13278	<i>Eucalyptus ravida</i>				*	1
Plantae	Flora	Myrtaceae	4170	<i>Eucalyptus resinifera</i>	Red Mahogany				1
Plantae	Flora	Myrtaceae	9450	<i>Eucalyptus resinifera subsp. resinifera</i>					3
Plantae	Flora	Myrtaceae	4171	<i>Eucalyptus robusta</i>	Swamp Mahogany				10
Plantae	Flora	Myrtaceae	4177	<i>Eucalyptus saligna</i>	Sydney Blue Gum				7
Plantae	Flora	Myrtaceae	8950	<i>Eucalyptus scias</i>	Large-fruited Red Mahogany				10
Plantae	Flora	Myrtaceae	9953	<i>Eucalyptus scias subsp. scias</i>					8
Plantae	Flora	Myrtaceae	4180	<i>Eucalyptus siderophloia</i>	Grey Ironbark				1
Plantae	Flora	Myrtaceae	4182	<i>Eucalyptus sieberi</i>	Silvertop Ash				8
Plantae	Flora	Myrtaceae	8353	<i>Eucalyptus sparsifolia</i>	Narrow-leaved Stringybark				4
Plantae	Flora	Myrtaceae	EUCA	<i>Eucalyptus spp.</i>					11
Plantae	Flora	Myrtaceae	4196	<i>Eucalyptus umbra</i>	Broad-leaved White Mahogany				86
Plantae	Flora	Myrtaceae	11218	<i>Euryomyrtus ramosissima subsp. ramosissima</i>					2
Plantae	Flora	Myrtaceae	13289	<i>Harmogia densifolia</i>					1
Plantae	Flora	Myrtaceae	4204	<i>Kunzea ambigua</i>	Tick Bush		P		23
Plantae	Flora	Myrtaceae	4207	<i>Kunzea capitata</i>			P		28
Plantae	Flora	Myrtaceae	4213	<i>Leptospermum arachnoides</i>					5
Plantae	Flora	Myrtaceae	7970	<i>Leptospermum continentale</i>	Prickly Teatree				2

Plantae	Flora	Orchidaceae	4353	<i>Acianthus fornicatus</i>	Pixie Caps	P	9	
Plantae	Flora	Orchidaceae	ACIA	<i>Acianthus</i> spp.	Mosquito Orchid	P	4	
Plantae	Flora	Orchidaceae	4373	<i>Caladenia carnea</i>	Pink Fingers	P	4	
Plantae	Flora	Orchidaceae	4389	<i>Caleana major</i>	Large Duck Orchid	P	10	
Plantae	Flora	Orchidaceae	4390	<i>Calochilus campestris</i>	Copper Beard Orchid	P	3	
Plantae	Flora	Orchidaceae	4394	<i>Calochilus paludosus</i>	Red Beard Orchid	P	3	
Plantae	Flora	Orchidaceae	14091	<i>Cestichis reflexa</i>		P	1	
Plantae	Flora	Orchidaceae	4402	<i>Chiloglottis reflexa</i>		P	3	
Plantae	Flora	Orchidaceae	CHIL	<i>Chiloglottis</i> spp.		P	1	
Plantae	Flora	Orchidaceae	4404	<i>Corybas aconitiflorus</i>	Spurred Helmet Orchid	P	2	
Plantae	Flora	Orchidaceae	4407	<i>Corybas fimbriatus</i>	Fringed Helmet Orchid	P	3	
Plantae	Flora	Orchidaceae	4410	<i>Corybas pruinosis</i>	Toothed Helmet Orchid	P	3	
Plantae	Flora	Orchidaceae	CORY	<i>Corybas</i> spp.		P	1	
Plantae	Flora	Orchidaceae	4412	<i>Corybas unguiculatus</i>	Small Helmet Orchid	P	1	
Plantae	Flora	Orchidaceae	4414	<i>Cryptostylis erecta</i>	Tartan Tongue Orchid	P	18	
Plantae	Flora	Orchidaceae	4415	<i>Cryptostylis hunteriana</i>	Leafless Tongue Orchid	V,P,2	V	1
Plantae	Flora	Orchidaceae	CRYT	<i>Cryptostylis</i> spp.		P	3	
Plantae	Flora	Orchidaceae	4417	<i>Cryptostylis subulata</i>	Large Tongue Orchid	P	14	
Plantae	Flora	Orchidaceae	4419	<i>Cymbidium suave</i>	Snake Orchid	P	6	
Plantae	Flora	Orchidaceae	6889	<i>Cyrtostylis reniformis</i>	Gnat Orchid	P	2	
Plantae	Flora	Orchidaceae	4426	<i>Dendrobium linguiforme</i>	Tongue Orchid	P	4	
Plantae	Flora	Orchidaceae	4432	<i>Dendrobium speciosum</i>	Rock Lily	P	8	
Plantae	Flora	Orchidaceae	11984	<i>Dendrobium speciosum</i> var. <i>speciosum</i>	Rock Orchid	P	3	
Plantae	Flora	Orchidaceae	4435	<i>Dendrobium teretifolium</i>	Rat's Tail Orchid	P	2	
Plantae	Flora	Orchidaceae	7887	<i>Dipodium punctatum</i>		P	1	
Plantae	Flora	Orchidaceae	9155	<i>Dipodium roseum</i>		P	1	
Plantae	Flora	Orchidaceae	7888	<i>Dipodium variegatum</i>		P	4	
Plantae	Flora	Orchidaceae	4441	<i>Diuris aurea</i>		P	1	
Plantae	Flora	Orchidaceae	12238	<i>Epidendrum radicans</i> x <i>secundum hybrid complex</i>	Crucifix Orchid	*	5	
Plantae	Flora	Orchidaceae	EPID	<i>Epidendrum</i> spp.		*	2	
Plantae	Flora	Orchidaceae	4460	<i>Eriochilus cucullatus</i>	Parson's Bands	P	1	
Plantae	Flora	Orchidaceae	9198	<i>Genoplesium filiforme</i>		P	1	
Plantae	Flora	Orchidaceae	8872	<i>Genoplesium fimbriatum</i>	Fringed Midge Orchid	P	6	
Plantae	Flora	Orchidaceae	9200	<i>Genoplesium pumilum</i>	Green Midge Orchid	P	2	
Plantae	Flora	Orchidaceae	4465	<i>Glossodia major</i>	Waxlip Orchid	P	1	
Plantae	Flora	Orchidaceae	4466	<i>Glossodia minor</i>	Small Waxlip Orchid	P	3	
Plantae	Flora	Orchidaceae	4472	<i>Lyperanthus suaveolens</i>	Brown Beaks	P	2	
Plantae	Flora	Orchidaceae	9616	<i>Microtis angusii</i>	Angus's Onion Orchid	E1,P,2	E	1
Plantae	Flora	Orchidaceae	7101	<i>Microtis rara</i>	Scented Onion Orchid	P	1	
Plantae	Flora	Orchidaceae	4473	<i>Microtis unifolia</i>	Common Onion Orchid	P	1	
Plantae	Flora	Orchidaceae	ORCHC	<i>Orchidaceae indeterminate</i>	Orchids	*	4	
Plantae	Flora	Orchidaceae	4476	<i>Orthoceras strictum</i>	Bird's-mouth Orchid	P	4	
Plantae	Flora	Orchidaceae	4478	<i>Paracaleana minor</i>	Small Duck Orchid	P	3	
Plantae	Flora	Orchidaceae	4497	<i>Prasophyllum elatum</i>	Tall Leek Orchid	P	3	
Plantae	Flora	Orchidaceae	4524	<i>Prasophyllum striatum</i>	Streaked Leek Orchid	P	1	
Plantae	Flora	Orchidaceae	4545	<i>Pterostylis curta</i>	Blunt Greenhood	P	3	
Plantae	Flora	Orchidaceae	4546	<i>Pterostylis daintreana</i>		P	2	
Plantae	Flora	Orchidaceae	7025	<i>Pterostylis erecta</i>	Erect Maroonhood	P	1	
Plantae	Flora	Orchidaceae	4554	<i>Pterostylis grandiflora</i>	Cobra Greenhood	P	1	
Plantae	Flora	Orchidaceae	7616	<i>Pterostylis hispidula</i>	Small Nodding Greenhood	P	4	
Plantae	Flora	Orchidaceae	4559	<i>Pterostylis longifolia</i>	Tall Greenhood	P	1	
Plantae	Flora	Orchidaceae	4563	<i>Pterostylis obtusa</i>	Blue-tongue Greenhood	P	3	
Plantae	Flora	Orchidaceae	4566	<i>Pterostylis parviflora</i>	Tiny Greenhood	P	2	
Plantae	Flora	Orchidaceae	4571	<i>Pterostylis reflexa</i>	Small Autumn Greenhood	P	2	
Plantae	Flora	Orchidaceae	PTER	<i>Pterostylis</i> spp.	Greenhood	P	2	
Plantae	Flora	Orchidaceae	4585	<i>Sarcochilus hillii</i>		P	2	
Plantae	Flora	Orchidaceae	11877	<i>Spiranthes australis</i>	Ladies' Tresses	P	1	
Plantae	Flora	Orchidaceae	8968	<i>Thelymitra ixioides</i> var. <i>ixioides</i>	Dotted Sun Orchid	P	5	
Plantae	Flora	Orchidaceae	10275	<i>Thelymitra media</i> var. <i>media</i>	Tall Sun Orchid	P	1	
Plantae	Flora	Orchidaceae	4604	<i>Thelymitra venosa</i>	Large Veined Sun Orchid	P	2	
Plantae	Flora	Osmundaceae	8151	<i>Todea barbara</i>	King Fern	P	8	
Plantae	Flora	Oxalidaceae	4608	<i>Oxalis articulata</i>		*	1	
Plantae	Flora	Oxalidaceae	4613	<i>Oxalis corniculata</i>	Creeping Oxalis	*	16	
Plantae	Flora	Oxalidaceae	4615	<i>Oxalis exilis</i>			4	
Plantae	Flora	Oxalidaceae	4618	<i>Oxalis latifolia</i>		*	4	
Plantae	Flora	Oxalidaceae	4621	<i>Oxalis perennans</i>			21	
Plantae	Flora	Oxalidaceae	4622	<i>Oxalis pes-caprae</i>	Soursob	*	2	
Plantae	Flora	Oxalidaceae	4623	<i>Oxalis purpurea</i>		*	2	
Plantae	Flora	Oxalidaceae	4625	<i>Oxalis rubens</i>			2	

Plantae	Flora	Oxalidaceae	OXAL	<i>Oxalis</i> spp.		7
Plantae	Flora	Passifloraceae	4642	<i>Passiflora cinnabarina</i>	Red Passionfruit	1
Plantae	Flora	Passifloraceae	4643	<i>Passiflora edulis</i>	Common Passionfruit	30
Plantae	Flora	Passifloraceae	4644	<i>Passiflora filamentosa</i>	*	1
Plantae	Flora	Passifloraceae	4646	<i>Passiflora herbertyana</i>		9
Plantae	Flora	Passifloraceae	8886	<i>Passiflora herbertyana</i> subsp. <i>herbertyana</i>	Native Passionfruit	6
Plantae	Flora	Passifloraceae	PASS	<i>Passiflora</i> spp.		1
Plantae	Flora	Passifloraceae	4649	<i>Passiflora suberosa</i>	Cork Passionfruit	1
Plantae	Flora	Passifloraceae	4650	<i>Passiflora subpeltata</i>	White Passionflower	1
Plantae	Flora	Peperomiaceae	11131	<i>Peperomia blanda</i> var. <i>floribunda</i>		2
Plantae	Flora	Peperomiaceae	4664	<i>Peperomia tetraphylla</i>	Four-leaved Peperomia	1
Plantae	Flora	Phormiaceae	6461	<i>Thelionema umbellatum</i>		1
Plantae	Flora	Phyllanthaceae	2695	<i>Breynia oblongifolia</i>	Coffee Bush	82
Plantae	Flora	Phyllanthaceae	7866	<i>Glochidion ferdinandi</i>	Cheese Tree	76
Plantae	Flora	Phyllanthaceae	9360	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	Cheese Tree	71
Plantae	Flora	Phyllanthaceae	2746	<i>Phyllanthus gunnii</i>		2
Plantae	Flora	Phyllanthaceae	8216	<i>Phyllanthus hirtellus</i>	Thyme Spurge	42
Plantae	Flora	Phyllanthaceae	6676	<i>Phyllanthus similis</i>		1
Plantae	Flora	Phyllanthaceae	2751	<i>Phyllanthus tenellus</i>	Hen and Chicken	3
Plantae	Flora	Phyllanthaceae	2753	<i>Poranthera corymbosa</i>		2
Plantae	Flora	Phyllanthaceae	2754	<i>Poranthera ericifolia</i>		2
Plantae	Flora	Phyllanthaceae	7395	<i>Poranthera microphylla</i>	Small Poranthera	4
Plantae	Flora	Phytolaccaceae	4658	<i>Phytolacca octandra</i>	Inkweed	4
Plantae	Flora	Pinaceae	11664	<i>Larix</i> spp.	*	1
Plantae	Flora	Pinaceae	4661	<i>Pinus radiata</i>	Radiata Pine	4
Plantae	Flora	Pinaceae	PINU	<i>Pinus</i> spp.	*	3
Plantae	Flora	Piperaceae	13385	<i>Piper hederaceum</i> var. <i>hederaceum</i>	Giant Pepper Vine	1
Plantae	Flora	Pittosporaceae	4671	<i>Billardiera scandens</i>	Hairy Apple Berry	62
Plantae	Flora	Pittosporaceae	4674	<i>Bursaria spinosa</i>	Native Blackthorn	5
Plantae	Flora	Pittosporaceae	11018	<i>Bursaria spinosa</i> subsp. <i>spinosa</i>	Native Blackthorn	1
Plantae	Flora	Pittosporaceae	4678	<i>Hymenosporum flavum</i>	Native Frangipani	2
Plantae	Flora	Pittosporaceae	11204	<i>Pittosporum multiflorum</i>	Orange Thorn	1
Plantae	Flora	Pittosporaceae	4683	<i>Pittosporum revolutum</i>	Rough Fruit Pittosporum	57
Plantae	Flora	Pittosporaceae	11434	<i>Pittosporum tobira</i>	Japanese cheesewood	1
Plantae	Flora	Pittosporaceae	4685	<i>Pittosporum undulatum</i>	Sweet Pittosporum	184
Plantae	Flora	Pittosporaceae	8623	<i>Rhytidisporum procumbens</i>		1
Plantae	Flora	Plantaginaceae	4691	<i>Plantago debilis</i>	Shade Plantain	3
Plantae	Flora	Plantaginaceae	4699	<i>Plantago lanceolata</i>	Lamb's Tongues	26
Plantae	Flora	Plantaginaceae	4700	<i>Plantago major</i>	Large Plantain	1
Plantae	Flora	Plantaginaceae	PLAA	<i>Plantago</i> spp.	Plantain	2
Plantae	Flora	Plantaginaceae	6009	<i>Veronica plebeia</i>	Trailing Speedwell	5
Plantae	Flora	Plumbaginaceae	11674	<i>Plumbago auriculata</i>	Cape leadwort	2
Plantae	Flora	Poaceae	4748	<i>Andropogon virginicus</i>	Whisky Grass	9
Plantae	Flora	Poaceae	4749	<i>Anisopogon avenaceus</i>	Oat Speargrass	30
Plantae	Flora	Poaceae	4773	<i>Aristida vagans</i>	Threeawn Speargrass	3
Plantae	Flora	Poaceae	4777	<i>Arundo donax</i>	Giant Reed	5
Plantae	Flora	Poaceae	6594	<i>Austrofestuca littoralis</i>	Beach Fescue	1
Plantae	Flora	Poaceae	9603	<i>Austrostipa pubescens</i>		1
Plantae	Flora	Poaceae	10371	<i>Austrostipa verticillata</i>	Slender Bamboo Grass	1
Plantae	Flora	Poaceae	4779	<i>Avena barbata</i>	Bearded Oats	1
Plantae	Flora	Poaceae	4780	<i>Avena fatua</i>	Wild Oats	3
Plantae	Flora	Poaceae	11194	<i>Axonopus fissifolius</i>	Narrow-leaved Carpet Grass	7
Plantae	Flora	Poaceae	BAMB	<i>Bambusa</i> spp.	Unidentified bamboo	1
Plantae	Flora	Poaceae	4790	<i>Bothriochloa macra</i>	Red Grass	1
Plantae	Flora	Poaceae	14268	<i>Bouteloua dactyloides</i>	Buffalo Grass	1
Plantae	Flora	Poaceae	4800	<i>Briza maxima</i>	Quaking Grass	8
Plantae	Flora	Poaceae	4801	<i>Briza minor</i>	Shivery Grass	6
Plantae	Flora	Poaceae	7813	<i>Bromus catharticus</i>	Prairie Grass	12
Plantae	Flora	Poaceae	4820	<i>Capillipedium parviflorum</i>	Scented-top Grass	1
Plantae	Flora	Poaceae	4821	<i>Capillipedium spicigerum</i>	Scented-top Grass	1
Plantae	Flora	Poaceae	14903	<i>Cenchrus clandestinus</i>	Kikuyu Grass	24
Plantae	Flora	Poaceae	CENC	<i>Cenchrus</i> spp.		1
Plantae	Flora	Poaceae	6864	<i>Cleistochloa rigida</i>		1
Plantae	Flora	Poaceae	4839	<i>Cortaderia selloana</i>	Pampas Grass	4
Plantae	Flora	Poaceae	CORT	<i>Cortaderia</i> spp.	*	3
Plantae	Flora	Poaceae	4841	<i>Cymbopogon refractus</i>	Barbed Wire Grass	18
Plantae	Flora	Poaceae	6540	<i>Cynodon dactylon</i>	Common Couch	30

Plantae	Flora	Poaceae	4891	<i>Deyeuxia quadriseta</i>		3
Plantae	Flora	Poaceae	4897	<i>Dichelachne crinita</i>	Longhair Plumegrass	2
Plantae	Flora	Poaceae	4898	<i>Dichelachne micrantha</i>	Shorthair Plumegrass	6
Plantae	Flora	Poaceae	4899	<i>Dichelachne rara</i>		1
Plantae	Flora	Poaceae	6554	<i>Digitaria ciliaris</i>	* Summer Grass	1
Plantae	Flora	Poaceae	4904	<i>Digitaria didactyla</i>	Queensland Blue Couch	2
Plantae	Flora	Poaceae	4913	<i>Digitaria parviflora</i>	Small-flowered Finger Grass	18
Plantae	Flora	Poaceae	6937	<i>Digitaria sanguinalis</i>	* Crab Grass	8
Plantae	Flora	Poaceae	4923	<i>Echinochloa crus-galli</i>	* Barnyard Grass	1
Plantae	Flora	Poaceae	4929	<i>Echinopogon caespitosus</i>	Bushy Hedgehog-grass	6
Plantae	Flora	Poaceae	7593	<i>Echinopogon caespitosus</i> <i>var. caespitosus</i>	Tufted Hedgehog Grass	10
Plantae	Flora	Poaceae	4934	<i>Echinopogon ovatus</i>	Forest Hedgehog Grass	3
Plantae	Flora	Poaceae	4937	<i>Ehrharta erecta</i>	* Panic Veldtgrass	77
Plantae	Flora	Poaceae	4938	<i>Ehrharta longiflora</i>	* Annual Veldtgrass	3
Plantae	Flora	Poaceae	EHRH	<i>Ehrharta spp.</i>	* Veldtgrass	1
Plantae	Flora	Poaceae	7196	<i>Eleusine indica</i>	* Crowsfoot Grass	3
Plantae	Flora	Poaceae	13431	<i>Elymus repens</i>	* English Couch	1
Plantae	Flora	Poaceae	4946	<i>Entolasia marginata</i>	Bordered Panic	61
Plantae	Flora	Poaceae	ENTO	<i>Entolasia spp.</i>		1
Plantae	Flora	Poaceae	4947	<i>Entolasia stricta</i>	Wiry Panic	148
Plantae	Flora	Poaceae	7921	<i>Eragrostis brownii</i>	Brown's Lovegrass	9
Plantae	Flora	Poaceae	4952	<i>Eragrostis curvula</i>	* African Lovegrass	6
Plantae	Flora	Poaceae	ERAG	<i>Eragrostis spp.</i>		2
Plantae	Flora	Poaceae	4979	<i>Eriachne glabrata</i>		1
Plantae	Flora	Poaceae	5000	<i>Hainardia cylindrica</i>	* Common Barbrgrass	1
Plantae	Flora	Poaceae	6803	<i>Imperata cylindrica</i>	Blady Grass	99
Plantae	Flora	Poaceae	11388	<i>Lachnagrostis filiformis</i>		1
Plantae	Flora	Poaceae	5032	<i>Lolium perenne</i>	* Perennial Ryegrass	1
Plantae	Flora	Poaceae	LOLI	<i>Lolium spp.</i>	*	1
Plantae	Flora	Poaceae	10904	<i>Melinis repens</i>	* Red Natal Grass	2
Plantae	Flora	Poaceae	5037	<i>Microlaena stipoides</i>	Weeping Grass	36
Plantae	Flora	Poaceae	7707	<i>Microlaena stipoides var.</i> <i>stipoides</i>	Weeping Grass	34
Plantae	Flora	Poaceae	5044	<i>Oplismenus aemulus</i>		58
Plantae	Flora	Poaceae	5045	<i>Oplismenus imbecillis</i>		78
Plantae	Flora	Poaceae	OPLI	<i>Oplismenus spp.</i>		2
Plantae	Flora	Poaceae	5066	<i>Panicum simile</i>	Two-colour Panic	34
Plantae	Flora	Poaceae	PANI	<i>Panicum spp.</i>	Panicum	3
Plantae	Flora	Poaceae	7172	<i>Paspalidium distans</i>		13
Plantae	Flora	Poaceae	PASA	<i>Paspalidium spp.</i>		2
Plantae	Flora	Poaceae	5086	<i>Paspalum dilatatum</i>	* Paspalum	26
Plantae	Flora	Poaceae	5093	<i>Paspalum urvillei</i>	* Vasey Grass	8
Plantae	Flora	Poaceae	5113	<i>Phragmites australis</i>	Common Reed	2
Plantae	Flora	Poaceae	5114	<i>Phyllostachys aurea</i>	* Fishpole Bamboo	2
Plantae	Flora	Poaceae	5115	<i>Phyllostachys nigra</i>	* Black Bamboo	1
Plantae	Flora	Poaceae	PHYO	<i>Phyllostachys spp.</i>	*	13
Plantae	Flora	Poaceae	5120	<i>Poa affinis</i>		27
Plantae	Flora	Poaceae	5121	<i>Poa annua</i>	* Winter Grass	3
Plantae	Flora	Poaceae	11196	<i>Poa labillardierei var.</i> <i>labillardierei</i>	Tussock	8
Plantae	Flora	Poaceae	POA	<i>Poa spp.</i>		6
Plantae	Flora	Poaceae	14304	<i>Rytidosperma bipartitum</i>	Wallaby Grass	1
Plantae	Flora	Poaceae	14312	<i>Rytidosperma longifolium</i>	Long-leaved Wallaby Grass	1
Plantae	Flora	Poaceae	14314	<i>Rytidosperma pallidum</i>	Redanther Wallaby Grass; Silvertop Wallaby Grass	1
Plantae	Flora	Poaceae	RYTI	<i>Rytidosperma spp.</i>		1
Plantae	Flora	Poaceae	14323	<i>Rytidosperma tenuius</i>		2
Plantae	Flora	Poaceae	5165	<i>Setaria palmifolia</i>	* Palm Grass	9
Plantae	Flora	Poaceae	13468	<i>Setaria parviflora</i>	*	15
Plantae	Flora	Poaceae	7842	<i>Setaria pumila</i>	* Pale Pigeon Grass	1
Plantae	Flora	Poaceae	5167	<i>Setaria sphacelata</i>	* South African Pigeon Grass	1
Plantae	Flora	Poaceae	7843	<i>Spinifex sericeus</i>	Hairy Spinifex	11
Plantae	Flora	Poaceae	5176	<i>Sporobolus africanus</i>	* Parramatta Grass	12
Plantae	Flora	Poaceae	5179	<i>Sporobolus creber</i>	Slender Rat's Tail Grass	1
Plantae	Flora	Poaceae	SPOR	<i>Sporobolus spp.</i>	Rat's Tail Couch	1
Plantae	Flora	Poaceae	5184	<i>Sporobolus virginicus</i>		3
Plantae	Flora	Poaceae	9336	<i>Sporobolus virginicus var.</i> <i>virginicus</i>	Sand Couch	6
Plantae	Flora	Poaceae	5185	<i>Stenotaphrum secundatum</i>	* Buffalo Grass	28
Plantae	Flora	Poaceae	5217	<i>Tetrarrhena juncea</i>	Wiry Ricegrass	4
Plantae	Flora	Poaceae	7770	<i>Themeda triandra</i>		99
Plantae	Flora	Poaceae	5243	<i>Zoysia macrantha</i>	Prickly Couch	9

Plantae	Flora	Podocarpaceae	13480	<i>Afrocarpus falcatus</i>	*		1
Plantae	Flora	Podocarpaceae	5246	<i>Podocarpus elatus</i>		Plum Pine	1
Plantae	Flora	Polygalaceae	5252	<i>Comesperma defoliatum</i>			1
Plantae	Flora	Polygalaceae	5253	<i>Comesperma ericinum</i>		Pyramid Flower	11
Plantae	Flora	Polygalaceae	5256	<i>Comesperma sphaerocarpum</i>			2
Plantae	Flora	Polygalaceae	5257	<i>Comesperma volubile</i>			5
Plantae	Flora	Polygalaceae	5261	<i>Polygala myrtifolia</i>	*		2
Plantae	Flora	Polygonaceae	5263	<i>Acetosa sagittata</i>	*	Rambling Dock	35
Plantae	Flora	Polygonaceae	5265	<i>Acetosella vulgaris</i>	*	Sheep Sorrel	1
Plantae	Flora	Polygonaceae	7568	<i>Persicaria decipiens</i>		Slender Knotweed	1
Plantae	Flora	Polygonaceae	PERC	<i>Persicaria spp.</i>		Knotweed	1
Plantae	Flora	Polygonaceae	5296	<i>Rumex brownii</i>		Swamp Dock	2
Plantae	Flora	Polygonaceae	5298	<i>Rumex crispus</i>	*	Curled Dock	1
Plantae	Flora	Polygonaceae	5302	<i>Rumex obtusifolius</i>	*	Broadleaf Dock	2
Plantae	Flora	Polygonaceae	RUME	<i>Rumex spp.</i>		Dock	2
Plantae	Flora	Polypodiaceae	8155	<i>Dictymia brownii</i>		Strap Fern	1
Plantae	Flora	Polypodiaceae	8159	<i>Platyterium bifurcatum</i>		Elkhorn Fern	P 4
Plantae	Flora	Polypodiaceae	PLAY	<i>Platyterium spp.</i>			P 1
Plantae	Flora	Polypodiaceae	8163	<i>Pyrosia rupestris</i>		Rock Felt Fern	5
Plantae	Flora	Portulacaceae	5324	<i>Portulaca oleracea</i>		Pigweed	2
Plantae	Flora	Portulacaceae	11766	<i>Portulacaria afra</i>	*		1
Plantae	Flora	Posidoniaceae	5327	<i>Posidonia australis</i>		Seagrass	2
Plantae	Flora	Primulaceae	7459	<i>Aegiceras corniculatum</i>		River Mangrove	7
Plantae	Flora	Primulaceae	14614	<i>Lysimachia arvensis</i>	*	Scarlet Pimpernel	12
Plantae	Flora	Primulaceae	11948	<i>Myrsine howittiana</i>		Brush Muttonwood	12
Plantae	Flora	Primulaceae	11953	<i>Myrsine variabilis</i>			52
Plantae	Flora	Primulaceae	5337	<i>Samolus repens</i>		Creeping Brookweed	2
Plantae	Flora	Proteaceae	5339	<i>Banksia aemula</i>		Wallum Banksia	1
Plantae	Flora	Proteaceae	5342	<i>Banksia ericifolia</i>		Heath-leaved Banksia	71
Plantae	Flora	Proteaceae	11049	<i>Banksia ericifolia subsp. ericifolia</i>			20
Plantae	Flora	Proteaceae	5343	<i>Banksia integrifolia</i>		Coast Banksia	59
Plantae	Flora	Proteaceae	6603	<i>Banksia integrifolia subsp. intearifolia</i>		Coastal Banksia	37
Plantae	Flora	Proteaceae	5344	<i>Banksia marginata</i>		Silver Banksia	7
Plantae	Flora	Proteaceae	5345	<i>Banksia oblongifolia</i>		Fern-leaved Banksia	23
Plantae	Flora	Proteaceae	5347	<i>Banksia robur</i>		Swamp Banksia	2
Plantae	Flora	Proteaceae	5348	<i>Banksia serrata</i>		Old-man Banksia	95
Plantae	Flora	Proteaceae	5349	<i>Banksia spinulosa</i>		Hairpin Banksia	P 15
Plantae	Flora	Proteaceae	7488	<i>Banksia spinulosa var. spinulosa</i>			P 18
Plantae	Flora	Proteaceae	9136	<i>Conospermum ellipticum</i>			1
Plantae	Flora	Proteaceae	9976	<i>Conospermum ericifolium</i>			28
Plantae	Flora	Proteaceae	5351	<i>Conospermum longifolium</i>		Long Leaf Smoke-bush	9
Plantae	Flora	Proteaceae	8612	<i>Conospermum longifolium subsp. longifolium</i>			9
Plantae	Flora	Proteaceae	5352	<i>Conospermum taxifolium</i>		Variable Smoke-bush	1
Plantae	Flora	Proteaceae	5364	<i>Grevillea buxifolia</i>		Grey Spider Flower	43
Plantae	Flora	Proteaceae	8409	<i>Grevillea buxifolia subsp. buxifolia</i>			15
Plantae	Flora	Proteaceae	5381	<i>Grevillea linearifolia</i>		Linear-leaf Grevillea	5
Plantae	Flora	Proteaceae	5384	<i>Grevillea montana</i>			1
Plantae	Flora	Proteaceae	5385	<i>Grevillea mucronulata</i>			1
Plantae	Flora	Proteaceae	5388	<i>Grevillea oleoides</i>		Red Spider Flower	1
Plantae	Flora	Proteaceae	5396	<i>Grevillea robusta</i>		Silky Oak	6
Plantae	Flora	Proteaceae	5399	<i>Grevillea sericea</i>		Pink Spider Flower	34
Plantae	Flora	Proteaceae	10979	<i>Grevillea sericea subsp. sericea</i>			17
Plantae	Flora	Proteaceae	5401	<i>Grevillea speciosa</i>		Red Spider Flower	49
Plantae	Flora	Proteaceae	5402	<i>Grevillea sphacelata</i>		Grey Spider Flower	2
Plantae	Flora	Proteaceae	GREV	<i>Grevillea spp.</i>			4
Plantae	Flora	Proteaceae	5409	<i>Hakea dactyloides</i>		Finger Hakea	18
Plantae	Flora	Proteaceae	5415	<i>Hakea gibbosa</i>			21
Plantae	Flora	Proteaceae	11254	<i>Hakea laevipes</i>			3
Plantae	Flora	Proteaceae	10804	<i>Hakea laevipes subsp. laevipes</i>			4
Plantae	Flora	Proteaceae	5421	<i>Hakea propinqua</i>			3
Plantae	Flora	Proteaceae	5424	<i>Hakea salicifolia</i>		Willow-leaved Hakea	10
Plantae	Flora	Proteaceae	5425	<i>Hakea sericea</i>		Needlebush	47
Plantae	Flora	Proteaceae	5427	<i>Hakea teretifolia</i>		Needlebush	57
Plantae	Flora	Proteaceae	10808	<i>Hakea teretifolia subsp. teretifolia</i>			11

Plantae	Flora	Proteaceae	5433	<i>Isopogon anemonifolius</i>	Broad-leaf Drumsticks	P	16
Plantae	Flora	Proteaceae	6839	<i>Isopogon anethifolius</i>	Narrow-leaf Drumsticks	P	29
Plantae	Flora	Proteaceae	5440	<i>Lambertia formosa</i>	Mountain Devil		53
Plantae	Flora	Proteaceae	LAMB	<i>Lambertia spp.</i>			1
Plantae	Flora	Proteaceae	5444	<i>Lomatia myricoides</i>	River Lomatia		1
Plantae	Flora	Proteaceae	5445	<i>Lomatia silaifolia</i>	Crinkle Bush	P	28
Plantae	Flora	Proteaceae	9680	<i>Macadamia integrifolia</i>	Macadamia Nut	V	8
Plantae	Flora	Proteaceae	5458	^^ <i>Persoonia hirsuta</i>	Hairy Geebung	E1,P,3	5
Plantae	Flora	Proteaceae	8414	<i>Persoonia isophylla</i>		P	4
Plantae	Flora	Proteaceae	5460	<i>Persoonia lanceolata</i>	Lance Leaf Geebung	P	43
Plantae	Flora	Proteaceae	5462	<i>Persoonia levis</i>	Broad-leaved Geebung	P	46
Plantae	Flora	Proteaceae	5463	<i>Persoonia linearis</i>	Narrow-leaved Geebung	P	61
Plantae	Flora	Proteaceae	5468	<i>Persoonia oblongata</i>		P	1
Plantae	Flora	Proteaceae	5469	<i>Persoonia pinifolia</i>	Pine-leaved Geebung	P	31
Plantae	Flora	Proteaceae	5478	<i>Petrophile pedunculata</i>		P	1
Plantae	Flora	Proteaceae	5479	<i>Petrophile pulchella</i>	Conesticks	P	70
Plantae	Flora	Proteaceae	5481	<i>Stenocarpus salignus</i>	Scrub Beefwood		2
Plantae	Flora	Proteaceae	5482	<i>Stenocarpus sinuatus</i>	Firewheel Tree		5
Plantae	Flora	Proteaceae	5488	<i>Telopea speciosissima</i>	Waratah	P	10
Plantae	Flora	Proteaceae	5490	<i>Xylomelum pyriforme</i>	Woody Pear	P	11
Plantae	Flora	Psilotaceae	8165	<i>Psilotum nudum</i>	Skeleton Fork-Fern		6
Plantae	Flora	Psilotaceae	8170	<i>Tmesipteris truncata</i>		P	2
Plantae	Flora	Pteridaceae	7997	<i>Adiantum aethiopicum</i>	Common Maidenhair	P	63
Plantae	Flora	Pteridaceae	7999	<i>Adiantum formosum</i>	Giant Maidenhair	P	5
Plantae	Flora	Pteridaceae	8000	<i>Adiantum hispidulum</i>	Rough Maidenhair	P	20
Plantae	Flora	Pteridaceae	11226	<i>Adiantum hispidulum var. hispidulum</i>	Rough Maidenhair	P	7
Plantae	Flora	Pteridaceae	6382	<i>Cheilanthes distans</i>	Bristly Cloak Fern		1
Plantae	Flora	Pteridaceae	10439	<i>Cheilanthes sieberi</i>	Rock Fern		1
Plantae	Flora	Pteridaceae	8007	<i>Cheilanthes sieberi subsp. sieberi</i>	Rock Fern		3
Plantae	Flora	Pteridaceae	8444	<i>Pellaea falcata</i>	Sickle Fern		1
Plantae	Flora	Pteridaceae	8010	<i>Pellaea paradoxa</i>			1
Plantae	Flora	Pteridaceae	10490	<i>Pellaea viridis var. viridis</i>	* Green Cliff Brake		1
Plantae	Flora	Pteridaceae	8175	<i>Pteris tremula</i>	Tender Brake		3
Plantae	Flora	Pteridaceae	8176	<i>Pteris umbrosa</i>	Jungle Brake		1
Fungi	Flora	Pucciniaceae	F044	<i>Uredo rangelii</i>	* Myrtle Rust		1
Plantae	Flora	Ranunculaceae	5493	<i>Clematis aristata</i>	Old Man's Beard		16
Plantae	Flora	Ranunculaceae	5495	<i>Clematis glycinoides</i>	Headache Vine		2
Plantae	Flora	Ranunculaceae	6903	<i>Clematis glycinoides var. glycinoides</i>			6
Plantae	Flora	Ranunculaceae	CLEM	<i>Clematis spp.</i>			7
Plantae	Flora	Ranunculaceae	5518	<i>Ranunculus plebeius</i>	Forest Buttercup		1
Plantae	Flora	Ranunculaceae	8811	<i>Ranunculus sessiliflorus var. sessiliflorus</i>			1
Plantae	Flora	Ranunculaceae	RANU	<i>Ranunculus spp.</i>			1
Plantae	Flora	Restionaceae	10606	<i>Baloskion fimbriatum</i>			1
Plantae	Flora	Restionaceae	10607	<i>Baloskion gracile</i>			2
Plantae	Flora	Restionaceae	13527	<i>Chordifex dimorphus</i>			2
Plantae	Flora	Restionaceae	13528	<i>Chordifex fastigiatus</i>			9
Plantae	Flora	Restionaceae	5532	<i>Empodisma minus</i>			7
Plantae	Flora	Restionaceae	10615	<i>Eurychorda complanata</i>			4
Plantae	Flora	Restionaceae	5533	<i>Hypolaena fastigiata</i>			2
Plantae	Flora	Restionaceae	5534	<i>Leptocarpus tenax</i>			2
Plantae	Flora	Restionaceae	5541	<i>Lepyrodia scariosa</i>			33
Plantae	Flora	Rhamnaceae	7686	<i>Alphitonia excelsa</i>	Red Ash		1
Plantae	Flora	Rhamnaceae	9868	<i>Pomaderris elliptica subsp. elliptica</i>			1
Plantae	Flora	Rhamnaceae	5579	<i>Pomaderris ferruginea</i>			10
Plantae	Flora	Rhamnaceae	9854	<i>Pomaderris mediora</i>			9
Plantae	Flora	Rhamnaceae	POMA	<i>Pomaderris spp.</i>			1
Plantae	Flora	Ripogonaceae	6021	<i>Ripogonum fawcettianum</i>	Small Supplejack		1
Plantae	Flora	Rosaceae	11955	<i>Potentilla indica</i>	* Indian Strawberry		3
Plantae	Flora	Rosaceae	POTE	<i>Potentilla spp.</i>	*		1
Plantae	Flora	Rosaceae	5625	<i>Prunus persica</i>	*		1
Plantae	Flora	Rosaceae	PRUN	<i>Prunus spp.</i>	*		7
Plantae	Flora	Rosaceae	5635	<i>Rosa rubiginosa</i>	* Sweet Briar		2
Plantae	Flora	Rosaceae	11303	<i>Rubus fruticosus sp. agg.</i>	* Blackberry complex		11
Plantae	Flora	Rosaceae	11236	<i>Rubus moluccanus var. trilobus</i>	Molucca Bramble		8
Plantae	Flora	Rosaceae	5642	<i>Rubus parvifolius</i>	Native Raspberry		3
Plantae	Flora	Rosaceae	RUBU	<i>Rubus spp.</i>			1
Plantae	Flora	Rosaceae	5646	<i>Rubus ulmifolius</i>	* Blackberry		3
Plantae	Flora	Rubiaceae	5676	<i>Coprosma repens</i>	* Taupata		8

Plantae	Flora	Rubiaceae	11599	<i>Cyclophyllum longipetalum</i>	Coast Canthium				1
Plantae	Flora	Rubiaceae	5681	<i>Galium binifolium</i>					3
Plantae	Flora	Rubiaceae	5688	<i>Galium propinquum</i>	Maori Bedstraw				2
Plantae	Flora	Rubiaceae	14922	<i>Gynochthodes jasminoides</i>	Sweet Morinda				41
Plantae	Flora	Rubiaceae	5697	<i>Opercularia aspera</i>	Coarse Stinkweed				10
Plantae	Flora	Rubiaceae	5698	<i>Opercularia diphylla</i>	Stinkweed				2
Plantae	Flora	Rubiaceae	5699	<i>Opercularia hispida</i>	Hairy Stinkweed				6
Plantae	Flora	Rubiaceae	5701	<i>Opercularia varia</i>	Variable Stinkweed				3
Plantae	Flora	Rubiaceae	5703	<i>Pomax umbellata</i>	Pomax				46
Plantae	Flora	Rubiaceae	5706	<i>Psychotria laniceroides</i>	Hairy Psychotria				1
Plantae	Flora	Rubiaceae	5713	<i>Richardia stellaris</i>	*				1
Plantae	Flora	Rutaceae	5722	<i>Acronychia oblongifolia</i>	White Aspen				9
Plantae	Flora	Rutaceae	5728	<i>Asterolasia correifolia</i>					1
Plantae	Flora	Rutaceae	5734	<i>Boronia anethifolia</i>		P			1
Plantae	Flora	Rutaceae	5740	<i>Boronia floribunda</i>	Pale-pink Boronia	P			7
Plantae	Flora	Rutaceae	5741	<i>Boronia fraseri</i>		P			1
Plantae	Flora	Rutaceae	5744	<i>Boronia ledifolia</i>	Sydney Boronia	P			61
Plantae	Flora	Rutaceae	5746	<i>Boronia mollis</i>	Soft Boronia	P			9
Plantae	Flora	Rutaceae	5749	<i>Boronia parviflora</i>	Swamp Boronia	P			1
Plantae	Flora	Rutaceae	5750	<i>Boronia pinnata</i>		P			21
Plantae	Flora	Rutaceae	5759	<i>Boronia serrulata</i>	Rose Boronia	P			15
Plantae	Flora	Rutaceae	7210	<i>Boronia thujona</i>		P			1
Plantae	Flora	Rutaceae	9099	<i>Boronia umbellata</i>	Orara Boronia	V,P	V		1
Plantae	Flora	Rutaceae	14241	<i>Calodendrum capense</i>	* Cape Chestnut				1
Plantae	Flora	Rutaceae	CITU	<i>Citrus spp.</i>					2
Plantae	Flora	Rutaceae	10758	<i>Citrus x taitensis</i>	* Rough Lemon				8
Plantae	Flora	Rutaceae	11861	<i>Coleonema pulchellum</i>	*				2
Plantae	Flora	Rutaceae	10046	<i>Correa alba var. alba</i>	White Correa				21
Plantae	Flora	Rutaceae	11021	<i>Correa lawrenceana var. cordifolia</i>					1
Plantae	Flora	Rutaceae	11023	<i>Correa lawrenceana var. macrocalyx</i>					1
Plantae	Flora	Rutaceae	5772	<i>Correa reflexa</i>	Native Fuschia				10
Plantae	Flora	Rutaceae	8801	<i>Correa reflexa var. reflexa</i>	Native Fuschia				3
Plantae	Flora	Rutaceae	CORR	<i>Correa spp.</i>					1
Plantae	Flora	Rutaceae	5774	<i>Crowea exalata</i>		P			3
Plantae	Flora	Rutaceae	5775	<i>Crowea saligna</i>		P			8
Plantae	Flora	Rutaceae	5776	<i>Eriostemon australasius</i>		P			13
Plantae	Flora	Rutaceae	9042	<i>Murraya paniculata</i>	*				9
Plantae	Flora	Rutaceae	5826	<i>Phebalium squamulosum</i>	Scaly Phebalium	P			7
Plantae	Flora	Rutaceae	8374	<i>Phebalium squamulosum subsp. squamulosum</i>		P			1
Plantae	Flora	Rutaceae	10578	<i>Philothea buxifolia subsp. buxifolia</i>		P,P			1
Plantae	Flora	Rutaceae	10579	<i>Philothea buxifolia subsp. obovata</i>		P			1
Plantae	Flora	Rutaceae	10588	<i>Philothea myoporoides</i>	Long-leaf Wax Flower	P			1
Plantae	Flora	Rutaceae	10990	<i>Philothea reichenbachii</i>		P			1
Plantae	Flora	Rutaceae	5831	<i>Philothea salsolifolia</i>		P			3
Plantae	Flora	Rutaceae	10596	<i>Philothea salsolifolia subsp. salsolifolia</i>		P			1
Plantae	Flora	Rutaceae	10597	<i>Philothea scabra</i>		P			2
Plantae	Flora	Rutaceae	10599	<i>Philothea scabra subsp. scabra</i>		P			1
Plantae	Flora	Rutaceae	PHIL	<i>Philothea spp.</i>		P			1
Plantae	Flora	Rutaceae	5841	<i>Zieria laevigata</i>	Smooth Zieria				2
Plantae	Flora	Rutaceae	5845	<i>Zieria pilosa</i>	Pilose-leaved Zieria				7
Plantae	Flora	Rutaceae	5847	<i>Zieria smithii</i>	Sandfly Zieria				31
Plantae	Flora	Salicaceae	5848	<i>Populus alba</i>	*				1
Plantae	Flora	Santalaceae	5860	<i>Exocarpos cupressiformis</i>	Cherry Ballart				18
Plantae	Flora	Santalaceae	5864	<i>Exocarpos strictus</i>	Dwarf Cherry				1
Plantae	Flora	Santalaceae	5865	<i>Leptomeria acida</i>	Sour Currant Bush				2
Plantae	Flora	Sapindaceae	1014	<i>Acer negundo</i>	*				7
Plantae	Flora	Sapindaceae	5875	<i>Alectryon subcinereus</i>	Wild Quince				4
Plantae	Flora	Sapindaceae	5882	<i>Cardiospermum arandiflorum</i>	*				5
Plantae	Flora	Sapindaceae	5884	<i>Cupaniopsis anacardioides</i>	Tuckeroo				6
Plantae	Flora	Sapindaceae	5911	<i>Dodonaea triquetra</i>	Large-leaf Hop-bush				41
Plantae	Flora	Sapindaceae	5917	<i>Guioa semiglauc</i>	Guioa				2
Plantae	Flora	Schizaeaceae	8181	<i>Schizaea bifida</i>	Forked Comb Fern				5
Plantae	Flora	Schizaeaceae	8182	<i>Schizaea dichotoma</i>	Branched Comb Fern				3
Plantae	Flora	Schizaeaceae	8184	<i>Schizaea rupestris</i>					1
Plantae	Flora	Schizaeaceae	SCHZ	<i>Schizaea spp.</i>					2

Plantae	Flora	Scrophulariaceae	9043	<i>Myoporum boninense</i> <i>subsp. australe</i>		5
Plantae	Flora	Selaginellaceae	8187	<i>Selaginella uliginosa</i>	Swamp Selaginella	2
Plantae	Flora	Simaroubaceae	6012	<i>Ailanthus altissima</i>	* Tree of Heaven	1
Plantae	Flora	Smilacaceae	7592	<i>Smilax australis</i>	Lawyer Vine	26
Plantae	Flora	Smilacaceae	6022	<i>Smilax glycyphylla</i>	Sweet Sarsparilla	124
Plantae	Flora	Solanaceae	6026	<i>Cestrum aurantiacum</i>	* Orange Cestrum	1
Plantae	Flora	Solanaceae	7108	<i>Cestrum nocturnum</i>	* Lady-of-the-night	1
Plantae	Flora	Solanaceae	6027	<i>Cestrum parqui</i>	* Green Cestrum	10
Plantae	Flora	Solanaceae	6036	<i>Duboisia myoporoides</i>	Corkwood	2
Plantae	Flora	Solanaceae	6041	<i>Lycopersicon esculentum</i>	* Tomato	4
Plantae	Flora	Solanaceae	6058	<i>Physalis peruviana</i>	* Cape Gooseberry	5
Plantae	Flora	Solanaceae	7043	<i>Solanum americanum</i>	* Glossy Nightshade	4
Plantae	Flora	Solanaceae	6065	<i>Solanum aviculare</i>	Kangaroo Apple	2
Plantae	Flora	Solanaceae	6069	<i>Solanum campanulatum</i>		5
Plantae	Flora	Solanaceae	6071	<i>Solanum chenopodioides</i>	* Whitetip Nightshade	1
Plantae	Flora	Solanaceae	6090	<i>Solanum mauritianum</i>	* Wild Tobacco Bush	15
Plantae	Flora	Solanaceae	6091	<i>Solanum nigrum</i>	* Black-berry Nightshade	49
Plantae	Flora	Solanaceae	6095	<i>Solanum opacum</i>	Green-berry Nightshade	1
Plantae	Flora	Solanaceae	6100	<i>Solanum prinophyllum</i>	Forest Nightshade	9
Plantae	Flora	Solanaceae	6102	<i>Solanum pungetium</i>	Eastern Nightshade	3
Plantae	Flora	Solanaceae	6104	<i>Solanum seforthianum</i>	* Climbing Nightshade	3
Plantae	Flora	Solanaceae	SOLA	<i>Solanum</i> spp.		1
Plantae	Flora	Solanaceae	6114	<i>Solanum triflorum</i>	* Three-flowered Nightshade	1
Plantae	Flora	Stackhousiaceae	6122	<i>Stackhousia nuda</i>		1
Plantae	Flora	Stackhousiaceae	6125	<i>Stackhousia viminea</i>	Slender Stackhousia	2
Plantae	Flora	Strelitziaceae	11588	<i>Ravenala madagascariensis</i>	*	4
Plantae	Flora	Strelitziaceae	11725	<i>Strelitzia nicolai</i>	*	8
Plantae	Flora	Strelitziaceae	11726	<i>Strelitzia reginae</i>	*	5
Plantae	Flora	Strelitziaceae	STRI	<i>Strelitzia</i> spp.	*	3
Plantae	Flora	Stylidiaceae	6157	<i>Stylidium graminifolium</i>	Grass Triggerplant	1
Plantae	Flora	Stylidiaceae	6159	<i>Stylidium lineare</i>	Narrow-leaved Triggerplant	7
Plantae	Flora	Stylidiaceae	6160	<i>Stylidium productum</i>		4
Plantae	Flora	Theaceae	11595	<i>Camellia japonica</i>	* Camellia	4
Plantae	Flora	Theaceae	11596	<i>Camellia sasanqua</i>	* Sasanqua Camellia	2
Plantae	Flora	Theaceae	CAML	<i>Camellia</i> spp.	*	1
Plantae	Flora	Thelypteridaceae	14610	<i>Cyclosorus dentatus</i>	Binung	6
Plantae	Flora	Thymelaeaceae	6180	<i>Pimelea latifolia</i>		1
Plantae	Flora	Thymelaeaceae	6475	<i>Pimelea latifolia</i> subsp. <i>hirsuta</i>		3
Plantae	Flora	Thymelaeaceae	8676	<i>Pimelea ligustrina</i> subsp. <i>liqustrina</i>		3
Plantae	Flora	Thymelaeaceae	6182	<i>Pimelea linifolia</i>	Slender Rice Flower	32
Plantae	Flora	Thymelaeaceae	6814	<i>Pimelea linifolia</i> subsp. <i>linifolia</i>		18
Plantae	Flora	Thymelaeaceae	6197	<i>Wikstroemia indica</i>		9
Plantae	Flora	Tropaeolaceae	6215	<i>Tropaeolum majus</i>	* Nasturtium	11
Plantae	Flora	Typhaceae	6217	<i>Typha orientalis</i>	Broad-leaved Cumbungi	1
Plantae	Flora	Ulmaceae	8436	<i>Celtis sinensis</i>	* Japanese Hackberry	1
Plantae	Flora	Ulmaceae	6761	<i>Trema tomentosa</i> var. <i>aspera</i>	Native Peach	17
Plantae	Flora	Urticaceae	6232	<i>Parietaria judaica</i>	* Pellitory	17
Plantae	Flora	Uvulariaceae	3566	<i>Schelhammera undulata</i>		43
Plantae	Flora	Verbenaceae	11578	<i>Citharexylum spinosum</i>	*	1
Plantae	Flora	Verbenaceae	10898	<i>Duranta erecta</i>	* Sky Flower	1
Plantae	Flora	Verbenaceae	6248	<i>Lantana camara</i>	* Lantana	140
Plantae	Flora	Verbenaceae	6249	<i>Lantana montevidensis</i>	* Trailing Lantana	3
Plantae	Flora	Verbenaceae	6256	<i>Verbena bonariensis</i>	* Purpletop	10
Plantae	Flora	Verbenaceae	11406	<i>Verbena rigida</i> var. <i>rigida</i>	* Veined Verbena	2
Plantae	Flora	Verbenaceae	VERE	<i>Verbena</i> spp.		1
Plantae	Flora	Violaceae	6266	<i>Hybanthus monopetalus</i>	Slender Violet-bush	4
Plantae	Flora	Violaceae	6267	<i>Hybanthus vernonii</i>		1
Plantae	Flora	Violaceae	12061	<i>Meliclytus dentatus</i>	Tree Violet	1
Plantae	Flora	Violaceae	11863	<i>Viola banksii</i>		1
Plantae	Flora	Violaceae	13638	<i>Viola concaulescens</i>		1
Plantae	Flora	Violaceae	6272	<i>Viola hederacea</i>	Ivy-leaved Violet	54
Plantae	Flora	Violaceae	6274	<i>Viola odorata</i>	* Sweet Violet	2
Plantae	Flora	Viscaceae	6279	<i>Notothixos subaureus</i>	Golden Mistletoe	2
Plantae	Flora	Vitaceae	6281	<i>Cayratia clematidea</i>	Native Grape	59
Plantae	Flora	Vitaceae	6282	<i>Cissus antarctica</i>	Water Vine	38
Plantae	Flora	Vitaceae	6283	<i>Cissus hypoglauca</i>	Giant Water Vine	83

Plantae	Flora	Vitaceae	11767	<i>Vitis vinifera</i>	*	Grape Vine	1
Plantae	Flora	Xanthorrhoeaceae	6315	<i>Xanthorrhoea arborea</i>		P	53
Plantae	Flora	Xanthorrhoeaceae	9309	<i>Xanthorrhoea latifolia</i> subsp. <i>latifolia</i>		P	1
Plantae	Flora	Xanthorrhoeaceae	6318	<i>Xanthorrhoea macronema</i>		P	13
Plantae	Flora	Xanthorrhoeaceae	6319	<i>Xanthorrhoea media</i>		P	43
Plantae	Flora	Xanthorrhoeaceae	7919	<i>Xanthorrhoea minor</i> subsp. <i>minor</i>		P	2
Plantae	Flora	Xanthorrhoeaceae	6321	<i>Xanthorrhoea resinosa</i>		P	14
Plantae	Flora	Xanthorrhoeaceae	XANT	<i>Xanthorrhoea</i> spp.		P	25
Plantae	Flora	Xyridaceae	11035	<i>Xyris bracteata</i>			2
Plantae	Flora	Xyridaceae	7247	<i>Xyris complanata</i>			1
Plantae	Flora	Xyridaceae	6322	<i>Xyris gracilis</i>			4
Plantae	Flora	Xyridaceae	6323	<i>Xyris juncea</i>		Dwarf Yellow-eye	2
Plantae	Flora	Xyridaceae	6324	<i>Xyris operculata</i>			1
Plantae	Flora	Zamiaceae	6327	<i>Macrozamia communis</i>		Burrawang	P 109
Plantae	Flora	Zamiaceae	MACZ	<i>Macrozamia</i> spp.			P 1
Plantae	Flora	Zingiberaceae	6340	<i>Alpinia caerulea</i>		Native Ginger	2
Plantae	Flora	Zingiberaceae	ALPI	<i>Alpinia</i> spp.			1
Plantae	Flora	Zingiberaceae	6787	<i>Hedychium gardnerianum</i>	*	Ginger Lily	37
Plantae	Flora	Zosteraceae	6342	<i>Heterozostera tasmanica</i>			1
Plantae	Flora	Zosteraceae	13649	<i>Zostera muelleri</i> subsp. <i>capricorni</i>			1
Plantae	Flora	Picrodendraceae	2736	<i>Micranthemum ericoides</i>			15
Plantae	Flora	Picrodendraceae	2737	<i>Micranthemum hexandrum</i>			1

Appendix F. Statement of Heritage Impact