

## Biodiversity Management Plan – 16 Macpherson St, Warriewood NSW

**Prepared For:** Warrimac Pty Ltd

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## 1.0 Introduction

At the request of Warrimac Pty Ltd (the client), Anderson Environment & Planning (AEP) have undertaken the necessary investigations to inform the production of a Biodiversity Management Plan (BMP) to schedule reconstruction measures associated with a proposed residential subdivision and dwelling construction at 16 Macpherson Street, Warriewood, NSW (Subject Site).

The BMP schedules reconstruction works for the creekline corridor located within the proposed development. The varying stages of regeneration are applicable to ensure minimal construction impacts on the regeneration during construction.

### 1.1 Biodiversity Management Plan Objectives

The purpose of this plan is to;

- Reinstatement a standard creek profile creating both ecological and hydraulic function within Narrabeen Creek.
- To provide a suitable location for the translocation of *Syzygium paniculatum* (Magenta Lilly Pilly) trees located within the existing riparian corridor.
- Regeneration vegetation in the north east of the Subject Site.

The BMP requires action to regenerate riparian lands while creating safe space within the proposed subdivision, incorporating best practice management of vegetation and fauna within the BMP Lands.

The overall BMP objectives are to provide:

- Education of the Plant Community Type (PCT) within the Subject Site;
- Reconstruction using council's standard creek design;
- Improving water quality and aquatic habitat;
- To assess and adjust weeding and planting regimes across the BMP;
- Areas of habitat for native flora and fauna, including locally occurring threatened species; and
- A long-term environmental conservation area, in a state of Natural Regeneration requiring nominal ongoing maintenance.

#### 1.1.1 Proposal

The proposed development involves a residential subdivision covering the entirety of the Lot. The land clearing required for the proposed development involves the removal of 0.21ha native vegetation from the Subject Site.

The proposal contains 28 residential lots and 2 lots containing an internal road, the reconstruction of Narrabeen Creek and the riparian corridor.

**Figure 1** and **2** shows the site location and ground-truthed vegetation respectively and **Appendix A** shows the proposed development.

#### 1.1.2 Supporting Reports

The BMP must be read and implemented in conjunction with the following reports:

- AEP (2023) *Ecological Assessment Report for a Proposed Residential Subdivision at 16 Macpherson Street, Warriewood, NSW.*;

### 1.2 BMP Lands

The BMP lands comprise 0.14ha and contain;

- The existing severely modified and highly degraded Narrabeen Creek; and
- A portion of the Subject Site that is proposed for riparian corridor reconstruction works.

Within both sections there are scattered patches of highly degraded PCT 1795, exotic pastures and cleared land.

The section of Narrabeen Creek proposed to be managed under the BMP is highly disturbed and will require plantings and erosion and sediment controls to ensure the banks of the creek remain stable and natural flow and ecological function are maintained. The creek present within the BMP Lands has limited watercourse features as identified in Department of Planning, Industry and Environment (2020), *Natural Resources Access Regulator Waterfront Land Tool*, such as pools, riffles, meanders and aquatic vegetation.

The BMP will utilise the principles within Northern Beaches Creek profiles, to reinstate natural features within the proposed management zones while regenerating the aquatic and riparian ecosystems. It is proposed that the standard creek profile will be regenerated with aquatic species within the creek line to toe of bank and PCTs 1795 for remaining BMP lands.

The main aim of the BMP lands is to educate the community and promote community awareness and knowledge of both flora and fauna in the area. This has been shown to develop community ownership of environmental zones and protection. Community ownership and knowledge reduces vandalism and garden and other waste dumping as the community feels a sense of ownership.

The BMP lands are proposed to be managed under a 5-year Biodiversity Management Plan, including standard creek design, plantings, translocation of threatened species, weed management, pest and disease management, installation of habitat, educational signs, footpaths, viewing area and frog ponds.

To ensure protection of the downstream riparian area, measures such as erosion and sedimentation controls are to be installed prior to construction commencing, and regularly inspected and maintained (weekly or after rain events) during construction works.

The Water Sensitive Urban Design (WSUD) measures are incorporated within the detailed design of each stage to ensure Narrabeen Lagoon Catchment receptor is maintained and enhanced for both quality and quantity.

In accordance with Section 201 of the *Fisheries Management Act 1994* (FM ACT), a permit is required to undertake the proposed works within the second order stream to reconfigure (dredge and reclaim) the creek profile and divert (block fish passage) during construction works.

There are no Asset Protection Zones (APZs) located within the BMP lands.

### 1.3 Existing Site Conditions

The Subject Site was inspected and floristic surveys were undertaken by AEP in June 2022. These inspections included general site reconnaissance and traversal to verify previously mapped vegetation communities and determine vegetation / flora / fauna assessment, location of modified channel, erosion and deposition of the BMP lands as well as the broader site.

**Figure 2** shows ground-truthed vegetation boundaries. **Figure 3** outlines the proposed management zones and areas impacted by the development.

## 2.0 Regeneration Approach

The BMP schedules differing ecological approaches to the regeneration of the BMP Lands by implementing the principles of the Society for Ecological Restoration Australasia *National standards for the practice of ecological restoration in Australia* (SERA 2021, ed. 2.2). This approach utilises three integrated restoration techniques to achieve the end goal of Natural Regeneration. Approaches have been assigned to BMP Land areas based on their history of disturbance:

1. Reconstruction Approach – this approach is where a site is highly degraded and has limited to no ability to regenerate naturally.
2. Facilitated Regeneration Approach – this approach is when a site is in moderate condition, and will naturally regenerate with minimal plantings and weed management.
3. Natural Regeneration - this approach is where damage is relatively low, and pre-existing biota should be able to recover after cessation of degrading practices. It requires limited to no intervention, with weeding being the only task undertaken to encourage continual natural regeneration.

The aim for the entirety of the BMP lands is to achieve Natural Regeneration within five (5) years.

This is based on general condition at the point of assessment, where the Ecologist determines the most appropriate level of regeneration based on the Biodiversity Assessment and random meander of the Subject Site.

The National Guidelines also require that at commencement of approved regeneration works the first step is to gather baseline data. It is undertaken at the commencement of the BMP to ensure the most appropriate measure are used to ensure regeneration can occur. Natural events such as drought high rainfall, fire, floods, etc can all have significant impact on the condition of vegetation within a site. Hence the guidelines require regeneration areas be broken into the three categories and detailed baseline data be collected at commencement.



### 3.0 Council Standard Creek Design and Vegetated Riparian Zone

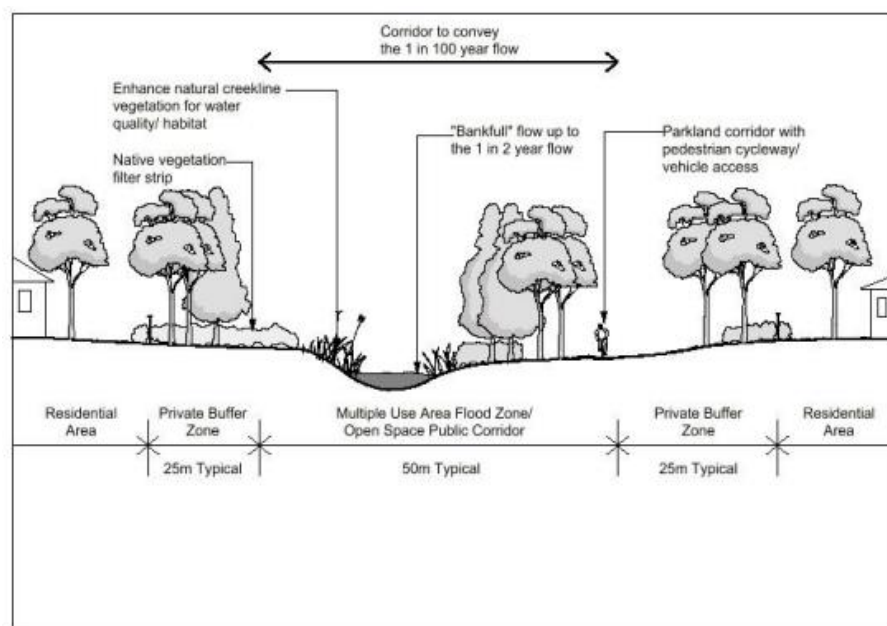
Narrabeen Creek within the BMP lands has been ground-truthed to be a Stream Order two. The creek is highly degraded, eroded and modified by past and present uses. The Department of Planning and Environment (Water) (DPE - Water) (formally known as Natural Resources Access Regulator) requires a 20m Vegetated Riparian Zone (VRZ) on a Stream Order 2.

To provide the VRZ on the stream in its current state, it is highly unlikely to provide suitable aquatic habitat or water quality to the Narrabeen Lagoon Catchment. The creek does not show many of the key features of a healthy river system:

- Defined bed and bank;
- Meanders;
- Pools;
- Riffles; and
- Aquatic vegetation.

As such it is proposed that Narrabeen Creek within the RE1 zone land is reinstated with Northern Beaches Council standard creek profile and vegetated riparian zone that will provide suitable aquatic habitat and improve water quality to the Narrabeen Lagoon Catchment.

**Plate 1** shows a cross section of watercourse to assist with the location of each zone.



**Plate 1 - Cross Section of Creekline Corridor (Lawson & Treloar, 2001)**

A review of the current literature showed that reinstated a standard creek profile within the Narrabeen Creek would ensure the above key features are present within the creek, and as a result improved water quality and

habitat for both terrestrial and aquatic organisms will be provided. **Plates 2 - 4** show photos of standard creek design examples.

This BMP provides the concept plan for the channel design, detailed engineering plans will be prepared prior to Construction Certificate.



**Plate 2 – Low Flow Channel and Pool (Brisbane City Council, 2003)**



**Plate 3 – Low Flow Channel (Australian Wetland Consulting, 2018)**



**Plate 4 – Bundamba Creek Restoration works (Australian Wetland Consulting, 2018)**

### 4.0 Management Zones

The BMP lands will be managed in two (2) Management Zones (MZs) to clearly identify of objectives and targets, **Figure 3** shows the MZs.

#### 4.1.1 Zone 1: Reconstruction - Aquatic Zone

This zone is located in the low flow channel to top of toe, consisting of a width of 1m – 2m; it will include the reinstating of aquatic vegetation and habitat such as snags.

The Reconstruction Approach is being utilised in MZ1. Planting of native species will assist with meeting the Targets outlines in **Section 5**.

Weeding as defined in **Table 2**, will effectively control priority species and areas through appropriate methods to eliminate highly competitive weeds from an area.

All works should be undertaken to ensure bed and bank stability, provisions of aquatic habitat for both flora and fauna.

As stated, the Reconstruction Approach requires active interventions, the tasks of which will be determined by the Bush Regeneration Contractor (BRC) and may involve the following tasks:

- Planting;
- Installation of snags;
- Weeding;
- Watering;
- Mulching (if required); and
- Replacement of dead plants (1:1).

The BMP aims to move into Natural Regeneration Approach by the end of Year 5.

#### 4.1.2 Zone 2: Reconstruction – PCT 1795 Coastal flats Swamp Mahogany Forest

MZ2 is located from the top of toe to the end of the riparian zone. MZ2 will be planted out with PCT 1795 - Coastal flats Swamp Mahogany Forest.

The Reconstruction Approach is being utilised in this section and the planting of native species form PCT 1795 will assist with meeting the Targets outlines in **Section 5**.

Weeding as defined in **Table 2** (effectively control priority species and areas through appropriate methods to eliminate highly competitive weeds from an area).

All works should be undertaken to ensure bed and bank stability, provisions of terrestrial habitat for both flora and fauna.

Signage is to be installed along the high bank providing information on the community and fauna species likely to use the banks and aquatic vegetation.

As stated, the Reconstruction Approach requires active interventions, the tasks of which will be determined by the Bush Regeneration Contractor (BRC) and may involve the following tasks:

- Planting;
- Installation of habitat;
- Weeding;
- Watering;
- Mulching (if required); and
- Replacement of dead plants (1:1).

The BMP aims to move into Natural Regeneration Approach by the end of Year 5.

## 5.0 Regeneration Targets

The Reconstruction Approach will be used across the entire BMP Lands and the following targets have been designed to be measurable, providing both quantitative and qualitative data on species abundance and cover for the vegetation communities within the BMP Lands.

Weeds have a significant impact on structural integrity of vegetation communities. Flora surveys identified 27 exotic species, with the following list being the most prevalent within the vegetation communities on site;

Lantana (*Lantana camara*), Small-leaved privet (*Ligustrum sinense*), Black Cobbler's Peg (*Bidens pilosa*) and Asparagus Fern (*Asparagus aethiophiticus*).

Exotic grasses comprise *Paspalum dilatatum* and *Ehrharta erecta* (Panic Veldtgrass)

Some of these species are identified as priority weeds for Greater Sydney. Predominantly exotic grasses and other herbaceous weeds will be the focus of weed management activities.

To achieve a Natural Regeneration throughout the entire BMP lands within five (5) years targets have been set within **Table 1. Tables 3 to 7** also summaries the works schedule required to achieve the targets.

**Table 1 – Summary of Regeneration Targets for Stage 1**

Year	Abundance of Natives (%)	Cover of Native (%)	Cover of Biosecurity Weeds (%)	Cover of Other Priority Weeds (%)
1	30	30	<70	<70
2	40	45	<45	<40
3	55	55	<30	<25
4	60	65	<20	<15
5	70	80	<10	<10

## 6.0 Translocation of *Syzygium paniculatum*

*Syzygium paniculatum* is an Endangered species due to numerous threats including low genetic diversity, small and isolated populations, habitat clearing, competition with weeds. Translocation of this species will minimise impacts to this species on site and will assist in maintain the local population on site.

### 6.1 Aims Treatment / Monitoring Plan

#### 6.1.1 Translocation Plan

The individual species of *Syzygium paniculatum*, identified within the Subject Site are proposed to be translocated.

Translocation is proposed to follow the below program:

- Trees will be tagged and health assessment undertaken;
- Civil contractor teams with supervision from the Project Arborists will dig out root balls of viable plants and they will be temporarily stored on site during reconstruction period before being translocated to MZ 2; and
- The trees will be watered, mulched and left for three-month establishment period.

#### 6.1.2 Monitoring Program

Annual reports will be provided to Council reporting on the progress of the treatment plan address:

- Health of trees;
- Percentage of new foliage; and
- Growth.

## 7.0 Regeneration Management

### 7.1 Baseline Data

Indicative monitoring points have been identified within the BMP Lands (refer **Figure 4**). The final location of the monitoring points is to be determined at commencing of the BMP.

Baseline data is to be collected at monitoring points at commencement. This data is collected at commencement to ensure the data is reflective of the conditions at commencement. Vegetation health, structure and composition can change over time, environmental impacts such as fire, drought or flood can have a significant impact on the communities and hence baseline data must be collected at commencement to ensure proposed methods and targets are achievable.

Baseline data consists of:

- Species diversity (both native and exotic);
- Species Abundance (both native and exotic);

- Overall health of the BMP Lands;
- Photos in north, east, south and west aspects;
- Record incidental fauna; and
- Required changes in methodology for regeneration.

The Monitoring Points established for the baseline surveys will then be monitored on a biannual basis, as per **8.1 Monitoring**.

### 7.2 Site Preparation

Prior to the commencement of regeneration, the BMP Lands must be prepared. The following works have been recommended to assist in site preparation:

- Establishment of pathogens and diseases controls. Diseases which could affect the site include Myrtle rust (*Puccinia psidii*), affecting Myrtaceous plants, including *Melaleuca* species, and Amphibian Chytrid fungus disease, Chytridiomycosis, caused by Chytrid fungus (*Batrachochytrium dendrobatidis*). Appropriate hygiene controls are to be employed to minimise the chances of any such introduction occurring. This may include a hygiene station equipped with sterilizing agents and cleaning equipment to clean boots, tools and machinery. Response plans are needed to be designed and implemented to mitigate impacts in the event of disease or pathogen outbreaks;
- All extant rubbish/waste is to be removed from BMP lands including farm fencing and structures. The need to remove such material should be assessed on a case-by-case basis as in some instances the material is inert, such as concrete, rocks and timber posts, etc. Such material may inadvertently provide geomorphic stability;
- Clearly mark native vegetation for retention and approved removal;
- Install temporary fence around the BMP Lands, and clearly mark as a "No Go Area" prior to commencement of civil works;
- Fencing should have clearly visible signage erected at key entry points to BMP;
- Implement erosion and sediment control measures in accordance with specifications set out in the latest edition of the Landcom publication "Soils and Constructions – Volume 1" (The Blue Book);
- Construction of the council's standard creek profile;
- Vegetation clearing;
- Establish monitoring and photo points;
- Collection of baseline data;
- Primary weed removal;
- Installation of ground habitat (logs and rocks);
- Planting of Vegetation (see **Appendix B** for a detailed species list). All plant stock must be provenance specific seed/ material collected from locally endemic species, grown by suitably experienced and qualified nurseries, and hardened-off before planting. This will ensure the



structure and composition of these communities will meet the targets set; and

- Mulching and watering.

### 7.3 Vegetation Clearing

For the clearing phase, retained vegetation will be delineated by safety bunting flags, fencing and signage indicating environmental protection zone, which will still allow fauna to egress the development area as needed. Following the completion of clearing works, permanent delineation features such as logs should be installed to protect the retained vegetation during operational phase of the development;

- Vegetation clearing should be timed to avoid cold weather periods where overnight temperatures are forecast to be less than 12°C. Cold weather is likely to make it difficult for resident hollow dependent fauna to successfully relocate. This is particularly relevant for low body-weight species;
- A staged approach to clearing is to be undertaken to provide fauna the opportunity to disperse outside the area of impact. Staging to include Phase 1 Clearing: Underscrubbing, Phase 2 Clearing: Removal of non-habitat trees, and Phase 3 Clearing: Removal of habitat and connecting trees;
- All clearing works (phase 1-3) to be undertaken under the supervision of the Project Ecologist;
- Clearing should occur in a direction from previously disturbed lands towards retained lands;
- Implement clearing protocols, including pre-clearance surveys to identify habitat and vegetation to be retained;
- All clearing works to be attended by a suitable equipped and experienced ecologist to deal appropriately with any displaced fauna species;
- All hollow bearing features will be sectionally lowered by tree climbers (where safe to do so);
- Any fauna rescued during vegetation clearing is to be assessed for injuries, and subsequently released to a suitable nearby location; this may require holding fauna until dusk for release in accordance with relevant animal ethics licencing and standards;
- If any fauna is injured during vegetation clearing, they are to be taken promptly to a nearby veterinarian or suitable wildlife carer contact;
- In addition, prior to clearing of any vegetation, an ecologist is to inspect the area for any signs of resident fauna requiring attention, and in particular nesting birds. Where such is identified, appropriate strategies are to be developed and instigated to minimise impacts.
- Pre-clearance surveys to include diurnal surveys, stagwatching and nocturnal surveys;
- Civil Construction staff to be inducted into pre-clearing and clearing protocols, and to identify environmental features for protection;

- Any suitable hollows recovered during clearing works should be reconditioned into suitable hollows and installed in retained lands in addition to the manufactured nest boxes; and
- All cleared vegetation is to be mulched on site and spread to help stabilise any exposed soil and minimise offsite movement of biomass. Fallen timber and hollow logs identified to be retained to be relocated into the retained lands;

### 7.4 Weed Management

Weed Control works within each Management Zone are to be undertaken by a qualified bushland regeneration team using industry standards (summary provided in **Table 2**).

Any reproductive material of weeds, including weeds that can spread vegetatively or seeds, must be taken off site to be disposed of at an appropriate local waste collection service. No weed material with the potential of spreading may be stockpiled within the Subject Site, or the BMP Lands.

The *Biosecurity Act 2015* outlines several 'duties'; the general biosecurity duty, and additional duties under mandatory measures, regional measures, prohibited matter or biosecurity zone. Specific actions for these measures may be required. Weed control is required to occur in the following sequence:

1. **Primary Weeding** – this is where weeds are removed from Management Zones.
2. **Consolidation** – over the next few months, the weed control zones will require monthly visits to remove weeds that are regenerating and/or have grown in response to the disturbance and are competing with planted and regenerating native plants. These visits are essential, otherwise the weeds will recolonise, dominate and inhibit the regeneration of native species.
3. **Maintenance Weeding** – After the sixth-month and will continue on a monthly basis, due to woody weeds, and other annual weeds being problematic within the locality.

This interval will be evaluated based onsite condition during each monitoring period. Weed control works across the site are to be undertaken over the maintenance period of five (5) years, however given the adaptive management approach, this time-frame is flexible, and may need to be extended based on changing site conditions and results indicating management zones have reached targets set out in this BMP.

### 7.5 Fauna Management

Macropods and possums are known as occurring in the local area. Therefore, protection guards should be placed around plantings so that revegetation efforts within BMP lands are not compromised by grazing. If monitoring within management zones indicates pest species pose notable impediments to achieving the aims of the BMP (i.e., through excessive browsing, etc.), then management actions will be reviewed to address these issues.

Incidental fauna records are to be undertaken during monitoring surveys and reported.

## 8.0 Project Management

Establishment of monitoring points and compliance checking of other aspects within this BMP will be the responsibility of the Project Ecologist working with the Civil Contractor.

The client will be responsible for the engagement of a suitably qualified Bush Regeneration Contractor to undertake weed control and planting works outlined in this BMP.

Bush Regenerator(s) or company(s) shall have the following qualifications;

- Australian Association of Bush Regenerators (AABR) Accreditation. The Bush Regenerators shall hold a current AQF3 qualification.
- Site Supervisor must have demonstrated minimum of 2 years' experience in the bush regeneration or related field and must have experience at a supervisory level in providing training, supervision and technical advice to staff, clients, volunteers and members of the public.
- The Site Supervisor must hold a current AQF 3 qualification or higher and must have completed the Bush Regeneration Level IV Certificate or have a diploma or degree in a field related to natural resource management.

The Project Ecologist will be responsible for the establishment of monitoring points within the BMP lands along with collection of baseline data that will be monitored against this over the three-year period of this BMP with the overall targets. The Project Ecologist will be responsible for monitoring and reporting on weed management, and Regeneration Approach success.

### 8.1 Monitoring

Monitoring will occur at commencement and biannual basis at the proposed monitoring points (refer **Figure 3**).

#### 8.1.1 Baseline Data

Baseline data is collected and report prepared for submission to Council at commencement of the BMP.

#### 8.1.2 Biannual Monitoring

This is to occur every 6months from commencements up to three years or reaching of targets (which every is the latter);

- Native species, abundance and coverage;
- Weed species and coverage;
- Photo records at monitoring points at each aspect (North, east, south, west);
- General health of each Management Zone;
- Incidental fauna use of site; and
- Evaluation of methodology and management effectiveness.

## 8.2 Reporting

A baseline report is prepared at commencement of the BMP and submitted to Council.

A report is to be prepared annually and delivered to the consent authority for the life of the BMP with a final report prepared at the end of the BMP outlining how the conditions of the BMP have been met.

Biannual monitoring will inform the evaluation of management effectiveness, until the Regeneration Benchmark Targets are met.

As part of adaptive management, the reports will include evaluations and recommendations relating to all areas covered in the monitoring schedule and also address any other problems or deficiencies found during monitoring. If required the report should also outline any changes that are required to planned works to ensure better ecological outcomes.

Regeneration of the BMP Lands will be undertaken over a period of five (5) years or until the Year five (5) overall targets are reached.

## 8.3 Future Management of BMP Lands

Regeneration of the BMP Lands will be undertaken over a period of five (5) years or until the Year five (5) overall targets are reached. As the BMP lands will then be in a state of Natural Regeneration, management of the site after targets have been achieved will be undertaken in accordance with the *Biosecurity Act 2015* & *Biosecurity Regulations 2017*.

**Table 2 - Weed Control Activities**

Activity	Minimum Requirement
<b>Pre-works</b>	Undertake baseline surveys to identify priority weeds present on site to be the focus of weed management activities. Priority weeds based on listings under the <i>Biosecurity Act 2015</i> , and notably any problematic weeds on site that have been identified.
<b>Primary Works</b>	Effectively control priority species and areas through appropriate methods to eliminate highly competitive weeds from an area. Include high disturbance activities that could negatively impact later regeneration such as high-volume herbicide application, and physical removal of large trees which would pose safety hazards to the public or others if left to perish <i>in-situ</i> .
<b>Secondary Works</b>	Treat any regrowth from primary weed control and expand on control measures by targeting Priority species and expanding the primary control boundaries where desirable. Thin retained weeds to increase light penetration where appropriate. Generally, expand on and solidify primary work.
<b>Maintenance Works</b>	Maintain exclusion of weeds controlled during Primary and Secondary works. Prevent reinfestation of weeds progressively, and others as time permits.
<b>Woody Trees &amp; Shrubs</b>	Where appropriate, remove trees via mechanical means (i.e., chainsaw or handsaw) and apply chemical to the cut stump. Material may be retained on-Site or disposed of appropriately off-Site. Retained material should be situated to provide additional ground habitat and slope stability but should not be left in such a way that would hamper natural regeneration or existing native plants. Care should be taken with species which have the capacity to regrow vegetatively such as <i>Erythrina x sykesii</i> (Coral Tree). Alternatively, trees and shrubs may be treated via frill or drill application of herbicide and left to perish <i>in-situ</i> as habitat.
<b>Woody Thickets</b>	Treat via cut or scrape and paint or high-concentration low-volume foliar herbicide control (i.e., splatter application). Material may be left <i>in-situ</i> (particularly after spraying) or broken up and rafted off the ground to perish (taking care to remove from expected high flow areas of the creek). Do not manually remove root stock in a manner that will encourage soil instability or erosion. Once dead, standing material may be broken down and left on the ground as mulch. Mechanical removal (i.e., brush cutter equipped with mulching blade or similar) may be used where practical and regrowth treated with foliar application of herbicide.
<b>Vines and Creepers</b>	Skirt from trees and vegetation to prevent smothering and leave material to perish <i>in-situ</i> . Cut or scrape and paint stems or runners. Foliar herbicide control where appropriate. Do not unduly expose soil via manual removal of plants where they may be providing soil stabilisation. Isolated manual removal as appropriate.
<b>Ground Cover</b>	Retain exotic species where they are providing ground stabilisation or habitat until such time as they hinder native species establishment or are no longer necessary. Relevant examples include retaining <i>Tradescantia fluminensis</i> (Trad) along drainage lines where removal would expose bare soil to erosion. Weed control is to focus on the patch removal of such weeds from around native regeneration or planting, with progressive removal of larger patches over time.

Prior to commencement of the BMP the following must have been undertaken:

- Construction Plans prepared and approved for the standard creek design;
- Construction of the standard creek profile;

It should be noted that the Treatment and Monitoring Plan Schedule of works will be provided to Council with the Baseline Data Report.

**Table 3 – Year 1 Targets and Schedule of Works**

Table 3 – Year 1 Targets and Schedule of Works										
Timeframe	Works to be Undertaken	1 <sup>st</sup> Quarter of Year	2 <sup>nd</sup> Quarter of Year	3 <sup>rd</sup> Quarter of Year	4 <sup>th</sup> Quarter of Year	Roles and Responsibilities	Targets to be reached at end of 4 <sup>th</sup> Quarter			
							Abundance of Natives (%)	Cover of Native (%)	Cover of Biosecurity Weeds (%)	Cover of Other Priority Weeds (%)
Year 1	Installation of No-Go Zones, fencing and signs					Civil Contractor	30	30	<70	<70
	Installation of Monitoring Points					Project Ecologist				
	Collection of baseline data					Project Ecologist				
	Installation of sediment and erosion controls					Civil Contractor				
	Translocation of <i>Syzygium paniculatum</i>					Bush Regeneration Contractor				
	Installation of Ground habitat					Civil Contractor / Project Ecologist				
	Preparation of Baseline Data Report					Project Ecologist				
	Primary Weeding (Effectively control priority species and areas through appropriate methods to eliminate highly competitive weeds from an area. Include high disturbance activities that could negatively impact later regeneration such as high-volume herbicide application, and physical removal of large trees which would pose safety hazards to the public or others if left to perish <i>in-situ</i> ) of all zones – focus is on Biosecurity Weeds (refer <b>Appendix C</b> for Department of Primary Industries Priority Weeds for Greater Sydney)					Bush Regeneration Contractor				
	Mass planting of trees and shrubs within reconstruction zones (refer to <b>Appendix B</b> for suitable plants in each PCT)					Bush Regeneration Contractor				
	Installation of tree guards for pest control if required					Bush Regeneration Contractor				
	Secondary Weeding- focus is on Biosecurity Weeds (refer <b>Appendix C</b> for Department of Primary Industries Priority Weeds for the Central Coast)					Bush Regeneration Contractor				
	Replacement dead / dying plantings					Bush Regeneration Contractor				
	Biannual monitoring					Project Ecologist				
	Annual Reporting to NBC					Project Ecologist				
At end of first year the entire BMP Land will be a state of Reconstruction Regeneration in accordance with Society for Ecological Restoration Australasia (2018) National standards for the practice of ecological restoration in Australia.										



**Table 4 – Year 2 Targets and Schedule of Works**

Timeframe	Works to be Undertaken	1 <sup>st</sup> Quarter of Year	2 <sup>nd</sup> Quarter of Year	3 <sup>rd</sup> Quarter of Year	4 <sup>th</sup> Quarter of Year	Roles and Responsibilities	Targets to be reached at end of 4 <sup>th</sup> Quarter			
							Abundance of Natives (%)	Cover of Native (%)	Cover of Biosecurity Weeds (%)	Cover of Other Priority Weeds (%)
Year 2	Annual inspection of No-Go Zones, fencing and signs					Civil Contractor / Bush Regeneration Contractor	40	45	<45	<40
	Annual inspection of sediment and erosion controls (or after rainfall events)					Civil Contractor / Bush Regeneration Contractor				
	Annual inspection of ground habitat					Project Ecologist				
	Replacing dead / dying plantings					Bush Regeneration Contractor				
	Weed management as required to achieve annual targets					Bush Regeneration Contractor				
	Biannual monitoring of both terrestrial and aquatic environments including water quality data					Project Ecologist				
	Biannual inspection or Installation of tree guards for pest control if required					Project Ecologist				
	Annual Reporting to NBC					Project Ecologist				
At end of second year the entire BMP Land will be a state of Facilitated Regeneration in accordance with Society for Ecological Restoration Australasia (2018) National standards for the practice of ecological restoration in Australia.										

**Table 5 – Year 3 Targets and Schedule of Works**

Table 3 – Year 3 Targets and Schedule of Works										
Timeframe	Works to be Undertaken	1 <sup>st</sup> Quarter of Year	2 <sup>nd</sup> Quarter of Year	3 <sup>rd</sup> Quarter of Year	4 <sup>th</sup> Quarter of Year	Roles and Responsibilities	Targets to be reached at end of 4 <sup>th</sup> Quarter			
							Abundance of Natives (%)	Cover of Native (%)	Cover of Biosecurity Weeds (%)	Cover of Other Priority Weeds (%)
Year 3	Annual inspection of no-go Zones, fencing and signs					Civil Contractor / Bush Regeneration Contractor	55	55	<30	<25
	Annual inspection of sediment and erosion controls (or after rainfall events)					Civil Contractor / Bush Regeneration Contractor				
	Annual inspection of ground habitat					Project Ecologist				
	Weed management as required to achieve annual targets					Bush Regeneration Contractor				
	Biannual monitoring of both terrestrial and aquatic environments including water quality data					Project Ecologist				
	Replacement of dead or dying plants					Bush Regeneration Contractor				
	Direct seeding of groundcover species in all Zones if required					Bush Regeneration Contractor				
	Biannual inspection or Installation of tree guards for pest control if required					Project Ecologist				
	Review of BMP success and failures and update where appropriate for submission with Annual Report to CCC					Project Ecologist				
	Annual Reporting to NBC					Project Ecologist				
At end of third year the entire BMP Land will be a state of Facilitated Regeneration Approach in accordance with Society for Ecological Restoration Australasia (2018) <i>National standards for the practice of ecological restoration in Australia.</i>										

**Table 6 – Year 4 Targets and Schedule of Works**

Table 6 – Year 4 Targets and Schedule of Works										
Timeframe	Works to be Undertaken	1 <sup>st</sup> Quarter of Year	2 <sup>nd</sup> Quarter of Year	3 <sup>rd</sup> Quarter of Year	4 <sup>th</sup> Quarter of Year	Roles and Responsibilities	Targets to be reached at end of 4 <sup>th</sup> Quarter			
							Abundance of Natives (%)	Cover of Native (%)	Cover of Biosecurity Weeds (%)	Cover of Other Priority Weeds (%)
Year 4	Annual inspection of sediment and erosion controls (or after rainfall events)					Civil Contractor / Bush Regeneration Contractor	60	65	<20	<15
	Annual inspection of ground habitat					Civil Contractor / Bush Regeneration Contractor				
	Weed management as required to achieve annual targets					Bush Regeneration Contractor				
	Biannual monitoring of both terrestrial and aquatic environments including water quality data					Project Ecologist				
	Annual Reporting to NBC					Project Ecologist				
At end of second year the entire BMP Land will be a state of Natural Regeneration Approach in accordance with Society for Ecological Restoration Australasia (2018) National standards for the practice of ecological restoration in Australia.										

**Table 7 – Year 5 Targets and Schedule of Works**

Timeframe	Works to be Undertaken	1 <sup>st</sup> Quarter of Year	2 <sup>nd</sup> Quarter of Year	3 <sup>rd</sup> Quarter of Year	4 <sup>th</sup> Quarter of Year	Roles and Responsibilities	Targets to be reached at end of 4 <sup>th</sup> Quarter			
							Abundance of Natives (%)	Cover of Native (%)	Cover of Biosecurity Weeds (%)	Cover of Other Priority Weeds (%)
Year 5	Annual inspection of sediment and erosion controls (or after rainfall events)					Civil Contractor / Bush Regeneration Contractor	70	80	<10	<10
	Annual inspection of ground habitat					Civil Contractor / Bush Regeneration Contractor				
	Weed management as required to achieve annual targets					Bush Regeneration Contractor				
	Biannual monitoring of both terrestrial and aquatic environments including water quality data					Project Ecologist				
	Final Reporting to NBC					Project Ecologist				
At end of second year the entire BMP Land will be a state of Natural Regeneration Approach in accordance with Society for Ecological Restoration Australasia (2018) National standards for the practice of ecological restoration in Australia.										



Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

**Legend**

- Cadastre
- Subject Site
- Hydroline



Note:  
1. Boundaries are not survey accurate  
2. Do not scale off the plan



**AEP**

Title: Figure 1 - Site Location

Date: May 2023

Location: 16 Macpherson Road, Warriewood








Client: Warrimac Pty Ltd

AEP ref: 2564.01



Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

## Legend

-  Cadastre
-  Subject Site
-  Hydroline
-  PCT 1795
-  Planted Natives
-  Planted Exotics
-  Cleared/Existing Infrastructure



0 25 50 m

Note:  
1. Boundaries are not survey accurate  
2. Do not scale off the plan



# AEP

Title: Figure 2 - Ground- truthed Vegetation

Date: May 2023

Location: 16 Macpherson Road, Warriewood

Client: Warrimac Pty Ltd

AEP ref: 2564.01



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### Legend

□ Cadastre

□ Subject Site

— Hydroline

▨ BMP Lands

### Management Zones

■ Aquatic Zone - MZ1

■ Reconstruction PCT 1795 - MZ2

### Indicative Points

● Indicative Monitoring Point

● Indicative Meander

◆ Indicative Pool

◆ Indicative Riffle



# AEP

Title: Figure 3 - Management Zones & Indicative Points

Date: May 2023

Location: 16 Macpherson Road, Warriewood

Client: Warrimac Pty Ltd

AEP ref: 2564.01



## 9.0 References

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## Appendix A – Proposed Development



28 Lots  
28 Dwellings  
7 Adaptable (25%)

TYPES

A1 7 25%

A2 1 3.5%

A3 3 11%

B1 7 25%

B2 2 7%

B3 1 3.5%

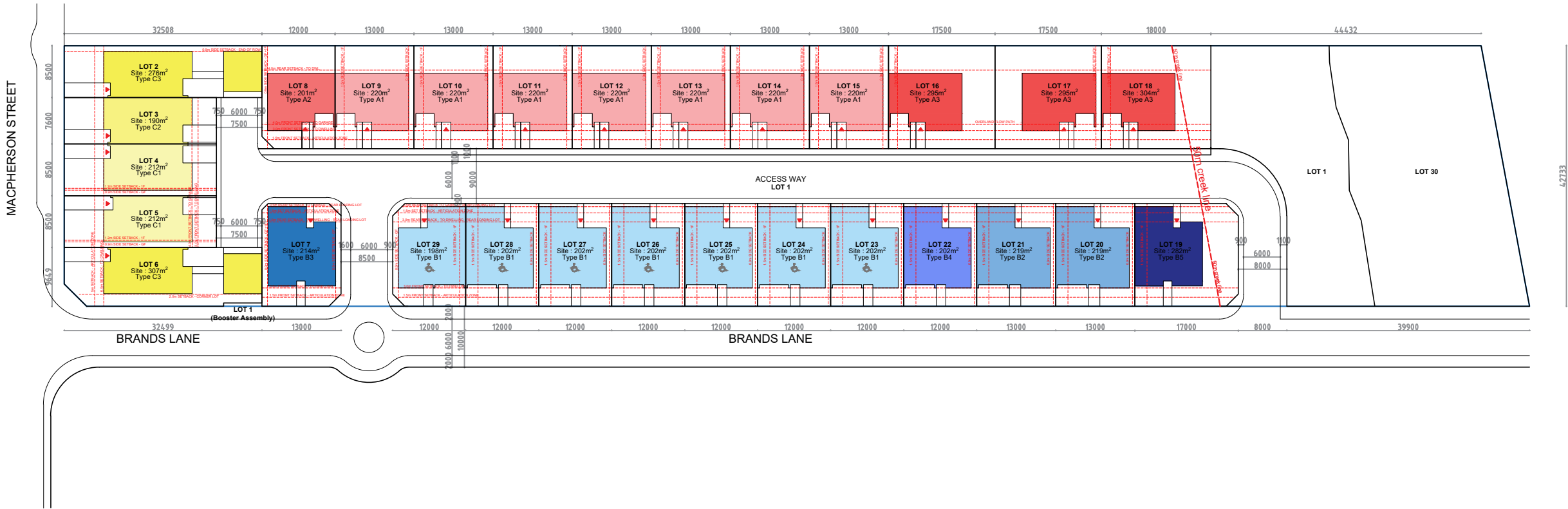
B4 1 3.5%

B5 1 3.5%

C1 2 7%

C2 1 3.5%

C3 2 7%



1 LOT PLAN  
SCALE 1:400@A1 / 1:800@A3

- GENERAL NOTES:
- ALL WORKS TO COMPLY WITH BUILDING CODE OF AUSTRALIA, REQUIREMENTS OF RELEVANT STATUTORY AUTHORITIES/ LOCAL GOVERNMENT & RELEVANT AUSTRALIAN BUILDING STANDARDS
  - DRAWINGS FOR THE PURPOSES OF DA ONLY - FURTHER CONSULTANT/ AUTHORITY COORDINATION WILL BE REQUIRED AT CC STAGE WHICH MAY IMPACT ON DESIGN AND PLANNING LAYOUTS
  - ARCHITECTURAL PLANS TO BE READ IN CONJUNCTION WITH CONSULTANT'S DRAWINGS, SPECIFICATIONS & REPORTS
  - COPYRIGHT OF DESIGN SHOWN HEREON IS RETAINED BY PBD ARCHITECTS AND AUTHORITY IS REQUIRED FOR ANY REPRODUCTION
  - AREA SCHEDULES SUPPLIED ARE APPROXIMATE ONLY - FUTURE ALLOWANCE FOR VERTICAL SERVICE DUCTS, STRUCTURAL WALL SYSTEMS AND CONSULTANT INPUT WILL BE REQUIRED

- LEGEND:
- AW AWNING
  - HW HIGHLIGHT WINDOW
  - CU A/C CONDENSER UNITS
  - FH FIRE HYDRANT
  - FHR FIRE HOSE REEL
  - FS FIRE STAIRS
  - HV MECHANICAL RISER TO FUTURE DETAIL
  - GC GARBAGE CHUTE
  - MB MAILBOX TO FUTURE DETAIL
  - PB PLANTERBOX
  - R 2-LR RECYCLING BIN
  - SK SKYLIGHT
  - ST STORAGE
  - WT HOT WATER UNITS

01	12.04.23	ISSUE FOR DA
ISSUE	DATE	DESCRIPTION



CLIENT:  
IPM PROPERTY

ARCHITECT:  
**PBD | ARCHITECTS**  
ABN 36 147 035 550  
P - 02 9698 8140 E - info@pbdarchitects.com.au W - www.pbdarchitects.com.au  
Level 2, 52 Albion Street, Surry Hills NSW 2010  
Nominated Architect: Paul Buljevic NSW 7768

PROJECT:  
28 TERRACES  
16 MACPHERSON STREET  
WARRIEWOOD

APR. 2023  
DRAWING TITLE:  
LOT PLAN

DRAWN BY: SS	CHECKED BY: HV	
SCALE: 1:400@A1 / 1:800@A3 PROJECT NO: 2235	DRAWING NO: <b>DA 004</b>	ISSUE: <b>01</b>



## **Appendix B – Regeneration Species List**

**Species List – Approximate densities and species for regeneration.**

It should be noted that not all of the listed species above are easily obtainable, substitutions to be made on the advice of bush regeneration contractor or Project Ecologist.

Canopy	Density	Shrubs	Density	Ground Cover	Density
Aquatic Species – Low Flow Channel to Upper Toe					
Not Applicable in this Management Zone	N/A	Not Applicable in this Management Zone	N/A	Baumea articulata	6 to 8/1m²
				Baumea juncea	
				Juncus usitatus	
				Triglochin procera,	
				Phildrum languinosum	
				Lomandra longifolia	
				Gahnia clarkei	
PCT 1795 - Coastal flats Swamp Mahogany Forest					
Extensive stands of Casuarina glauca, and groves of Eucalyptus robusta with other native feature trees (listed below)	Must comprise of a minimum of 75% of the total creekline corridor area	Glochidion ferdinandi	1/10m2	Entolasia marginata	5/m² or Direct Seeding
Eucalyptus robusta	1/30 m²	Casuarina glauca		Hypolepis muelleri	
		Livistona australis		Commelina cyanea	
Banksia integrifolia		Melaleuca linarifolia		Gahnia cyanea	
		Elaeocarpus reticulatus		Viola hederacea	
Acmena smithii		Grevillea sericea		Hydrocotyle peduncularis	
		Melaleuca steypelioides		Pteridium esculentum	
Ceratopetalum apetalum		Homalanthus populifolius		Alternanthera denticulate	
		Acacia longifolia		Calochlaena dubia	
	Dodonaea triquetra	Oplismenus aemulus			
		Oplismenus imbecillis			
		Phragmites australis			
		Blechnum camfieldii			
		Centella asiatica			

ANGOPHORA COSTATA ANGOPHORA FLORIBUNDA EUCALYPTUS PUNCTATA LOPHOSTEMON CONFERTUS SYNCARPIA GLOMULIFERA SYZYGIUM PANICULUTUM WATERHOUSIA FLORIBUNDA



## **Appendix C – Priority Weeds of Greater Sydney**

### Priority Weeds of Greater Sydney

Note: this region includes the local council areas of Bayside Council, Blacktown, Blue Mountains, Burwood, Camden, Campbelltown, Canada Bay, Canterbury-Bankstown, Central Coast, City of Parramatta, Cumberland, Fairfield, Georges River, Hawkesbury, Hornsby Shire Council, Hunters Hill, Inner West, Ku-ring-gai, Lane Cove, Liverpool, Mosman, North Sydney, Northern Beaches, Penrith, Randwick, Ryde, Strathfield, Sutherland, Sydney, The Hills, Waverley, Willoughby, Wollondilly and Woollahra.

Weed	Duty
All plants	General Biosecurity Duty All 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.
Aaron's beard prickly pear <i>Opuntia leucotricha</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
African boxthorn <i>Lycium ferocissimum</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
African olive <i>Olea europaea subsp. cuspidata</i>	Regional Recommended Measure Land managers mitigate the risk of the plant being introduced to their land. Land managers reduce impacts from the plant on priority assets. Land managers prevent spread from their land where feasible. The plant or parts of the plant are not traded, carried, grown or released into the environment
Alligator weed <i>Alternanthera philoxeroides</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale. Biosecurity Zone The Alligator Weed Biosecurity Zone is established for all land within the state except land in the following regions: Greater Sydney; Hunter (but only in the local government areas of City of Lake Macquarie, City of Maitland, City of Newcastle or Port Stephens). Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone
Anchored water hyacinth <i>Eichhornia azurea</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Arrowhead <i>Sagittaria calycina var. calycina</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Asparagus fern <i>Asparagus virgatus</i>	Regional Recommended Measure Exclusion zone: whole of region except Newcastle and Lake Macquarie. Core infestation area: Newcastle and Lake Macquarie. Whole of region: Land managers should mitigate the risk of new weeds being introduced to their land. Plant should not be bought, sold, grown, carried or released into the environment. Within exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Notify the Local Control Authority if found. Land managers should mitigate spread from their land. Within Core infestation: Land managers to reduce impacts from the plant on priority assets.
Athel pine <i>Tamarix aphylla</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Bellyache bush <i>Jatropha gossypifolia</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Bitou bush <i>Chrysanthemoides monilifera subsp. rotundata</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale. Biosecurity Zone The Bitou Bush Biosecurity Zone is established for all land within the State except land within 10 kilometres of the mean high water mark of the Pacific Ocean between Cape Byron in the north and Point Perpendicular in the south. Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone



### Priority Weeds of Greater Sydney

Note: this region includes the local council areas of Bayside Council, Blacktown, Blue Mountains, Burwood, Camden, Campbelltown, Canada Bay, Canterbury-Bankstown, Central Coast, City of Parramatta, Cumberland, Fairfield, Georges River, Hawkesbury, Hornsby Shire Council, Hunters Hill, Inner West, Ku-ring-gai, Lane Cove, Liverpool, Mosman, North Sydney, Northern Beaches, Penrith, Randwick, Ryde, Strathfield, Sutherland, Sydney, The Hills, Waverley, Willoughby, Wollondilly and Woollahra.

Weed	Duty
Black knapweed <i>Centaurea x moncktonii</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Black willow <i>Salix nigra</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale. Regional Recommended Measure The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land.
Blackberry <i>Rubus fruticosus species aggregate</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale. All species in the <i>Rubus fruticosus</i> species aggregate have this requirement, except for the varieties Black Satin, Chehalem, Chester Thornless, Dirksen Thornless, Loch Ness, Murrindindi, Silvan, Smooth Stem, and Thornfree
Blind cactus <i>Opuntia rufida</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Boneseed <i>Chrysanthemoides monilifera subsp. monilifera</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
	Control Order Boneseed Control Zone: Whole of NSW Boneseed Control Zone (Whole of NSW): Owners and occupiers of land on which there is boneseed must notify the local control authority of new infestations; immediately destroy the plants; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of boneseed must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant.
Boxing glove cactus <i>Cylindropuntia fulgida var. mamillata</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Bridal creeper <i>Asparagus asparagoides</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale. *this requirement also applies to the Western Cape form of bridal creeper
Bridal veil creeper <i>Asparagus declinatus</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Broomrapes <i>Orobancha sp.</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries All species of <i>Orobancha</i> are Prohibited Matter in NSW, except Clover broomrape, <i>Orobancha minor</i> and Australian broomrape, <i>Orobancha cernua</i> var. <i>australiana</i> .
Bunny ears cactus <i>Opuntia microdasys</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Cabomba <i>Cabomba caroliniana</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

### Priority Weeds of Greater Sydney

Note: this region includes the local council areas of Bayside Council, Blacktown, Blue Mountains, Burwood, Camden, Campbelltown, Canada Bay, Canterbury-Bankstown, Central Coast, City of Parramatta, Cumberland, Fairfield, Georges River, Hawkesbury, Hornsby Shire Council, Hunters Hill, Inner West, Ku-ring-gai, Lane Cove, Liverpool, Mosman, North Sydney, Northern Beaches, Penrith, Randwick, Ryde, Strathfield, Sutherland, Sydney, The Hills, Waverley, Willoughby, Wollondilly and Woollahra.

Weed	Duty
Cane cactus <i>Austrocylandropuntia cylindrica</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale. All species in the <i>Austrocylandropuntia</i> genus have this requirement
Cape broom <i>Genista monspessulana</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Cat's claw creeper <i>Dolichandra unguis-cati</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.  Regional Recommended Measure The plant should not be bought, sold, grown, carried or released into the environment. Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread from their land. Land managers to reduce impacts from the plant on priority assets.
Chicken dance cactus <i>Opuntia schickendantzii</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Chilean needle grass <i>Nassella neesiana</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Chinese knotweed <i>Persicaria chinensis</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Chinese violet <i>Asystasia gangetica subsp. micrantha</i>	Control Order Owners and occupiers of land on which there is Chinese violet must notify the local control authority for the area if the Chinese violet is part of a new infestation on the land, destroy all Chinese violet on the land ensuring that subsequent generations of Chinese violet are destroyed; and keep the land free of Chinese violet. A person who deals with a carrier of Chinese violet must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant on the land, or on or in a carrier.
Climbing asparagus <i>Asparagus africanus</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.  Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found. Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Common pear <i>Opuntia stricta</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Cora Creeper <i>Barleria repens</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
East Indian hygrophila <i>Hygrophila polysperma</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Eurasian water milfoil <i>Myriophyllum spicatum</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries



### Priority Weeds of Greater Sydney

Note: this region includes the local council areas of Bayside Council, Blacktown, Blue Mountains, Burwood, Camden, Campbelltown, Canada Bay, Canterbury-Bankstown, Central Coast, City of Parramatta, Cumberland, Fairfield, Georges River, Hawkesbury, Hornsby Shire Council, Hunters Hill, Inner West, Ku-ring-gai, Lane Cove, Liverpool, Mosman, North Sydney, Northern Beaches, Penrith, Randwick, Ryde, Strathfield, Sutherland, Sydney, The Hills, Waverley, Willoughby, Wollondilly and Woollahra.

Weed	Duty
Eve's needle cactus <i>Austrocyllindropuntia subulata</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale. All species in the <i>Austrocyllindropuntia</i> genus have this requirement
Fireweed <i>Senecio madagascariensis</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Flax-leaf broom <i>Genista linifolia</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Foxtail fern <i>Asparagus densiflorus</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Frogbit <i>Limnobium laevigatum</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries All species of <i>Limnobium</i> are Prohibited Matter
Gamba grass <i>Andropogon gayanus</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Giant devil's fig <i>Solanum chrysotrichum</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Giant Reed <i>Arundo donax</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should not be bought, sold, grown, carried or released into the environment.
Giant rat's tail grass <i>Sporobolus pyramidalis</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Glory lily <i>Gloriosa superba</i>	Regional Recommended Measure The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Gorse <i>Ulex europaeus</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
	Regional Recommended Measure Exclusion zone: Blue Mountains City Council area. Core infestation area: rest of region Whole region: Land managers should mitigate the risk of new weeds being introduced to their land. The plant or parts of the plant should not be traded, carried, grown or released into the environment. Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Core infestation area: Land managers should mitigate spread from their land.
Green cestrum <i>Cestrum parqui</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. The plant should not be bought, sold, grown, carried or released into the environment. Land managers reduce impacts from the plant on priority assets.

### Priority Weeds of Greater Sydney

Note: this region includes the local council areas of Bayside Council, Blacktown, Blue Mountains, Burwood, Camden, Campbelltown, Canada Bay, Canterbury-Bankstown, Central Coast, City of Parramatta, Cumberland, Fairfield, Georges River, Hawkesbury, Hornsby Shire Council, Hunters Hill, Inner West, Ku-ring-gai, Lane Cove, Liverpool, Mosman, North Sydney, Northern Beaches, Penrith, Randwick, Ryde, Strathfield, Sutherland, Sydney, The Hills, Waverley, Willoughby, Wollondilly and Woollahra.

Weed	Duty
Grey willow <i>Salix cinerea</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Ground asparagus <i>Asparagus aethiopicus</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Groundsel bush <i>Baccharis halimifolia</i>	Regional Recommended Measure The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Hawkweeds <i>Pilosella species</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries All species in the genera <i>Pilosella</i> and <i>Hieracium</i> are Prohibited Matter except for <i>Hieracium murorum</i> .
Holly leaved senecio <i>Senecio glastifolius</i>	Regional Recommended Measure Exclusion zone: whole region except for the core infestation area of the Royal National Park. Whole region: Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. The Local Control Authority should be notified if the plant is found. Exclusion zone: The plant is eradicated and the land kept free of the plant. Core infestation area: Land managers prevent spread from their land where feasible. Land managers reduce impacts from the plant on priority assets.
Horsetails <i>Equisetum species</i>	Regional Recommended Measure Exclusion zone: whole of region except Northern Beaches local government area. The Northern Beaches local government area is the core area. Whole region: Land managers mitigate the risk of the plant being introduced to their land. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. Exclusion zone: The plant is eradicated from the land and the land is kept free of the plant. Core area: Land managers prevent spread from their land where feasible.
Hudson pear <i>Cylindropuntia pallida</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Hydrocotyl <i>Hydrocotyle ranunculoides</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Hygrophila <i>Hygrophila costata</i>	Regional Recommended Measure The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Hymenachne <i>Hymenachne amplexicaulis</i> and hybrids	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Hymenachne <i>Hymenachne amplexicaulis</i> and hybrids	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Karoo acacia <i>Vachellia karroo</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Kidney-leaf mud plantain <i>Heteranthera reniformis</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.



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Weed	Duty
Kochia <i>Bassia scoparia</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries Excluding the subspecies trichophylla
Koster's curse <i>Clidemia hirta</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Kudzu <i>Pueraria lobata</i>	Regional Recommended Measure The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Lagarosiphon <i>Lagarosiphon major</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Lantana <i>Lantana camara</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Leaf cactus <i>Pereskia aculeata</i>	Regional Recommended Measure The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Ludwigia <i>Ludwigia peruviana</i>	Regional Recommended Measure Land managers mitigate the risk of the plant being introduced to their land. Land managers prevent spread from their land where feasible. Land managers reduce the impact on priority assets. The plant should not be bought, sold, grown, carried or released into the environment. Local Control Authority is notified if the plant is found on the land.
Madeira vine <i>Anredera cordifolia</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Mesquite <i>Prosopis</i> species	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale. All species in the genus <i>Prosopis</i> have this requirement
Mexican feather grass <i>Nassella tenuissima</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Miconia <i>Miconia</i> species	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries All species of <i>Miconia</i> are Prohibited Matter in NSW
Mikania vine <i>Mikania micrantha</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries *all species in the genus <i>Mikania</i> are Prohibited Matter in NSW

### Priority Weeds of Greater Sydney

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Weed	Duty
Mimosa <i>Mimosa pigra</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Ming asparagus fern <i>Asparagus macowanii</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found..
Mysore thorn <i>Caesalpinia decapetala</i>	Regional Recommended Measure The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment.
Nodding thistle <i>Carduus nutans</i> subsp. <i>nutans</i>	Regional Recommended Measure <i>Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.</i>
Pampas grass <i>Cortaderia</i> species	Regional Recommended Measure Exclusion zone: Upper Hunter local government area. Core infestation area: Port Stephens, Maitland, Cessnock, Lack Macquarie, Newcastle and MidCoast local government areas. Whole region: The plant should not be bought, sold, grown, carried or released into the environment. Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Land managers should mitigate the risk of the plant being introduced to their land. Core infestation area: Land managers should mitigate spread from their land. Land managers to reduce impacts from the plant on priority assets.
Parkinsonia <i>Parkinsonia aculeata</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Parkinsonia <i>Parkinsonia aculeata</i>	Control Order Parkinsonia Control Zone: Whole of NSW Parkinsonia Control Zone (Whole of NSW): Owners and occupiers of land on which there is parkinsonia must notify the local control authority of new infestations; immediately destroy the plants; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of parkinsonia must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant.
Parthenium weed <i>Parthenium hysterophorus</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Parthenium weed <i>Parthenium hysterophorus</i>	Prohibition on certain dealings The following equipment must not be imported into NSW from Queensland: grain harvesters (including the comb or front), comb trailers (including the comb or front), bins used for holding grain during harvest operations, augers or similar for moving grain, vehicles used to transport grain harvesters, support vehicles driven in paddocks during harvest operations, mineral exploration drilling rigs and vehicles used to transport those rigs, unless set out as an exception in Division 5, Part 2 of the Biosecurity Order (Permitted Activities) 2017
Paterson's curse <i>Echium plantagineum</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. The plant should not be bought, sold, grown, carried or released into the environment. Land managers reduce impacts from the plant on priority assets.



### Priority Weeds of Greater Sydney

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Weed	Duty
Pond apple <i>Annona glabra</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Prickly acacia <i>Vachellia nilotica</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Prickly pears - <i>Austrocyllindropuntias</i> <i>Austrocyllindropuntia</i> species	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale. All species in the <i>Austrocyllindropuntia</i> genus have this requirement
Prickly pears - <i>Cylindropuntias</i> <i>Cylindropuntia</i> species	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale. All species in the <i>Cylindropuntia</i> genus have this requirement
Prickly pears - <i>Opuntias</i> <i>Opuntia</i> species	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale. For all <i>Opuntia</i> species except for <i>Opuntia ficus-indica</i> (Indian fig).
Rattlepod <i>Crotalaria beddomeana</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. The plant should not be bought, sold, grown, carried or released into the environment. Land managers reduce impacts from the plant on priority assets.
Rope pear <i>Cylindropuntia imbricata</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale. All species in the <i>Cylindropuntia</i> genus have this requirement
Rubber vine <i>Cryptostegia grandiflora</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Sagittaria <i>Sagittaria platyphylla</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Sagittaria <i>Sagittaria platyphylla</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. The plant should not be bought, sold, grown, carried or released into the environment. Land managers reduce impacts from the plant on priority assets.
Salvinia <i>Salvinia molesta</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Salvinia <i>Salvinia molesta</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. The plant should not be bought, sold, grown, carried or released into the environment. Land managers reduce impacts from the plant on priority assets. This Regional Recommended Measure applies to <i>Salvinia molesta</i> and <i>Salvinia minima</i>
Scotch broom <i>Cytisus scoparius</i> subsp. <i>scoparius</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.

### Priority Weeds of Greater Sydney

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Weed	Duty
Scotch broom <i>Cytisus scoparius subsp. scoparius</i>	Regional Recommended Measure Exclusion zone: whole region except for the core infestation area of the Upper Hunter (Barrington Tops) Whole region: The plant should not be bought, sold, grown, carried or released into the environment. Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Land managers should mitigate the risk of the plant being introduced to their land. Core infestation area: Land managers to reduce impacts from the plant on priority assets.
Sea spurge <i>Euphorbia paralias</i>	Regional Recommended Measure Exclusion zone: whole region except for the core infestation area of Yaccaba Peninsula, Hawks Nest. Whole region: The plant should not be bought, sold, grown, carried or released into the environment. Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Land managers should mitigate the risk of the plant being introduced to their land. Core infestation area: Land managers should mitigate spread from their land. Land managers to reduce impacts from the plant on priority assets.
Senegal tea plant <i>Gymnocoronis spilanthoides</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Serrated tussock <i>Nassella trichotoma</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Serrated tussock <i>Nassella trichotoma</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Siam weed <i>Chromolaena odorata</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Sicilian sea lavender <i>Limonium hyblaum</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Sicklethorn <i>Asparagus falcatus</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Silverleaf nightshade <i>Solanum elaeagnifolium</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Silverleaf nightshade <i>Solanum elaeagnifolium</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Smooth tree pear <i>Opuntia monacantha</i>	Prohibition on certain dealings
Smooth tree pear <i>Opuntia monacantha</i>	Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Snakefeather <i>Asparagus scandens</i>	Prohibition on certain dealings
Snakefeather	Must not be imported into the state, sold, bartered, exchanged or offered for sale.



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Weed	Duty
<i>Asparagus scandens</i> Snakefeather <i>Asparagus scandens</i>	Regional Recommended Measure Exclusion zone: Hunter region except Cessnock and Lake Macquarie. Core infestation area: Cessnock and Lake Macquarie Whole of region: Land managers should mitigate the risk of new weeds being introduced to their land. The plant should not be bought, sold, grown, carried or released into the environment. Exclusion Zone: The plant should be eradicated from the land and the land kept free of the plant. Notify the Local Control Authority if found. Within Core infestation: Land managers to reduce impacts from the plant on priority assets.
Spongeplant <i>Limnobia spongia</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries All species of Limnobia are Prohibited Matter
Spotted knapweed <i>Centaurea stoebe subsp. micranthos</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Tiger pear <i>Opuntia aurantiaca</i>	Prohibition on certain dealings
Tiger pear <i>Opuntia aurantiaca</i>	Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Tiger pear <i>Opuntia aurantiaca</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. The plant should not be bought, sold, grown, carried or released into the environment. Land managers reduce impacts from the plant on priority assets.
Tropical soda apple <i>Solanum viarum</i>	Control Order Tropical Soda Apple Control Zone: Whole of NSW Tropical Soda Apple Control Zone (Whole of NSW): Owners and occupiers of land on which there is tropical soda apple must notify the local control authority of new infestations; destroy the plants including the fruit; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of tropical soda apple must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant on the land, or on or in a carrier.
Velvety tree pear <i>Opuntia tomentosa</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Water caltrop <i>Trapa species</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries All species in the Trapa genus are Prohibited Matter in NSW
Water hyacinth <i>Eichhornia crassipes</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Water hyacinth <i>Eichhornia crassipes</i>	Biosecurity Zone The Water Hyacinth Biosecurity Zone applies to all land within the State, except for the following regions: Greater Sydney or North Coast, North West (but only the local government area of Moree Plains), Hunter (but only in the local government areas of City of Cessnock, City of Lake Macquarie, MidCoast, City of Maitland, City of Newcastle or Port Stephens), South East (but only in the local government areas of Eurobodalla, Kiama, City of Shellharbour, City of Shoalhaven or City of Wollongong).

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Weed	Duty
	Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone
Water lettuce <i>Pistia stratiotes</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Water soldier <i>Stratiotes aloides</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
Water star grass <i>Heteranthera zosterifolia</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Wheel cactus <i>Opuntia robusta</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
White blackberry <i>Rubus niveus</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
Willows <i>Salix</i> species	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale. All species in the <i>Salix</i> genus have this requirement, except <i>Salix babylonica</i> (weeping willows ), <i>Salix x calodendron</i> (pussy willow) and <i>Salix x reichardtii</i> (sterile pussy willow)
Witchweeds <i>Striga</i> species	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries All species in the <i>Striga</i> genus are Prohibited Matter in NSW, except the native <i>Striga parviflora</i>
Yellow burrhead <i>Limnocharis flava</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries



## **Appendix D – BMP Lands Signage**

**NO UNAUTHORISED ENTRY**

**This is a Vegetation  
Rehabilitation Area**

- **NO DUMPING or WASTE DISPOSAL**
- **NO ANIMALS, VEHICLES or  
MACHINERY**

**For information – contact Site Manager**



Appendix E – CV

Staff	Title/Qualification	Tasks
Natalie Black	Senior Environmental Manager BSc (Hons), Master Planning, Cert IV (TA) BAAS: 19076	Report Review
Jeremy Burrill	Ecologist B.Env.Sc (MS)	Field Surveys, Report Author
Catherine Stanislaus	Ecologist B.Com Env Sc - under study	Field Surveys

# CATHERINE STANISLAUS

## Curriculum Vitae

*Frances is a Senior Ecologist and Lead Botanist with Anderson Environment and Planning, being an Accredited Assessor with over 12 years-experience in environmental impact assessment, environmental education, conservation land management, bush regeneration, wildlife rescue and rehabilitation, environmental sustainability, and environmental law.*

### Qualifications

- Bachelor of Commerce and Science (majoring in Ecology), UNSW, 2022

### Further Education & Training

- NSW Class C Driver's Licence
- Graduated with Distinction in Ecology

### Fields of Competence

- Terrestrial Ecology field survey, covering terrestrial flora and fauna

### Relevant Employment History

2022 – Present	<b>Ecologist</b> Anderson Environment & Planning, Newcastle
2021	<b>ENVIRONMENTAL LABORATORY RESEARCH INTERNSHIP UNSW</b> Oyster Research Project

### Relevant Volunteer Experience

2021	<b>LAKE ILLAWARRA, ENVIRONMENTAL CONSULTANCY PROJECT UNSW</b>
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# Jeremy Burrill

## Curriculum Vitae

*Jeremy works with AEP in the role of Ecologist. He is a graduate of environmental science and management, and has experience in voluntary roles in environmental fields, involving fauna and flora surveying, consultancy projects and natural resource management. His background in environmental fields with his growing ecological knowledge is utilised in a diverse array of applications in his current role.*

### Qualifications

- Bachelor of Environmental Science (Environmental Management and Sustainability)  
Deakin University (2020)

### Further Education & Training

- Apply First Aid
- Victorian Driver's License
- Work Health & Safety General Construction Induction
- Work Safely at Heights

### Fields of Competence

- Ecological field surveys
- Fauna surveys and trapping
- Natural resource management

### Relevant Employment History

**2020 – Present**

**Ecologist**

Anderson Environment & Planning, Newcastle

Currently employed by Anderson Environment & Planning to assist in the provision of consulting services to land, property, legal and government sectors. Covering ecological, project management, environmental, bushfire, planning services, advices, strategy and representation.

### Volunteer Experience

- Overseas University Volunteer Placement (New Zealand, 2018)
- Industry Placement (Parks Victoria, 2019)

# **Natalie Black**

## **Curriculum Vitae**

Natalie works with AEP in the role of Senior Environmental Manager. She has extensive knowledge in environmental management, environmental planning, and report writing and assessment. With a detail understanding of planning, catchment management, coastal management and rehabilitation. Natalie has had a successful career with both state and local government in conservation, planning and field investigation roles. Natalie has also gained extensive communication skills and project management through her previous career in lecturing. Her background and experience in the ecological and planning fields is utilised in a diverse array of application in her current role.

## **Qualifications**

- B.Sc (Hons), University of Newcastle, 2002 Sustainable Resource Management and Marine Science.
- Master Planning, University of Technology Sydney 2007.
- Certificate IV Training and Assessment at NSW TAFE 2012.
- BAM Assessor; accreditation number: BAAS19076.

## **Further Education & Training**

- Evidence Gathering and Legal Process (Australian Institute of Environmental Health).
- Conflict Resolution Course (LGSA).
- Report Writing Course (LGSA).
- Powerful Presentation (LGSA).
- NSW Rural Fire Services Bush Fire Assessment
- Relocation of Threatened Species (Botanical Gardens Sydney).
- Sustainable Home Assessment Reduction Revolution.
- Flora and Fauna Survey Assessments Niche Environment and Heritage.
- First Aid TAFE.

## **Fields of Competence**

- Environmental Planning
- Environmental Management and rehabilitation of catchments coastal waterways. Statement of Environmental Effects (preparation and assessing).
- Fish Passage
- Marine ecosystems including; mangroves, seagrasses, algae, Fauna and habitat assessment.
- vegetation.
- Communicating with a wide range of stakeholders.
- Development Application.
- Education in both Environmental and Planning industries.
- Koala Plans of Management.
- Policy Development.



## **Relevant Employment History**

<b>2019 – Present</b>	<b>Senior Environmental Manager</b>  Anderson Environment & Planning, Newcastle
<b>2010 - 2019</b>	<b>Principal Environmental Planner</b>  Black Earth
<b>2003-2010</b>	<b>Natural Resource Manager and Development Assessment Officer</b>  Lismore City
<b>2002- 2003</b>	<b>Jervis Bay Indigenous Fishing Strategy</b>