

Biodiversity Management Plan

Proposed Animal Shelter at 253 Old Maitland Road, Mardi NSW

Prepared for: Central Coast Council, C/- ADW Johnson

Prepared by: Anderson Environment and Planning

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BMP Lands with native canopy and weed-infested understorey



Threatened species *Melaleuca biconvexa* in retained BMP lands

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1.0 Introduction

At the request of Central Coast Council, C/- ADW Johnson, Anderson Environment & Planning (AEP) has developed this Biodiversity Management Plan (BMP) to schedule mitigation works required to address native flora and fauna welfare and habitat issues arising from clearing of native vegetation for the proposed development of the Central Coast Council Animal Shelter (the Proposal) located within land at 253 Old Maitland Road, Mardi, NSW (the Site). The Site is described in **Table 1** below and shown in **Figure 1**.

The BMP covers mitigation works for:

- Native fauna welfare before and during construction (Wildlife Management Strategy); and
- Regeneration, monitoring and maintenance of retained lands in a five-year plan with weeding.

The BMP was developed with reference to assessments undertaken by AEP in 2022 - 2025, namely:

- Arborist Assessment Report (the AAR); and
- Ecological Assessment Report (the EAR).

1.1 Site Description

Table 1 – Site Description

Detail	Comments
Client	Central Coast Council c/- ADW Johnson
Site Address	253 Old Maitland Road, Mardi, NSW
Title	Lot 100 DP 602992
Parent lot	Comprises the whole of Lot 100 (approx. 2.8ha)
Development Footprint	Approx. 1.87ha. of highly degraded and managed land in the south-west of the Parent Lot
Site (BMP Lands)	Comprising approx.0.65ha, the Site comprises retained vegetation within the Parent Lot, located to the north and west of the proposed development footprint. The Site was the subject of ecological assessments against native flora and fauna welfare in an Ecological Assessment Report (the EAR, 2023) and Arborist Assessment Report (the AAR, 2023) developed by AEP in conjunction with this BMP. The Site extent within the Parent Lot is shown in Figure 1 .
LGA	Central Coast
Zoning	Under the Central Coast Local Environmental Plan 2022 (the LEP), the Parent Lot is zoned SP2 – Infrastructure.
Current Land Use	The Parent Lot contains an active Central Coast Council Works Depot in the eastern third of the Lot. The southern portion of the Parent Lot consists of disused commercial/light industrial infrastructure. The northern portion is comprised of a mix of planted and managed exotic vegetation and disturbed remnant native vegetation.

Detail	Comments
Surrounding Land Use	The Parent Lot is bounded by Old Maitland Road to the west; CCC water treatment plant to the north; CCC Road and Traffic facility to the south; and CCC depot to the east.

1.2 The Proposal

The Client proposes the construction of the Central Coast Council Animal Shelter, comprising kennels, cattery, recreation yards, administration, paths, car parking and associated infrastructure.

Figure 2 depicts the proposed Development Plan within the Parent Lot.

1.3 Existing Vegetation - Development Footprint

Fieldwork was conducted to ground-truth State Vegetation mapping for the EAR. Clearing, construction of hardstand, under-scrubbing and management of understory associated with historical civil works has been carried out throughout the Development Footprint. It was considered to hold little habitat value for native flora and fauna.

Canopy vegetation is predominantly exotic and planted native species.

The Proposal would require the removal of approx. 0.41ha of vegetation, which consists of managed exotic and planted native vegetation and 0.05ha of remnant native vegetation.

A single mature *Syzygium paniculatum* was recorded in the west of the development footprint (**Tree 69 in the AAR**). This specimen cannot be retained owing to the difficulty in designing around the location.

To minimise construction impacts, an exercise track within the proposed Recreation Area will be subject to further detail design to maximise retention of several semi-mature native trees. Further detail is provided in the EAR and AAR.

1.4 Existing Vegetation - Retained Vegetation (the Site)

The Site (BMP Lands) is a patch of remnant vegetation with area approx. 0.65ha to the west and north of the Development Footprint.

The Site comprises a mosaic of highly disturbed remnant communities. From fieldwork for the EAR, the following Plant Community Types (PCTs) were deduced:

- Approx. 0.11ha exotics and planted vegetation;
- PCT 1566 - approx. 0.09ha *White Mahogany - Turpentine moist shrubby tall open forest of the Central Coast*. PCT 1566 is not associated with any TEC or EEC,
- PCT 1723 – approx. 0.28ha *Melaleuca biconvexa - Swamp Mahogany - Cabbage Palm swamp forest of the Central Coast* (canopy only). PCT 1723 is associated with the Endangered Ecological Community (EEC) *Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*.

- Approximately 0.12ha of Typha Rushland.
- Approximately 0.3ha of Managed Grassland.

The south and east edges of the Site have been managed, with mown lawns. Dominant native canopy trees include *Glochidion ferdinandi* and *Melaleuca biconvexa*.

The Arborist Report (AEP 2025) shows tree protection zones to be adhered to.

Streams were designated according to the Strahler System. Two (2) drainage lines were ground-truthed within the Site that are not mapped in SixMaps. One has been constructed running south-north on the western extent of the Site adjoining Old Maitland Road. This joins another first-order stream from west of Old Maitland Road to form a second order stream which runs roughly west to east through a wetland and off site in the north east of the Parent Lot.

The south bank of the stream is highly disturbed and has been subject to earthworks. The canopy has remnant native species while the understorey is dominated by mature exotics including *Lantana camara*, *Asparagus aethiopicus*, *Ipomoea indica*, *Tradescantia fluminensis*, *Senna pendula*, *Ligustrum sinense*, *Solanum mauritianum*. This area will a primary area of focus for weed control.

Figure 3 shows the extent of ground-truthed streams and vegetation identified within the Parent Lot.

1.5 Non-native exotics and weeds

Weed density varies widely across the Site, from 100% cover of managed lawns in the south to <5% of woody weeds in the north. Significant density weeds within the Site including *Lantana camara*, *Ochna serrulata*, *Ligustrum lucidum*, *L. sinense* and *Asparagus aethiopicus*. The highest weed loads occur on the southern interface between MZ1 and MZ2 and along the south – north drainage line where management practices have concentrated weed infestation.

It is noted that weed densities vary over time, weather and other events such as fire, flooding, grazing can have impacts on weed densities. The coverage and species observed to generate this report requires are a snapshot in time and thorough review at commencement of the BMP is required. The Baseline Report prepared at commencement will provide accurate density and composition maps. This will ensure the most efficient methods for weed eradication can be determined at commencement.

1.6 Threatened species

The EAR assessed the presence or potential habitat for threatened species to occur within the Parent Lot.

A single mature *Syzygium paniculatum* was recorded in the west of the development footprint (**Tree 69 in the AAR**). This tree is to be removed.

A stand of the threatened species *Melaleuca biconvexa* was recorded in vegetation to be retained in MZ2 (**Trees 7-14 in the AAR**). It is likely that

more *M. biconvexa* occurs in the north of MZ2 in retained BMP Lands. This area will be protected from construction impacts by temporary construction fencing.

1.7 Habitat Assessment

Habitat assessment for the EAR observed the development footprint offers limited habitat for fauna. A single hollow-bearing tree (*Glochidion ferdinandi*) was observed within the Subject Site. Additional habitat will be added by the installation of nest boxes within suitable habitat in MZ2 (see **Section 3.5**). Limited habitat would be associated with disused infrastructure such as rubbish piles. No structures exist within the Parent Lot for potential microbat habitat.

Species present within the Parent Lot (*Callistemon viminalis*, *C. citrinus*, *Glochidion ferdinandi*) may constitute suitable feed trees for native fauna. Similarly, *E. microcorys*, *E. robusta* and *Angophora floribunda* would provide foraging habitat. To mitigate impacts, where practical, detail design has been undertaken to avoid impacts within the development footprint. It is unlikely the removal of some habitat will significantly impact habitat values for local fauna populations.

2.0 Regeneration of BMP Land

2.1 Biodiversity Management Plan Objectives

Regeneration of the BMP Lands will be undertaken over a minimum period of five (5) years. This may require an extension until the overall targets are reached. The aim is to have the BMP lands reach a state of Natural Regeneration management of the site after targets have been achieved will be undertaken in accordance with the *Biosecurity Act 2015*.

To achieve these goals, prior to commencement of construction a bush regeneration contractor (BRC) will be appointed and be briefed by the Project Ecologist (the PE).

2.2 Planting

This approach is used across sites where the vegetation condition is poor, generally due to a range of causes of degradation that have led to partial or total damage to biotic and abiotic factors. The Reconstruction Approach includes:

- Site preparation including pruning of dominating plants and primary weeding;
- Planting of canopy and shrub species (tubestock).

Once these areas have the necessary cover to protect the lower layers within the vegetation community from the elements (such as direct sun, storms, winds, etc.), then direct seeding of grass, forbs, etc. will be conducted if required in the second year of management under this BMP. This will ensure the structure and composition of these communities will meet the targets set. The BMP aims to move into Facilitated Regeneration Approach by the end of year 1.

- Weeding;
- Watering;
- Mulching;
- Maintenance of tree guards;
- Replacement of dead plants; and

At end of year three (3) if ground cover species have not naturally regenerated the canopy and shrub layers should have established enough to provide the appropriate microclimate for direct seeding of ground covers species.

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

2.3 Weed Loads and Targets

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 action for these measures may be required.

All weed management within the site will be undertaken by a qualified and experienced BRC, who must ensure;

- The safety of the particular herbicide to users, desirable plants, soil micro-organisms, amphibians, birds and mammals; and
- The economics and time constraints of using herbicides over other methods of weed control.

The EAR identified three (3) priority weeds present, classified as Weeds of National Significance, being *Lantana camara* (Lantana) *Senecio madagascariensis* (Fireweed) and *Asparagus aethiopicus* (Ground asparagus), (listings under the *Biosecurity Act 2015*).

Other weeds of concern in the Site include *Ageratina adenophora* (Crofton Weed), *Tradescantia fluminensis* (Wandering Jew), *Robinia pseudoacacia* (Black Locust), *Senna pendula var. glabrata* (Cassia), *Ochna serrulata* (Mickey Mouse Plant), *Ligustrum sinense* (Small-leaved Privet), *Rubus anglocandicans* (Blackberry) and *Solanum mauritianum* (Wild Tobacco).

At commencement of construction the PE will undertake baseline surveys from monitoring points to be established and develop weed control methods with the Bush Regeneration Contractor (BRC).

Weed management Targets are detailed in **Table 2**.

Table 2 - Weed Management Targets

Time Frame	Native Vegetation Cover (%)	Priority Weeds (%)	Environmental Weeds (%)	Exotic Ground-cover (%)
End Year 1	20	<50	<70	<80
End year 2	30	<30	<50	<60
End Year 3	50	<20	<30	<40

End Year 4	70	<10	<20	<20
End Year 5	80	<5	<15	<10

Note Baselines are to be confirmed by survey by the PE. Year 1-5 is to be regrowth only with no mature woody weeds.

2.4 Habitat Enhancement

Install three (3) nest boxes, one for Microbat species, one for Pardalotes and one for small parrots will be installed in suitable trees within retained vegetation. Nest boxes will be installed prior to commencement of any construction works.

Nest boxes are to be constructed from either modified recycled hollow logs or materials recognised as suitable and durable for nest box construction such as hardwood or moisture resistant plywood.

Installation of logs and logs within BMP lands for habitat.

2.5 BMP Management Zones

The BMP lands to be regenerated under this BMP consist of two (2) Management Zones (MZs) shown in **Figure 4**:

- MZ1 – Plantings; and
- MZ2 – Weed Management.

3.0 BMP Implementation

3.1 Baseline Data

The National Guidelines require that at commencement of approved regeneration works the first step is to gather baseline data. The entire BMP lands must be surveyed by the Project Ecologist and Bush Regeneration Contractor. The inspection will determine:

- Collect accurate native, exotic and weed coverage in each zone;
- Location for monitoring points in each sone;
- Weed eradication methods suitable for species and size within the Subject Site;
- Location and trees suitable for installation of nest boxes;
- Location for stockpiles of mulch;
- Target areas for rubbish removal; and
- Access points for management and monitoring.

This information will be provided to Council within one (1) month from commencement.

3.2 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. Appropriate hygiene controls are to be employed to minimise the chances of any such introduction occurring. This may include a hygiene station 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 such as Myrtle Rust.
- 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);
- Establish photo points;
- Collection and reporting of Baseline Data;
- Installation of nest boxes;
- Vegetation clearance;
- Primary weed removal;
- Installation of ground habitat (in accordance with CCC Guidelines);
- Planting of Vegetation (see **Appendices 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.

3.3 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 3**).

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 piled 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 on-site 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.

3.4 Specific Zone Management

3.4.1 Management Zone 1

Approx 0.12ha of ephemeral vegetation consisting of an ephemeral channel and wetland in good condition. Intervention is only required in the managed, weedy southern edge. This edge will be treated in primary weeding works and immediately planted with suitable species listed in **Appendix A** to reduce weed regrowth. Thereafter follow-up weeding to occur and monitoring will inform any further action required.

3.4.2 Management Zone 2

Approx. 0.53ha consisting of lands north and west of the development limit of works. Land in MZ1 north of MZ1 is generally in good condition, while land south of the wetland comprises managed lawn with canopy trees weed infestations on the southern bank of the wetland in MZ1 as described above.

The southern portion will be treated in primary weeding works and immediately planted with suitable canopy species (where required) and mass planted at 4/m² with understorey species listed in **Appendix A** to reduce weed regrowth.

The south boundary between MZ2 and the Recreation Area and MZ3 will be mass planted with *Lomandra longifolia* at 4/m² to create a 1m wide strip to create a soft exclusion barrier between managed understorey in MZ3 and native understorey in MZ2. Indicative location is shown in **Figure 4**.

Following these initial works, follow-up weeding to occur and monitoring will inform further actions required to meet BMP goals.

Post-construction, management (mowing and removal of fallen timber) will be undertaken by Facility staff. **Note that green waste is not to be disposed of in MZ1 or MZ2.**

The boundary of MZ2 will be planted with *Lomandra longifolia* to create a 1m wide soft exclusion barrier between managed and native understoreys (indicative location is shown in **Figure 4**).

3.5 Nest Boxes

Three (3) nest boxes, one for Microbat species, one for Pardalotes and one for small parrots will be installed in suitable trees within retained vegetation. Nest boxes will be installed prior to commencement of any construction works.

Nest boxes are to be constructed from either modified recycled hollow logs or materials recognised as suitable and durable for nest box construction such as hardwood or moisture resistant plywood.

To minimise long-term damage to the host trees and maximise service life, a secure nest box attachment method such as cable or galvanised wire of suitable thickness protected by tubing or hose material (see **Plate 1**).

Nest boxes will be installed in any of the retained native trees present in the BMP Lands at least 4 metres above ground level.

To limit heat stress to any occupying fauna, Nest boxes should not be oriented in a north-facing position and where there is <25% canopy cover.

A typical re-manufactured hollow is shown in **Plate 1** while a general guide to nest box installation is shown in **Plate 2**. On completion of nest box installation, a report including location mapping detailing nest box identification number, type or salvaged hollow dimensions (including opening size and location), GPS location, species and DBH of tree, aspect and height of each nest box, with photos is to be provided to Council.

Monitoring of nest boxes is to occur annually in conjunction with other BMP monitoring. Photos and data of usage by target and nontarget fauna will be included. Maintenance actions required will be documented and carried out promptly.



Plate 1 - Typical AEP re-manufactured nest box.

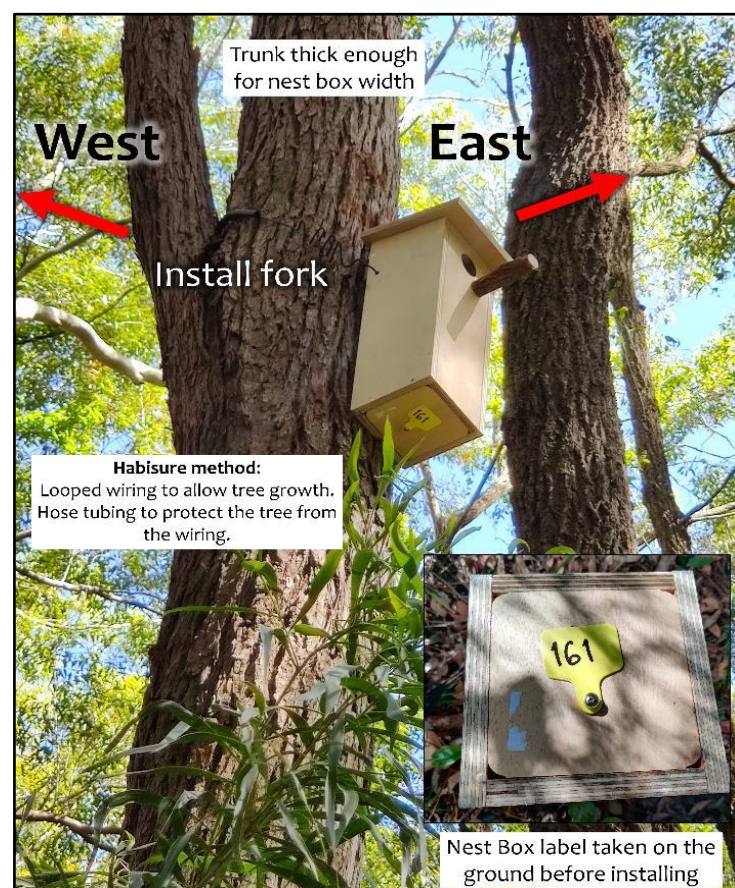


Plate 2 - Typical AEP manufactured nest box install schedule (small parrot nest box).

3.6 Potential Pathogens / Disease

There is potential for pathogens and diseases to be introduced to the Site by construction. Appropriate hygiene controls are to be employed to minimise the chances of any such introduction occurring such as machinery decontamination pre and post operation.

Response plans are to be developed and included in the CEMP to mitigate impacts in the event of disease or pathogen outbreaks.

Hygiene controls should be maintained for all Site visits for the life of the BMP.

3.7 Fauna Management

Macropods and possums were recorded as occurring onsite and 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.

4.0 Vegetation Clearing

To mitigate impacts of construction upon native fauna welfare, the following clearing methodology should be followed. A phased approach to clearing is to be undertaken to mitigate impacts.

4.1 Pre-Clearing Surveys

In the two-week window prior to commencement of clearing, the Project Ecologist will identify and contact a local fauna rescue / care organisation to manage injured or dependent native fauna, including eggs rescued;

Prior to clearing commencing, the Project Ecologist will undertake pre-clearing diurnal and nocturnal surveys for threatened species (not more than two weeks prior to clearing).

The Project Ecologist will ensure HBTs to be removed are clearly marked with pink paint with a "H" on two sides and pink tape around at 1.5m. The Project Ecologist may mark other habitat features (including rubbish piles, logs etc) with similar marking.

The Project Ecologist may mark other habitat resources for salvage (felled hollows, hollow logs, fallen timber and boulders, etc); and other resources with potential for reuse (seed collection for propagation, etc). These may be relocated where practical in MZ2 to provide furniture for native fauna or salvaged by the Project Ecologist for use in other projects.

4.2 Clearing Methodology

All clearing works and removal of marked habitat are to be undertaken under the supervision of the Project Ecologist who will induct civil contractors in meaning of marked features and clearing methodology.

A staged approach to clearing is to be undertaken to provide fauna the opportunity to disperse:

- Phase 1 Clearing - Under scrubbing and felling of non-habitat trees; and
- Phase 2 Clearing - Inspection and felling of habitat and trees

4.2.1 Phase 1 Clearing

Clearing of understorey and non-habitat trees. To allow fauna to escape two overnights are required between Phase 1 and Phase 2 clearing.

4.2.2 Phase 2 Clearing

Following two nights after Phase 1 clearing, clearing of HBTs and other habitat can be undertaken under the supervision of the Project Ecologist. The following methodology is to be followed:

- Tree hollows are to be inspected, preferably physically or by extension camera to determine if any fauna are occupying hollows;
- Where safe to do so, hollows will be sectionally cut and lowered;
- The machine operator will 'tap' the tree several times to flush fauna;
- After observing for approx. 30 seconds, the Project Ecologist will give the ok to rip and fell the HBT;
- The HBT to be dropped as gently as machinery will allow;
- Inspection of all hollows by the Project Ecologist, using torch and flexible camera if required;
- The Project Ecologist may require the operator to roll the HBT to allow complete access to hollows;
- The Project Ecologist may request chain saw operator to section large barrels for inspection; and
- To allow fauna to escape, HBTS to be left 'as they fall' for at least 24 hours before windrowing or processing.

Where practical, the Project Ecologist may request the contractor to assist with translocating sections of hollows won from clearing but not suitable for salvage into the BMP Lands as ground habitat for native fauna.

Where practical, the Project Ecologist may salvage hollows won from clearing for remanufacture and use on other sites.

4.3 Native Fauna Welfare

Prior to commencement of clearing, the Project Ecologist will have briefed a local fauna rescue / care organisation to manage injured or dependent native fauna, including eggs rescued.

The Project Ecologist will manage fauna found on a case-by-case basis, depending on the type, health, maturity and numbers of fauna encountered.

Fauna rescued during vegetation clearing is to be assessed by the Project Ecologist for injuries, and if deemed suitable, released in adjacent retained vegetation. This may require holding fauna until dusk for release in accordance with relevant animal ethics licencing and standards.

The Client will be responsible for any costs incurred for fauna care, including relocation and treatment.

Following completion of clearing works, the Project Ecologist is to provide compliance reporting to Council, including a schedule of fauna encountered, its management and outcomes thereof.

Owner must be undertaken in accordance with *Biosecurity Act 2015* & *Biosecurity Regulations 2017* for both weeds and pest management.

5.0 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. 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.

5.1 Monitoring

Photo Monitoring points will occur on a biannual basis at the proposed monitoring points (refer **Figure 4**), covering:

- Weed coverage and effectiveness of control methods;
- Planting success;
- Coverage of native species;
- Condition and usage of nest boxes;
- Incidental fauna use of site; and
- Evaluation of management effectiveness.

5.2 Reporting

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.

5.3 Future Management

The on completion of the BMP management the Subject Site will be in a state of Natural Regeneration, therefore native vegetation should be thriving and regenerating, as a result the future management undertaken by the Land

Table 3 - Weed Control Activities

Activity	Minimum Requirement
Pre-works	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 problematic weeds on site have been identified, and listed in Section 2.2 .
Primary Works	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> .
Secondary Works	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.
Maintenance Works	Maintain exclusion of weeds controlled during Primary and Secondary works. Prevent reinfestation of weeds progressively, and others as time permits.
Woody Trees & Shrubs	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.
Woody Thickets	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 dam). 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.
Vines and Creepers	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.
Ground Cover	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.
Retention of forage/habitat	Retain trees and shrubs that have evidence of occupation i.e., bird nest/possum drey, until such time as other suitable habitat is available or the nest is abandoned. Retain manageable clumps of vegetation that can be easily removed at a later date for intermediate food and habitat supply within the semi-cleared and disturbed landscape, which will emerge between weed control and establishment of native plants.
	These retained features can be removed as they become redundant at the discretion of the Bush Regeneration Contractor (BRC).

Table 4 - BMP Schedule of Works




Responsibility Key: PM - Project Manager, CC - Civil Contractor, PE - Project Ecologist, CA - Climbing Arborist, BRC - Bush Regenerator Contractor

Action	Stage							Responsibility
	Prior to any works	On Commencement	Year 1	Year 2	Year 3	Year 4	Year 5	
Baseline data collection								
Preparation and Submission of Baseline Report								
Approval of Baseline Report by CCC								
Survey and clear marking of limit of works between development and Management Zones								PM / CC
Temporary construction fencing and signage between development and retained lands								PM / CC
Erosion & sediment controls in accordance with the Blue Book								CC
Implement weed and pathogen management protocols								CC
Removal of rubbish and human structures in MZ1 along streams								CC
Pre-clearing diurnal and nocturnal surveys for fauna (not more than one week prior to clearing commencement)								PE
Erect tree protection zones around trees to be retained in proximity to development footprint Ensure all <i>Melaleuca biconvexa</i> is retained and protected.								CC / PE
Differentially mark HBTs for sectioning and lowering clearing methodology								PE
Set up Monitoring and Photo Points								PE
Install 3 nest boxes in suitable retained trees in MZ2								PE
Appoint Bush Regeneration Contractor, plan primary weeding and planting works with PE and commence works								BRC / PE
Vegetation clearing in development footprint supervised by Project Ecologist NB: Two-stage clearing of habitat trees and ground habitat								CC / PE
Compliance Letter to Council certifying completion and compliance nest box installation and clearing.								PE
Primary weeding works and native species planting where required to fill gaps								PE / BRC
Planting min. 5 each <i>S. paniculatum</i> and <i>M. biconvexa</i> in suitable habitat in MZ2								PE / BRC
Planting 1m wide barrier of <i>Lomandra longifolia</i> on boundary of MZ2								BRC
Selective planting of endemic natives (informed by monitoring to meet targets)								BRC
Replacement of dead / diseased plants								BRC
Permanent fencing protecting BMP Lands								CC
Maintain weed & pathogen controls for every maintenance visit to site								BRC
Secondary Weeding								BRC
Maintenance Weeding								BRC
Bi-annual monitoring, review of progress of BMP and report to Council due 30 June annually								PE
BMP review against targets (informed by annual monitoring and reporting)								PE

Action	Stage							Responsibility
	Prior to any works	On Commencement	Year 1	Year 2	Year 3	Year 4	Year 5	
Final BMP Compliance Report to Council								PE

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

-  Subject Site
-  Development Footprint
-  Central Coast Hydroline

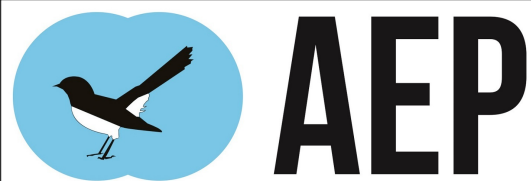
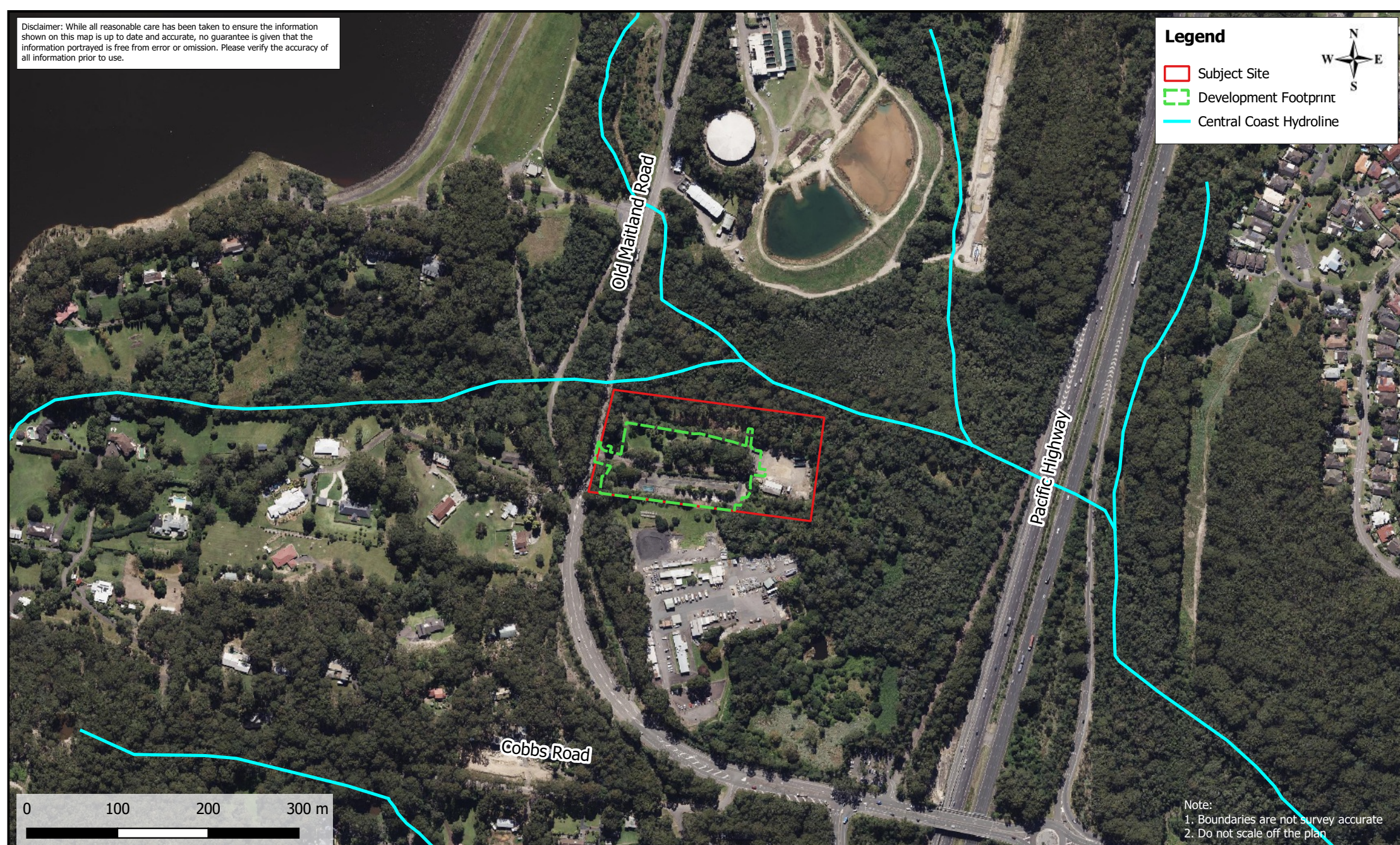


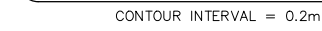
Figure 1 - Site Location

Date: August 2024

Location: 253 Old Maitland Road, Mardi

Client: Central Coast Council




AEP ref: 3149.04



1. FOR TYPICAL ROAD CROSS SECTIONS, KERB PROFILES REFER SHEET 201.



NOT FOR CONSTRUCTION

REV. A D O C E M	DATE	AMENDMENT	DESIGN	DRAWN	CHECKED	APPROVED	SCALES		<div>Central Coast 5 Pioneer Avenue, P.O. Box 3717, Tuggerah N.S.W. 2259 Phone: (02) 4305 4300 Fax: (02) 4305 4399 email: coast@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398</div>	CLIENT		PROPERTY DESCRIPTION		PROJECT PROPOSED ANIMAL SHELTER						
	PLAN TITLE		DETAIL PLAN																	
	DESIGN FILE S:\190872\DESIGN\120\ANIMAL CARE FACILITY.project											ALL DIMENSIONS ARE IN METRES. DO NOT SCALE	SURVEYED Everitt & Everitt		DATUM GDA2020 M.G.A. ZONE 56 A.H.D.		PROJECT No. 190872 -	DISCIPLINE CENG -	NUMBER 101	REV. F
	08/08/23 INITIAL ISSUE		MP	SZ	ND	ND														
	04/09/23 GENERAL AMENDMENTS		MP	SZ	ND	ND														
	29/09/23 BIN STORAGE LOCATION AMENDED		MP	SZ	ND	ND														
07/05/24 UPDATED ARCHITECTURAL LAYOUT		MP	JE	ND	ND															
11/11/2024 RAINWATER TANK LOCATION AMENDED		MP	JS	ND	ND															
5/12/2024 UPDATED ARCHITECTURAL LAYOUT		MP	JS	ND	ND															

Plotted By: Ethan Ridges Plot Date: 05/12/24 9:30:58AM Cad File: S:\190872\DWG\ENGINEERING\CENG\190872-CENG-101.DWG

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

-  Subject Site
 -  Development Footprint
 -  BMP Lands
 -  Indicative Monitoring Points
- Management Zones**
-  MZ 1 - Wetland Rehabilitation
 -  MZ 2 - PCT 1723 Rehabilitation



0 25 50 m

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



AEP

Figure 4 - Management Zones

Date: August 2024

Location: 253 Old Maitland Road, Mardi

Client: Central Coast Council

AEP ref: 3149.04

6.0 References

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Appendix A – Site Planting Species List

Management Zone 1 – Wetland Aquatic Species – Low Flow Channel to Lower Bank		
Scientific Name	Common Name	Planting Density
<i>Carex appressa</i>	Tall Sedge	Mixed random planting at an average of 4 plants/m ² where required in gaps created by weeding
<i>Carex longebrachiata</i>	Drooping Sedge	
<i>Gahnia clarkei</i>	Tall Saw-sedge	
<i>Juncus usitatus</i>	Common Rush	

NB: random plantings with final average density of 4 plants/m²

Management Zone 2 – PCT 1723 (adapted by AEP)			
Vegetation Layer	Scientific Name	Common Name	Planting Density
Upper Stratum	<i>Acmena smithii</i>	Lilly Pilly	In bare areas, random planting of available species at 1/10m ²
	<i>Angophora floribunda</i>	Rough-barked Apple	
	<i>Cryptocarya microneura</i>	Murrogun	
	<i>Eucalyptus robusta</i>	Swamp Mahogany	
	<i>Livistona australis</i>	Cabbage Tree Palm	
	<i>Melaleuca biconvexa</i>	Biconvex Paperbark	Min. five (5) individuals of each species in suitable habitat
	<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	
NB Threatened species in bold must be planted, with evidence and progress reported in all compliance letters and annual reporting to Council. Deceased specimens to be replaced			
Middle Stratum	<i>Acacia irrorata</i>	Green Wattle	1/4m ²
	<i>Acacia schinoides</i>	Green Cedar Wattle	
	<i>Allocasuarina torulosa</i>	Forest oak	
	<i>Breynia oblongifolia</i>	Coffee Bush	
	<i>Callistemon citrinus</i>	Crimson Bottlebrush	
	<i>Callistemon salignus</i>	Willow Bottlebrush	
	<i>Glochidion ferdinandii</i>	Cheese Tree	
	<i>Homalanthus populifolius</i>	Bleeding Heart	
	<i>Melaleuca linearifolia</i>	Flax-leaved Paperbark	
	<i>Melaleuca styphelioides</i>	Prickly-leaved Tea Tree	
	<i>Synoum glandulosum subsp. glandulosum</i>	Scentless Rosewood	
Ground Stratum	<i>Blechnum cartilagineum</i>	Soft Water Fern	4/m ²
	<i>Centella asiatica</i>	Swamp Pennywort	
	<i>Commelina cyanea</i>	Scurvy Weed	
	<i>Cissus antarctica</i>	Kangaroo Vine	
	<i>Cissus hypoglauca</i>	Water Vine	
	<i>Dianella caerulea</i>	Blue Flax-lily	
	<i>Dianella longifolia</i>	Blueberry Lily	
	<i>Dioscorea transversa</i>	Native Yam	
	<i>Entolasia marginata</i>	Bordered Panic	

Management Zone 2 – PCT 1723 (adapted by AEP)			
Vegetation Layer	Scientific Name	Common Name	Planting Density
	<i>Entolasia stricta</i>	Wiry panic	
	<i>Gahnia clarkei</i>	Tall Saw-sedge	
	<i>Geitonoplesium cymosum</i>	Scrambling Lily	
	<i>Gynochthodes jasminoides</i>	Sweet Morinda	
	<i>Hypolepis muelleri</i>	Harsh Ground Fern	
	<i>Kennedia rubicunda</i>	Dusky Coral Pea	
	<i>Lomandra longifolia</i>	Spiky-headed Mat-rush	
	<i>Macrozamia flexuosa</i>		
	<i>Oplismenus aemulus</i>	Basket Grass	
	<i>Oplismenus imbecillis</i>	Creeping Beard Grass	
	<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	Wonga Wonga Vine	
	<i>Parsonsia straminea</i>	Common Silk Pod	
	<i>Pseuderanthemum variabile</i>	Pastel Flower	
	<i>Stephania japonica</i>	Snake vine	
	<i>Smilax australis</i>	Lawyer Vine	
	<i>Smilax glycyphylla</i>	Sweet Sarsaparilla	
Border with development	<i>Lomandra longifolia</i>	Spiky-headed Mat-rush	Lineal planting at 4/m ² to create soft barrier

Appendix B - Site Photos

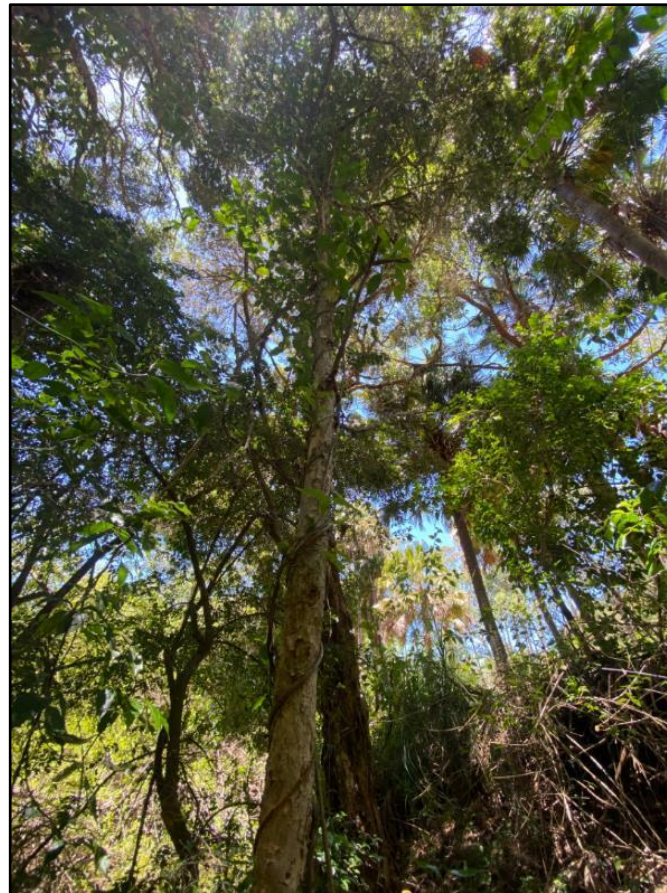


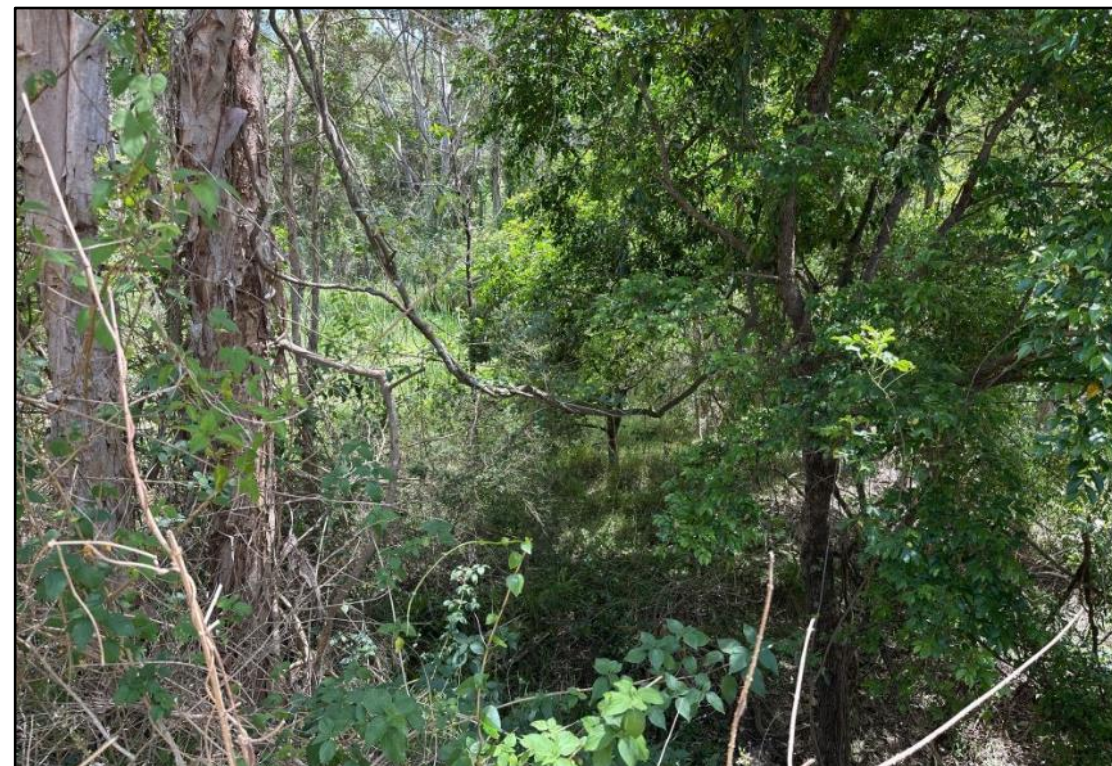
Above: The development footprint – little understorey and managed and planted canopy
Below: MZ1 - weedy south edge and bank of the wetland



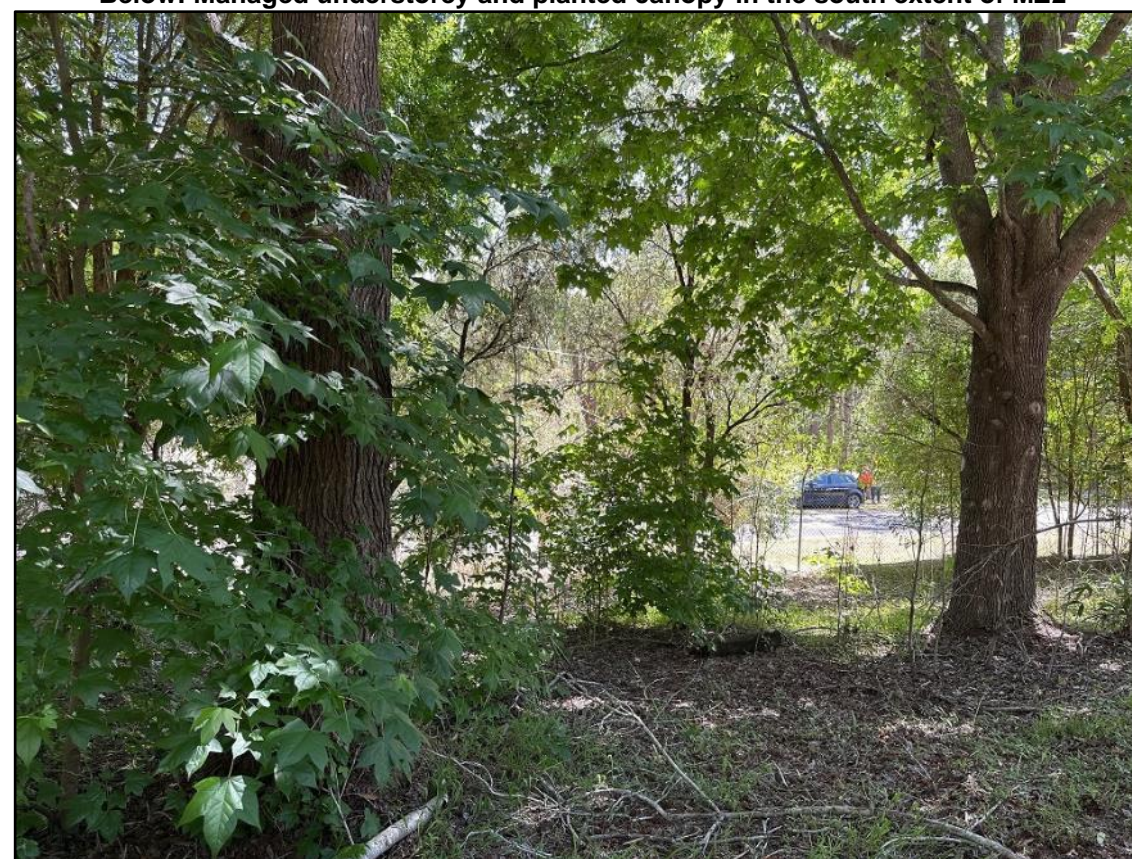


Above: Western edge of MZ2 has native canopy and weedy understorey
Below: There is a mature stand of *Melaleuca biconvexa* in MZ2





Above: MZ2 native canopy and weedy understory
Below: Managed understory and planted canopy in the south extent of MZ2



Appendix C – BMP Annual Monitoring Pro-forma

Appendix Annual Site Inspection Monitoring Report

Monitoring Point			
Date:		Staff:	
Project number and Title:		Weather:	
MZ:	GPS:		
Weeds	Cover	Action required	
Priority Weeds			
Other Weeds			
Native Species (see Appendix A for PCT Species List)			
Layer	Cover	Abundance	Action required
Canopy			
Shrub			
Groundcover & Climbers			
Progress - to be completed in 2024-2028 Monitoring			
Regrowth Weeds		Actions Required	
Diversity			
Regeneration / plantings			
Other			
Photos MZ (insert Date)			
North	East	South	West

Appendix D – 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, 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</i> var. <i>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
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.

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, 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
Blackberry <i>Rubus fruticosus</i> species aggregate	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</i> subsp. <i>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</i> var. <i>millata</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</i> sp.	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.
Cane cactus <i>Austrocylindropuntia 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>Austrocylindropuntia</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.

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, 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
	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</i> subsp. <i>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
Eve's needle cactus <i>Austrocylindropuntia 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>Austrocylindropuntia</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.

Priority Weeds of Greater Sydney	
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Weed	Duty
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.
Grey sallow <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.

Priority Weeds of Greater Sydney	
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Weed	Duty
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.
	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.
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 <i>trichophylla</i>
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.

Priority Weeds of Greater Sydney	
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Weed	Duty
Mesquite <i>Prosopis species</i>	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 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 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
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 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.
Pampas grass <i>Cortaderia species</i>	Regional Recommended Measure Exclusion zone: Upper Hunter local government area. Core infestation area: Port Stephens, Maitland, Cessnock, Lack Macquarie, Newcastle and Mid-Coast 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.
	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
	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

Priority Weeds of Greater Sydney	
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Weed	Duty
	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.
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 Austrocylindropuntias <i>Austrocylindropuntia</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>Austrocylindropuntia</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.
	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.
	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.
	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.

Priority Weeds of Greater Sydney	
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Weed	Duty
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.
	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 hyblaenum</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 falcatius</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.
	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 Must not be imported into the state, sold, bartered, exchanged or offered for sale.
Snakefeather <i>Asparagus scandens</i>	Prohibition on certain dealings Must not be imported into the state, sold, bartered, exchanged or offered for sale.
	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>Limnobiium 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 <i>Limnobiium</i> are Prohibited Matter
Spotted knapweed <i>Centaurea stoebe</i> subsp. <i>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 Must not be imported into the state, sold, bartered, exchanged or offered for sale.
	Regional Recommended Measure

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Weed	Duty
	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 <i>Trapa</i> 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, Mid-Coast, 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). 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 species</i>	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 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

Priority Weeds of Greater Sydney	
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Weed	Duty
	All species in the Striga genus are Prohibited Matter in NSW, except the native Striga parviflora
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 E – VMP 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 F – CV

DARCY KILVERT

Senior Ecologist & Sydney Office Manager

Profile Summary

Darcy works with AEP in the role of Senior Ecologist / Sydney Office Manager, overseeing the Sydney Office since its establishment in 2023. With a comprehensive grasp of environmental legislation and approval processes, he possesses extensive expertise in implementing the Biodiversity Assessment Method. Having worked in the Natural Resource Management sector since 2015, Darcy has developed skills in Botany, Report Writing, Project Management, and GIS. His areas of special interest include Botany and Ecological Community identification, with a particular focus on the Greater Sydney Region.

Academic Qualifications

- Bachelor of Science (Biology), The University of Newcastle, completed in September 2021

Training, Licences and Professional Memberships

- NSW Class C Driver's Licence
- WHS NSW Construction Induction White Card
- First Aid (Provide First Aid HLTAID011)
- Working at Heights
- Chemcert and EPA ground applicator licence

Professional Experience

Senior Ecologist / Sydney Office Manager Anderson Environment & Planning Newcastle NSW	2023 - Present
Ecologist / Project Lead Anderson Environment & Planning Newcastle NSW	2022 - 2023
Ecologist Anderson Environment & Planning Newcastle NSW	2021 - 2022
Senior Field Supervisor Traditional Aussie Gardens Newcastle	2018 - 2021
Field Worker Newcastle City Council Newcastle	2015 - 2017



Relevant Project Experience

Ecological Survey examples

- Botanical surveys including BAM plots: Bermagui, Greendale, Waringah, Gosford, Lake Macquarie, Singleton, Quirindi, Lake Cathie, Dilkoon and Tweed Heads.
- Threatened flora surveys: Carrai, Blueys Beach, Dilkoon, and South West Rocks.
- Targeted Koala Nocturnal searches: Upper Rouchel, Greendale, South West Rocks, and Bundanoon.
- Spot Analysis Techniques surveys: Newcastle, Maitland, Hawkesbury, Camden, and Penrith.

Ecological Assessment examples

- Biodiversity Development Assessment Report project management: Greendale, Empire Bay, Hawkesbury, Pleasure Point, South West Rocks
- Ecological Assessment Reports: Carramar, Lake Macquarie, Gosford, and Woolwich.
- Biocertification Assessments: West Wilton, Strathfield, Schofields, and Rouse Hill
- Part-5 Ecological Assessments: Liverpool, Wollongong, and Homebush.
- BDAR Waivers: Revesby, Strathfield and Schofields.

Ecological Monitoring

- Biodiversity Stewardship Agreements including Blueys Beach and South West Rocks;
- Vegetation Monitoring Plots: Pheasants Nest and Warriewood.

GEOFF TURNER

Ecologist / GIS Officer

Profile Summary

Geoff is a junior Ecologist and GIS Officer with Anderson Environmental & Planning. Having recently completed an undergraduate degree in environmental science where he garnered experience in environmental science and undertaking ecological fieldwork such as targeted flora and fauna surveys, he has begun to broaden his skills by commencing a Master of Geographic Information Science at the University of Queensland. During his time working as an Ecologist / GIS Officer he has furthered his ecology skills in conducting ecological assessments and surveys, in addition to performing the accompanying geospatial work that both informs the fieldwork and concisely communicates the data. His work with Anderson Environment & Planning has helped consolidate report writing skills first honed as a requirement of his bachelor's degree.

Academic Qualifications

- Master of Geographic Information Science - University of Queensland, Current
- Bachelor of Science (Environmental Science) – University of Sydney, 2023

Training, Licences and Professional Memberships

- NSW Class C Driver's Licence
- WHS NSW Construction Induction White Card
- First Aid (Provide First Aid HLTAID011)

Professional Experience

Ecologist / GIS Officer Anderson Environment & Planning Newcastle NSW	2024 – Present
Technician (Espresso machines) Buccheri Group Melbourne VIC	2023 - 2024
Farm Hand Pocket City Farms Sydney NSW	2020 - 2021

Relevant Project Experience

Ecological Surveys

- Diurnal bird surveys (Various sites, 2024-onwards).
- Frog surveys for threatened species (Oxford Falls, April 2024).
- Habitat surveys, including tree hollow identification (Various sites, 2024-onwards).
- Nocturnal surveys for nocturnal avian fauna, including stagwatching, spotlighting, quiet listening and call playback (Wyee, 2024).



Ecological Assessment

- Biodiversity assessment methodology (BAM) plots, under supervision of BAM accredited assessor Joelan Sawyer (Narellan, May 2024).
- Bushfire vegetation inspection and assessment in accordance with PBP 2019 (Clarendon, April 2024).

Geospatial Analysis

- Perform Geospatial analysis according to guidelines and legislation for various reports such as Ecological Assessments and Biodiversity Management Plans.
- Design and present complex spatial data for government and industry.

NATALIE BLACK

Senior Ecologist

Profile Summary

Natalie works with AEP in the role of Senior Environmental Manager. She has extensive knowledge in environmental management, environmental planning, fisheries, aquatic and riparian environments, 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 in a range of course with a focus on environmental management and environmental legislation. Her background and experience in the ecological and planning fields is utilised in a diverse array of application in her current role.

Natalie Black is a conservation detection dog handler and is currently working with his purpose breed working English Springer Spaniel "Gus" who is currently trained to detect Koala scat, Forest Owl pellets and Cane Toads.

Academic Qualifications

- B.Sc (Hons) Sustainable Resource Management and Marine Science – University of Newcastle, 2001
- Master Planning – University of Technology Sydney, 2007
- Certificate IV Training and Assessment – TAFE, 2012
- BAM Assessor; accreditation number: BAAS19076

Training, Licences and Professional Memberships

- NSW Class C Driver's Licence
- Provide First Aid HLTAID011
- 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

Professional Experience

Senior Environmental Manager / 2019 – Present

Works Coordinator

Anderson Environment & Planning

Newcastle NSW

Principal Environmental Planner 2010 - 2019

Black Earth

Newcastle NSW

Senior Lecture 2010 - 2019

Hunter TAFE

Range of Hunter Campuses

Natural Resource Manager and Development Assessment Officer 2003 - 2010

Lismore City Council

Lismore NSW

Fish Passage Expert 2002 - 2003

NSW Department of Primary Industries

Ballina NSW

Conservation Officer 2000 - 2002

NSW Department of Primary Industries

Crows Nest, NSW

Volunteer NSW Fisheries 1998 - 2000

Varied Roles

Port Stephens, NSW

Relevant Project Experience

Ecological Survey examples

- Target surveys for *Thelymitra adorata* Halloran; Wyee, Wadalba;
- Target surveys for *Melaleuca biconvexa* Mardi, , Halloran; Wyee, Wadalba
- Target surveys for *Tetratheca juncea* Hillsborough, Mardi, Thornton, Warners Bay;
- Target surveys for *Rhodamnia rubescens* Hillsborough, Mardi, Thornton, Stuarts Point, South West Rocks,
- Target Surveys for Cumberpalin Snail and Dural Snail, Rouse Hill
- Target Search for seagrass and threatened marine fauna, Stuarts Point, South West Rocks, Lake Macquarie, Peat Island,
- Powerful Owl nest locating and monitoring: Salamander Bay
- Spot Analysis Techniques surveys: Lismore, Wallsend, Salamander Bay, North Arm Cove, Warnervale, Hamlyn Terrace, Wyee, Charlestown, Chisholm, Gillieston Heights, Mount Vincent, Hillsborough;
- Surveys for Squirrel Glider (*Petaurus norfolcensis*) Wadalba, Rouse Hill, Claremount Meadows, Wyee, Hillsobourgh, South West Rocks, Stuart Point;
- Frog Surveys: Lismore, Wallsend, Salamander Bay, North Arm Cove, Warnervale, Hamlyn Terrace, Wyee, Charlestown, Chisholm, Hillsborough Rouse Hill, Kariong, Wadalba,

Ecological Assessment examples

- Accredited Assessor for approved Biodiversity Development Assessment Reports:
 - Teraglin Village, Chain Valley Bay;
 - Railway Road, Warnervale;
 - McFarlane's Road, Chisholm;

Newcastle | Sydney

10 Darvall St Carrington 2294 | 275 Stanmore Rd Petersham 2049
P 0420 624 707 E info@andersonep.com.au ABN 57 659 651 537

- Fairlands Road, Medowie;
- Raymond Terrace Road Chishlm,
- Annangrove Road, Rouse Hill
- Richmond Road, Marsden Park,
- Claremount Meadows,
- Newcastle Golf Course, Fern Bay,
- Newell Highway, Gilgandra
- Narromine Road, Dubbo
- Ecological Assessment Report for Proposed Modification to Approved Western Rail Coal Unloader At Pipers Flat;
- Infrastructure Ecology Reports;
 - Wyee Water Main;
 - Mardi Water Main;
 - Wyee Rising Main;
 - Mardi Rising Main;
- Summerhill Waste Facility Recycling Plant

Ecological Offsets and Monitoring

- Biodiversity Stewardship Agreements including:
 - Hillsborough
 - Blueys Beach,
 - Allandale,
 - South-West Rocks.
- Biodiversity Management Plans / Vegetation Management Plan / Wildlife Management Strategies
 - VMP for Proposed Modification to Approved Western Rail Coal Unloader At Pipers Flat;
 - VMP / WMS / Dewatering Plan for Wyee for 23ha Offset lands
 - VMP Rouse Hill Commercial Development.
 - BMP – Claremount Meadows Commercial Development.

Planning – Approved Review of Environmental Factors

- South West Rocks Installation of Seawall,
- Lake Macquarie upgrade of carpark, boat ramp and jetty,
- Demolition of two (2) jetties Peat Island,
- Stuart Point upgrades to caravan park including boat ramp.
- Wyee Rising Main
- Anambah Recycling Facility

Bushfire Threat Assessments

- Kempsey Correctional Facility for upgrade
- Stuarts Point Caravan Park for upgrades
- Claremount Meadows for a Commercial development included Daycare, and service station
- Batlow for a Service Station
- Lovedale for a change of use to Brewery

DENNIS NEADER Senior Ecologist

Profile Summary

Dennis works with AEP in the role of senior ecologist. He is an experienced bird watcher and a regular participant in Hunter Bird Observers' Club (HBOC) Bird Surveys in the wider Hunter Valley. Dennis has previously had a varied career as an environmental scientist, contaminated land consultant and bush regenerator with local firms. His background in birdwatching, other fauna, post-approval project management and bush regeneration, combined with his ecological knowledge is utilised in a diverse array of applications in his current role.

Academic Qualifications

- Bachelor of Science (Environmental Geoscience) University of Newcastle (2011).

Training, Licences and Professional Memberships

- NSW HR Driver's Licence;
- WHS NSW Construction Induction White Card;
- First Aid (Provide First Aid HLTAID011);
- Experienced 4WD operator;
- ChemCert;
- Elevated Work Platform Licence and Dogging and Rigging Licence;
- Chainsaw Operation and Maintenance;
- Light Forklift Truck;
- Open Water PADI Dive Certificate;
- Non-Friable Asbestos Removal; and
- Member of Birdlife Australia, Society for Growing Australian Plants, Australian Assoc. of Bush Regenerators.

Professional Experience

Senior Ecologist Anderson Environment & Planning Newcastle NSW	2019 – Present
Ecologist Anderson Environment & Planning Newcastle NSW	2016-2019
Environmental Scientist	2014-2016



JM Environments
Newcastle NS

Quarterly Bird Surveys Hunter Valley

2010 - 2014

Trees in Newcastle, Conservation Volunteers Aust.
Newcastle NSW

Bush Regeneration Technician

2010 - 2014

Trees in Newcastle, Conservation Volunteers Aust.
Newcastle NSW

Environmental Technician, GIS Technician

2010-2012

AECOM, Geodata
Newcastle NSW

Coal Superintending

2006 - 2010

ALS & SGS
Newcastle NSW

Project Experience

Ecological survey and post-approval work, covering terrestrial, arboreal and aquatic flora, and fauna.

Threatened Species Survey

- *Corybas dowlingii*: Salamander Bay;
- *Genoplesium branwhiteorum*: Woongarah, Tuggerah and Warnervale;
- *Cryptostylis hunteriana*: Elizabeth Bay and Gwandalan;
- Other threatened flora surveys: wider Sydney Basin, NSW North Coast, NSW Tablelands and Blue Mountains;
- Glossy-black Cockatoo: Salamander Bay, Wallsend, Glendale and Dudley;
- White-bellied Sea-eagle nest locations and monitoring: Glenning Valley, Blueys Beach and Chisholm;
- Powerful Owl survey, nest locating and monitoring: Salamander Bay, Anna Bay North, Fern Bay, Wallsend, Cameron Park and Edgeworth;
- Bittern survey: Hunter Wetlands National Park;
- Aquatic survey: Nambucca Heads, Dora Creek, Morisset and Karuah;
- Shorebird survey: Tomago;
- Koala habitat and presence including Spot Assessment Technique: Wallsend, Cameron Park, South Kempsey, Blueys Beach, Anna Bay and Somersby; and New Italy; and
- Other threatened fauna surveys throughout the Sydney Basin, NSW North Coast, NSW Tablelands and Blue Mountains.

Post Approval Works

- Squirrel Glider corridor management and infrastructure plans (including rope bridges and glider poles);
- Pre-clearing native plant ID and seed collection wider
- Pre-Clearing Works, habitat marking, pre-clearing surveys for threatened species;
- Clearing supervision and fauna spotting-catching;



Post-approval Project Management - Biodiversity Management Plan development, implementation, monitoring and Reporting

- Contaminated Land – Asbestos Identification and Removal

Other Related Experience

- Hands-on Bush regeneration in the Sydney Basin and Port Stephens
- Contaminated Land accreditation and experience – Asbestos identification and removal

JOELAN SAWYER

Senior Ecologist

Profile Summary

Joelan works with AEP in the Role of Senior Ecologist, Joelan Specialises in botany with experience focused in the Greater Sydney area and along the NSW coastline. He is proficient in performing flora and fauna surveys, plant identification and taxonomy, GIS, and reporting for biodiversity and impact assessments. He also has in-depth knowledge of the NSW legislative pathways, namely the Biodiversity Conservation Act 2016 and the associated Biodiversity Assessment Method (BAM). Joelan is an accredited assessor. Accreditation No. BAAS23016

Academic Qualifications

- Bachelor of Science (Biology), The University of Western Sydney, completed September 2018
- BAM Assessor; accreditation number: BAAS23016.

Training, Licences and Professional Memberships

- NSW Class C Driver's Licence
- WHS NSW Construction Induction White Card
- First Aid (Provide First Aid HLTAID011)

Professional Experience

Senior Ecologist Anderson Environment & Planning Sydney NSW	2023 – Present
Ecologist Anne Clements & Associates	2017 - 2023
Nursery Worker / Horticulturalist Wingham Nursery & Florist	2015 - 2017

Relevant Project Experience

Ecological Surveys

- Flora
 - Targeted surveys for *Dichanthium setosum* in the Hunter Region;
 - Targeted surveys for *Tetratheca glandulosa* and *Hibbertia procumbens* on the Somersby Plateau;
 - Targeted surveys for *Eucalyptus benthamii*, *Dillwynia tenuifolia* and *Grevillia juniperina*, Western Sydney;
 - Targeted surveys for *Genoplesium baueri*, and *Grammitis stenophylla* Northern Sydney;
- Fauna
 - Spot Analysis Techniques surveys: Muswellbrook, Gunnedah, Scone, Bermagui, Blue Mountains, Western Sydney;
 - Targeted surveys for Cumberland Plain Land Snail, Western Sydney;

- Targeted surveys for Broad Headed Snake, Cattai;
- Targeted surveys for Striped Legless Lizard and Pink Tailed Legless Lizard, Muswellbrook;
- Targeted surveys for Green and Golden Bell Frog, Eastern Suburbs, Sydney;
- Bushfire
 - Bushfire vegetation inspection and assessment in accordance with PBP 2019, various sites;
- Arboriculture
 - Waste recycling facility, 120 trees assessed, West Gosford;
 - Industrial development, 140 trees assessed, Stanmore Park;
 - Commercial development, 80 trees assessed, Marsden Park;

Ecological Assessment

- BAM assessment for Biodiversity Development Assessment Reports;
 - Sandstone quarry extension, Cattai;
 - Aged care housing, Bermagui;
 - Residential development, Pleasure Point;
 - Solar Farm, Stubbo;
 - Eco cabins, Colo;
 - Farm building and agricultural infrastructure, Richmond;
 - Mountain bike track, Delrio, Webbs Creek;
 - Aged care housing, Mollymook;
 - Hunter Gas Pipeline project, Hunter region;
- Accredited assessor for Landscaping Material Supply Facility Biodiversity Development Assessment Report, Greendale;
- BAM assessment and PCT for Ecological Assessment Reports;
 - Horse stabling development, Clarendon;
 - Great southern walk accommodation, Illawarra Escarpment;
 - Rezoning for Carrathool Shire Council at Merriwagga and Rankin Springs;
 - Biodiversity assessment of various Sydney Water assets, Greater Sydney;
 - Biodiversity assessment of Newcastle Councils bushland assets, Newcastle;
 - Biodiversity assessment of Penrith Councils assets at St Marys industrial area;

Ecological Monitoring

- Vegetation monitoring on VMP lands;
 - St Narsai Assyrian Christian College, Horsley Park;
 - Residential development, Cooranbong;
 - Sandstone Quarry restoration, Red Hill Reserve, Beacon Hill;
- Publications
 - Sawyer, J. (2021). *Achieving resilient biodiversity offsets on reconstructed landforms* [Poster Presentation]. Ecological Society of Australia 2021 "Symposium: Practitioners collaborating to restore and rewild landscapes" Darwin, Australia