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Burrah Park – Biodiversity Management Plan

Richmond Bridge Burra Park 2 Pty Ltd as trustee for Burra Park Prop Trust 1

UniSuper Limited as Trustee for UniSuper and UniSuper Management Pty Ltd

ISPT Pty Limited as trustee for The Industry Superannuation Property Trust No. 1

HB&B Property Pty Ltd

DOCUMENT TRACKING

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Template 2.8.1

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Abbreviations

Abbreviation	Description
BMP	Biodiversity Management Plan
CPW	Cumberland Plain Woodland
DCP	Development Control Plan
DDP	Dam Dewatering Plan
DPHI	NSW Department of Planning, Housing and Infrastructure
DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
ELA	Eco Logical Australia Pty Ltd
FFMP	Flora and Fauna Management Plan
ha	Hectares
PCT	Plant community type
SEPP	State Environmental Planning Policy
TEC	Threatened ecological community
VMP	Vegetation Management Plan
WEMP	Weed Eradication Management Plan
Western Parkland City SEPP	<i>State Environmental Planning Policy (Precincts – Western Parkland City) 2021</i>
WSA	Western Sydney Aerotropolis

1. Introduction

This report has been prepared to accompany a State Significant Development Application (SSDA) at 1953-2109 Elizabeth Drive, Badgerys Creek NSW (SSD-70316465) to be assessed under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The application seeks consent for a concept plan including future development lots and building footprints. The development also seeks consent for the Stage 1 works which will include bulk earthworks across the study area, infrastructure delivery, road access/intersections, internal road construction, civil infrastructure and utilities, stormwater infrastructure works and the construction of three (3) warehouse buildings. The location of the study area is presented in Figure 1.

The Biodiversity Management Plan (BMP) has been prepared based on the findings of the Biodiversity Assessment (ELA 2024a) and Riparian Assessment (ELA 2024b) for the Project. This BMP will be updated or revised as seen to be required, and necessary approvals sought if the scope of works change.

The BMP consists of the following subplans which have addressed the requirements of the Phase 2 DCP:

- Flora and Fauna Management Plan (FFMP) – Appendix A
- Weed Eradication Management Plan (WEMP) – Appendix B
- Dam Dewatering Plan (DDP) – Appendix C
- Wildlife Hazard Management – C1

A Vegetation Management Plan (VMP) (ELA 2024c) has also been prepared as separate document.



Figure 1: Location of the study area

1.1. Purpose of this Management Plan

This BMP has been developed in accordance with the requirements of the *Western Sydney Aerotropolis Development Control Plan Phase 2* (Phase 2 DCP) (DPE 2022) and associated appendices and includes a series of sub-plans as outlined in Table 1 below.

Table 1: Phase 2 DCP requirements

Biodiversity Management	DCP Requirement	Section in BMP Addressed
Flora and Fauna Management	Appendix D.16	
	Pre-construction surveys prior to removal or disturbance to all human-made structures, to ensure roosting habitat for microbat species, including subsurface structures such as mine shafts and storm water tunnels to ensure any individuals are dispersed or relocated as per best practice.	
	A pre-clearance assessment for any native fauna immediately prior to any clearing of native vegetation to ensure that arboreal mammals, roosting and hollow-using birds, bats and reptiles are prevented from accessing any vegetation to be cleared, and are removed if present prior to clearing according to EES' policy on the Translocation of Threatened Fauna in NSW.	
	Incorporation of best practice site hygiene protocols to manage the potential spread of Phytophthora and Myrtle Rust for land adjacent to land zoned E1 National Parks and Nature Reserves, E2 Environmental Conservation or lands managed as a reserve. In accordance with the best practice guideline 'Arrive Clean, Leave Clean: Guidelines (Commonwealth of Australia, 2015).	Appendix A
	Best practice site hygiene protocols to manage the potential spread of chytrid fungus are to be incorporated along Ropes Creek to maintain local Green and Golden Bell Frog populations.	
	Weed management, site rehabilitation and nest boxes are to be installed on development adjoining land zoned E1 National Parks and Nature Reserves, E2 Environmental Conservation or lands managed as a reserve.	
	A tree-felling protocol is to be implemented to avoid impacts to birds, arboreal mammals and reptiles, raptor nests (almost all large raptors in Wilton are threatened), dreys, dens, hollows and other nests in trees that are to be cleared.	
	If the presence of Green and Golden Bell Frog is confirmed present along Ropes Creek within the Western Sydney Aerotropolis, incorporate best practice site hygiene protocols to manage the potential spread of chytrid fungus and maintain local species populations.	
	Reuse of native plants including, but not limited to seed collection and topsoil from development sites that contain native seed bank.	
Weed Management	Appendix D.48 A Weed Eradication and Management Plan is required on land adjacent to areas avoided for biodiversity and are to include specific measures to manage the spread of weeds in threatened ecological communities and threatened flora and fauna populations (including land protected by the Cumberland Plain Conservation Plan).	Addressed within Appendix B

Biodiversity Management	DCP Requirement	Section in BMP Addressed
	- Subdivision design and bulk earthworks must minimise the likelihood of weed dispersion and include measures to eradicate priority weeds in accordance with the Council's weed policy. - The Plan is to be prepared by an ecologist and is to outline the weed control measures during and after construction. - The Plan should include: - An inventory of all Weeds of National Significance, Priority and Environmental weeds on the development site and a site plan indicating the weed infestations with reference to the species and degree of infestation or density (i.e., low, medium, high, or expressed as a percentage). - A treatment schedule in tabulated form, specifying for each species: - The method of treatment (mechanical or herbicide use) - The rates of application methods of all herbicide treatments - The primary control treatment to achieve a minimum 70% kill and a secondary control treatment to achieve a minimum 90% kill. - The timing of treatments. - An annual weed maintenance program indicating the methods to be implemented to maintain a weed-free site. - Details of any methods of disposal of weed material. - Details of monitoring and reporting requirements.	
	Appendix D.17	
Dam Dewatering	- Applications for removal of artificial waterbodies are to be accompanied by a dam dewatering plan prepared by a suitably qualified ecologist which documents the approach to dam removal including: - Aquatic fauna survey and relocation strategy - Water quality management plan - Silt/sediment waste classification and disposal plan - Demolition plan - Restoration plan - Weed and pest species management - Wildlife attraction	Addressed within Appendix C
	Appendix D.7	
Wildlife Management	- Applications for the following uses within the 3 km and 8 km wildlife buffers must be accompanied with a Wildlife Hazard Assessment and Wildlife Management Plan that incorporates relevant mitigation and monitoring measures: - Agricultural produce industry - Agriculture	Addressed within C1

Biodiversity Management	DCP Requirement	Section in BMP Addressed
	○ Aquaculture ○ Camping ground ○ Garden Centre ○ Intensive livestock agriculture ○ Intensive plant agriculture ○ Livestock processing industry ○ Plant nursery ○ Recreation facility (outdoor) ○ Recreation facility (major) ○ Recreational area ○ Sewage treatment plant ○ Waste or resource management facility ○ Waste or resource transfer station ○ Water storage facility. • Wildlife Hazard Assessment Reports must assess the wildlife attraction risk of the land use, the design of the building and ancillary works including proposed landscaping, water facilities (incl. stormwater infrastructure), waste management, and temporary risks associated with construction activity. • The Wildlife Management Plan must respond to the findings and recommendations of the wildlife hazard assessment. • Where monitoring is required to be undertaken in accordance with the Management Plan, copies of the report are to be submitted to the airport lessee company within 28 days of completion. • A waste management plan for the operation of the use must be submitted for the following uses within the 3 km, 8 km, and 13 km buffer: ○ Agriculture ○ Agricultural produce industry ○ Aquaculture ○ Camping Grounds ○ Eco-tourist facility ○ Food and Drink Premises ○ Garden Centre ○ Hotel ○ Intensive plant agriculture ○ Intensive livestock agriculture ○ Kiosk	

Biodiversity Management	DCP Requirement	Section in BMP Addressed
	○ Livestock processing industry ○ Plant Nursery ○ Recreation facility (outdoor) ○ Recreation facility (major) Landscaping within the Enterprise Zone and Agribusiness Zone must comply with Appendix B: Western Sydney Aerotropolis Landscape Species List, except where the property is subject to biodiversity certification conditions or identified as one of the key government commitments.	
Vegetation Management	Section 2.3.1 • Protect and restore native and riparian vegetation to improve the connectivity, ecological condition, and ecological function of ecosystems. • Ensure that development does not adversely affect aquatic fauna. • Effectively manage indirect and ongoing impacts of development adjacent to waterways to ensure vegetation in the riparian area, aquatic fauna, water quality and quantity is protected and maintained. Reinstate more natural conditions in highly modified waterways and riparian land while not increasing the flood risk.	Addressed in VMP (ELA 2024c)

2. Existing Biodiversity Values

2.1. Vegetation Communities

The following Plant Community Types (PCTs) are present in various conditions (ELA 2024a):

- PCT 3962: Coastal Floodplain Phragmites Reedland (Degraded)
- PCT 4025: Cumberland Red Gum Riverflat Forest (Modified Understorey)
- PCT 3320: Cumberland Shale Plains Woodland (Poor)
- PCT 3320: Cumberland Shale Plains Woodland (Derived Native Grassland)

PCT 3320 conforms to the threatened ecological community (TEC) Cumberland Plain Woodland (CPW), which is listed as Critically Endangered under the BC Act. The extents of PCT 3320 within the study area do not meet the condition thresholds for listing as a TEC under the EPBC Act due to a lack of native understorey (< 30%).

PCT 4025 is conforms to an Endangered TEC under the BC Act as 'River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions' (RFEF). Some extents of PCT 4025 within the study area also meet the condition threshold for listing as RFEF under the EPBC, which is Critically Endangered.

PCTs and associated TECs within the subject land are summarised in Table 2 and shown in Figure 2. Habitat features are described in Section 2.2 below.

Table 2: PCTs and other areas

PCT ID	Description / PCT Name	Vegetation Class		Vegetation Formation		Study Area (ha)
PCT 3320	Cumberland Shale Plains Woodland (Poor)	Coastal	Valley Grassy Woodlands	Grassy Woodlands		1.98
PCT 3320	Cumberland Shale Plains Woodland (DNG)	Coastal	Valley Grassy Woodlands	Grassy Woodlands		6.02
PCT 4025	Cumberland Red Gum Riverflat Forest	Coastal Wetlands	Floodplain	Forested Wetlands		6.92
PCT 3962	Coastal Floodplain Phragmites Reedland	Freshwater Wetlands		Coastal Wetlands	Freshwater	0.57
Planted vegetation and cleared/built areas						
-	Planted Vegetation	-		-		6.55
-	Dam / Aquatic	-		-		16.31
-	Exotic Grassland / Built / Cleared	-		-		133.59
Total						171.94

2.2. Planning Framework

The impact area is biodiversity certified in accordance with the CPCP, being either certified-urban capable land or a certified-major transport corridor. An extent of the western Cosgrove Creek riparian corridor is classified as 'Avoided Land', which is not biodiversity certified and is dedicated for the purpose of biodiversity protection.

The Avoided Land extent also coincides with High Biodiversity Value (HBV) areas, which are protected under the Western Parkland City SEPP. The extent of HBV has been nominated as a no-go zone during pre-construction and construction for the Project, and will be subject to management under a Vegetation Management Plan (ELA 2024c).

While impacts are located on wholly certified land under the CPCP, and no further assessment of biodiversity was required (per ELA 2024a) there are several habitat features (including PCTs) that require careful management in order to reduce harm to fauna during works. Habitat features are described below. Flora and fauna mitigation measures are to be implemented in accordance with Appendix A.

2.3. Fauna Habitat and Features

2.3.1. Hollow-bearing trees

Hollow-bearing trees (HBTs) can provide potential roosting and breeding habitat for a range of fauna species, depending on the size of the hollow. A total of eight (8) hollows, (one large hollow ≥ 20 cm), are located within the impact area on wholly biodiversity certified land. One HBT is located outside the impact area, on certified land, but should be protected and retained during construction.

A pre-clearance survey (Appendix A9) will be undertaken prior to the felling of trees including HBTs and demolition of buildings to minimise harm to native fauna. Any fauna identified during clearance would be relocated (per Appendix A11 and A12). Trees to be retained must either be clearly marked and identified or located within a clearly defined 'no-go zone'.

2.3.2. Buildings

Some microbat species have adapted to roosting in humanmade structures, including buildings. Several buildings are located across the study area including sheds and offices, which are in use and considered unlikely microbat habitat.

A pre-clearance survey will be carried out in accordance with Appendix A9 to establish if threatened microbat species are roosting within buildings and, if required, exclusion protocols will be implemented.

2.3.3. Logs and woody debris

Logs and woody debris provide shelter for ground dwelling fauna and foraging habitat for some birds. It is recommended that logs, woody debris, and hollows from felled trees and elsewhere in the impact area are relocated into nearby conservation areas (i.e. HBV, Avoided Land, or VMP area along Cosgrove Creek).

2.3.4. Farm dams

Farm dams within the Study area provide habitat for a range of fauna, including aquatic species as well as foraging habitat for *Myotis macropus* (Southern Myotis). Dewatering and removal of farm dams must be completed in accordance with the DDP, per Appendix C.

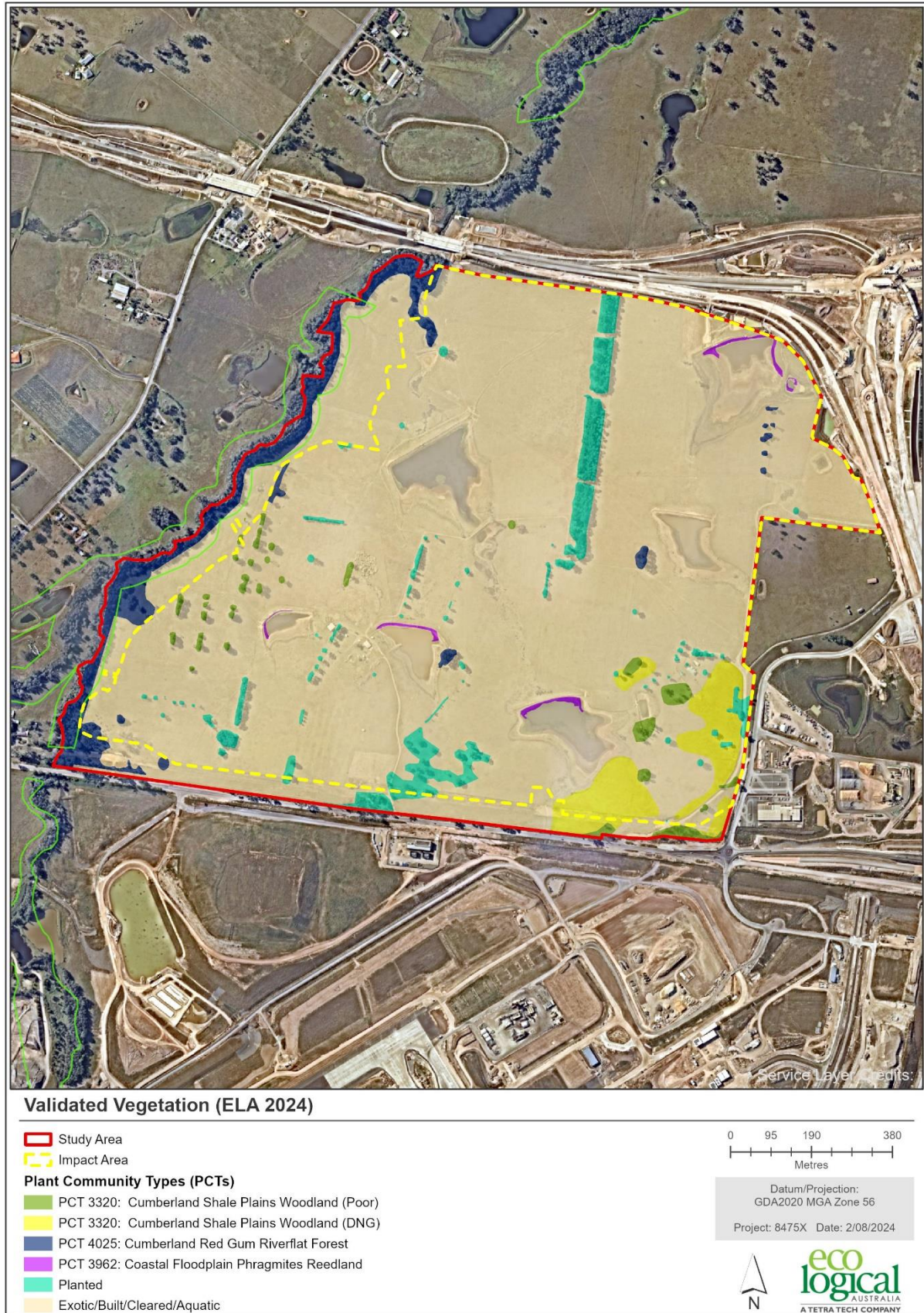


Figure 2: Validated vegetation (ELA 2024)

3. References

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APPENDIX A

Flora and Fauna Management Plan

A1 Introduction

This Flora and Fauna Management Plan (FFMP) has been prepared to satisfy the requirements of Appendix D.16 of the Phase 2 DCP, as outlined in Table 3 below. This FFMP has also been prepared in accordance with the *Code of Practice for Injured, Sick and Orphaned Protected Fauna 2011* (DPIE 2011) and is based on current best practice.

Table 3: Appendix D.16 DCP requirements

Appendix D.16 DCP Requirement

Pre-construction surveys prior to removal or disturbance to all human-made structures, to ensure roosting habitat for microbat species, including subsurface structures such as mine shafts and storm water tunnels to ensure any individuals are dispersed or relocated as per best practice.

A pre-clearance assessment for any native fauna immediately prior to any clearing of native vegetation to ensure that arboreal mammals, roosting and hollow-using birds, bats and reptiles are deterred from accessing any vegetation to be cleared, and are removed if present prior to clearing according to EES' policy on the Translocation of Threatened Fauna in NSW.

Incorporation of best practice site hygiene protocols to manage the potential spread of Phytophthora and Myrtle Rust for land adjacent to land zoned E1 National Parks and Nature Reserves, E2 Environmental Conservation or lands managed as a reserve. In accordance with the best practice guideline 'Arrive Clean, Leave Clean: Guidelines (Commonwealth of Australia, 2015).

Best practice site hygiene protocols to manage the potential spread of chytrid fungus are to be incorporated along Ropes Creek to maintain local Green and Golden Bell Frog populations.

Weed management, site rehabilitation and nest boxes are to be installed on development adjoining land zoned E1 National Parks and Nature Reserves, E2 Environmental Conservation or lands managed as a reserve.

A tree-felling protocol is to be implemented to avoid impacts to birds, arboreal mammals and reptiles, raptor nests (almost all large raptors in Wilton are threatened), dreys, dens, hollows and other nests or habitat such as loose bark in trees that are to be cleared.

If the presence of Green and Golden Bell Frog is confirmed present along Ropes Creek within the Western Sydney Aerotropolis, incorporate best practice site hygiene protocols to manage the potential spread of chytrid fungus and maintain local species populations.

Reuse of native plants including, but not limited to seed collection and topsoil from development sites that contain native seed bank.

SCOPE AND OBJECTIVES

This FFMP has been prepared for the associated construction and operation works for the Project, such that it:

- Identifies measures to protect the environment.
- Defines roles and responsibilities during proposed works.
- Identifies any external approvals needed.
- Identifies consultation and communication needs.
- Describes the monitoring and reporting regime.

A2 Biodiversity Management Plan

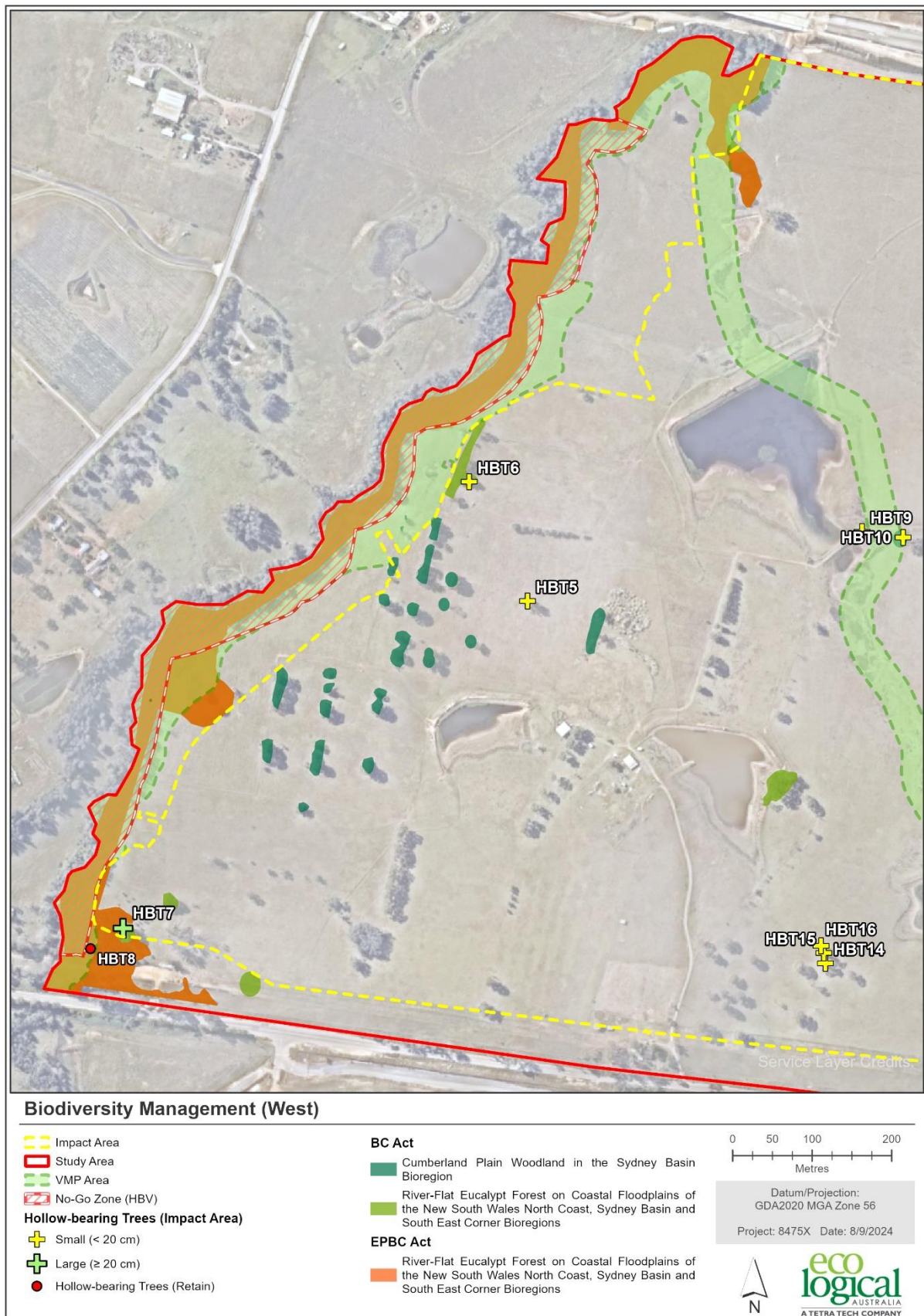


Figure 3: Biodiversity Management Plan (West)

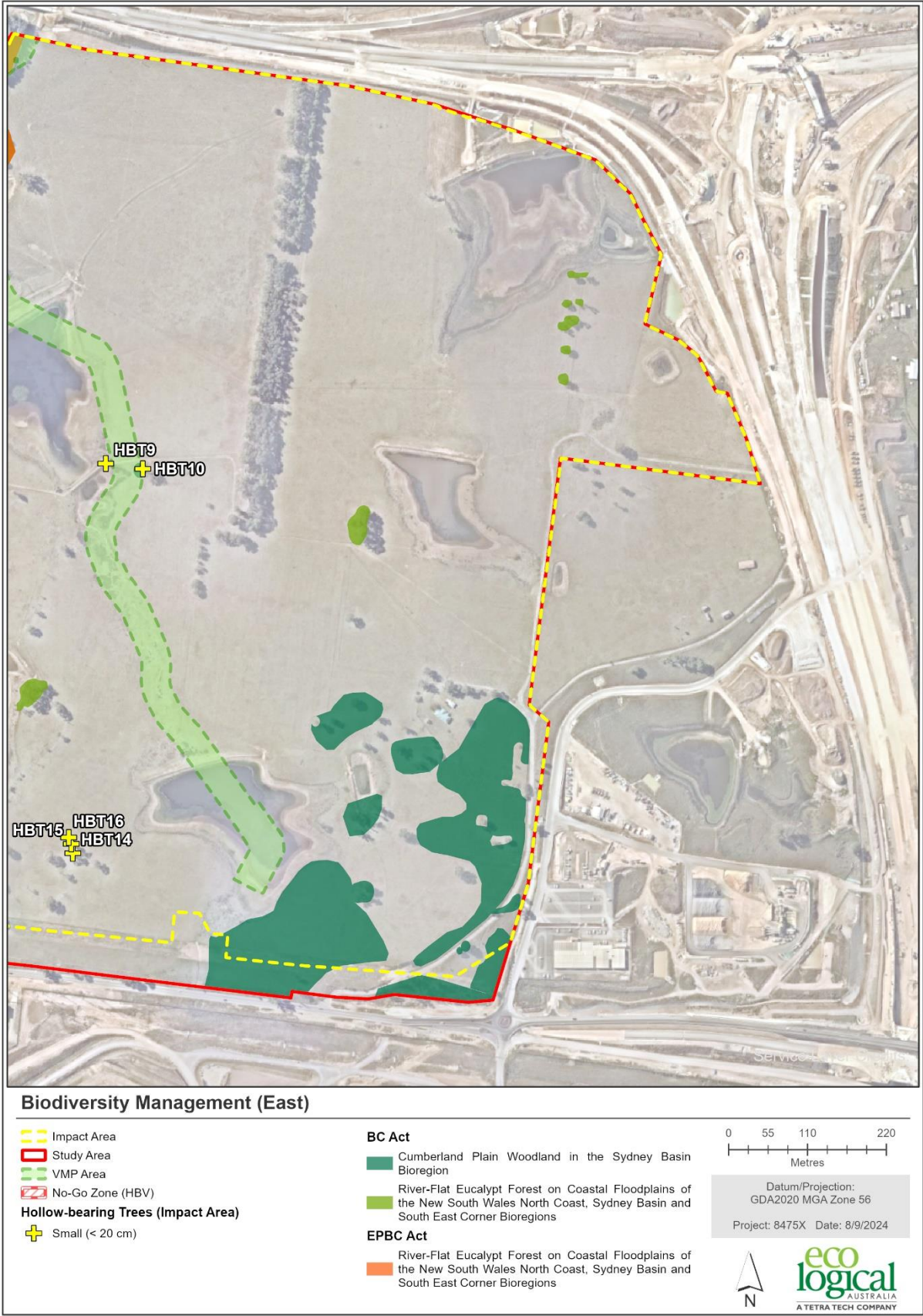


Figure 4: Biodiversity Management Plan (East)

A3 Implementation and Operation

Safeguards to manage potential flora and fauna impacts are detailed in Table 4, together with who is responsible for their implementation and at what stage of works. Person responsible for implementation: PM – Project Manager; SS – Site Supervisor; E – Project Ecologist; AE – Aquatic Ecologist; All – All Site Personnel

Table 4: Flora and Fauna Management Plan

Environmental Action	Timeframe	Monitoring	Responsible Person
OBJECTIVE: GENERAL			
All project staff and contractors will be inducted on the biodiversity values and habitat features of the study area (Figure 2), and relevant safeguards prior to commencement.	Prior to works	Induction Records	PM
A complaints register is to be maintained. DPHI will be notified immediately of any complaints in relation to management of biodiversity issues.	As required	Complaint Register	SS
All general contractor waste is to be disposed of using provided waste bins.	During works	Weekly checklist	SS, All
OBJECTIVE: REDUCE HARM TO BIODIVERSITY			
Programming of works should avoid critical life cycle events such as breeding or nursing wherever possible. Impacts to vegetation should be minimised during the spring/summer seasons to avoid disrupting breeding cycles of threatened species.	Prior to works	Weekly checklist	PM, SS, E
Prior to clearance of the vegetation in the development area, collectable floristic material such as native species seed stock and woody fruit of all native species will be collected for reuse in landscaping works wherever feasible. Refer to Appendix A14 for further information.	Prior to works	Weekly checklist	PM, SS, E
Pre-clearance surveys must be completed prior to removal of any vegetation, with a focus on the habitat features described in Section 2.2. Pre-clearance procedures are provided in Appendix A9.	Prior to works	Weekly checklist	PM, SS, E
Survey efforts identified several hollow-bearing trees within the Study area (Figure 2). The Project Ecologist is to be present during removal of hollow-bearing trees. Hollow-bearing trees (HBTs) should be removed per the procedure in Appendix A10.	Prior to works	Weekly checklist	PM, SS, E
If native fauna is identified during pre-clearance surveys or prior to removal of habitat features, the Fauna Rescue and Release Procedure found in Appendix A12 must be adhered to.	Prior to works	Weekly checklist	PM, SS, E
During any hollow-bearing tree removal, an experienced wildlife handler is to be present to extract and re-locate any displaced fauna that may be disturbed during this activity. Any injured fauna is to be	During works	Weekly checklist	SS, E

Environmental Action	Timeframe	Monitoring	Responsible Person
appropriately cared for and released on site where and when appropriate. Refer to Appendix A10 for further details.			
The Project Ecologist and /or a wildlife handler is to be present during removal of identified hollow-bearing trees to relocate any identified fauna. Native animals are to be relocated from development sites in accordance with the former Office of Environment and Heritage's Policy on the <i>Translocation of Threatened Fauna in NSW</i> and Fauna Relocation Management Plan, if required.	During construction	Weekly checklist	PM, SS, E
A report detailing the pre-clearance and clearance works is to be prepared within 10 days of completion.	During construction	Weekly checklist	PM, E
The identified hollow-bearing trees should be replaced with the extracted/carved hollow from the tree, an artificial hollow or nest box after removal and/or removed hollows should be retained for reuse in the landscaping or nearby retained bushland, wherever feasible. This is to be done under the direction of the Project Ecologist. If further hollows are identified during pre-clearance or clearance surveys and are proposed to be removed, the use of the hollow (extracted from tree and mounted/rested against a suitable host tree) or replacement with artificial hollows or nest boxes would be required.	During construction, completion of works	Weekly checklist	SS, E
Ensure that no plant, equipment, or stockpiles are positioned under the drip line of retained along the boundary of the development site trees.	During construction	Weekly checklist	SS, All
If fauna is found on the construction site during construction works, stop work – all native fauna is protected. Do not touch the animal; wait for it to leave. If injured fauna is found, an ecologist trained in wildlife rescue is to transport to the nearest local vet and / or call WIRES or a wildlife rescue service.	All times	Weekly checklist	All
If a threatened fauna species is identified, stop works. Refer to Appendix A12 for further guidance.	All times	Weekly checklist	PM, SS, E, All
Install sediment barriers and erosion controls to prevent runoff into vegetation outside the impact area, in particular the riparian corridors. Maintain controls throughout construction and complete regular inspections (weekly, before and after predicted heavy rainfall periods). Schedule works outside heavy rainfall periods.	Prior to works and during construction	Weekly checklist	SS, All
To reduce the spread of pathogens and diseases, ensure Arrive Clean, Leave Clean Guidelines (Department of the Environment, 2015) are adhered to: - Ensure all clothing, hats, footwear, tools, equipment, machinery and vehicles are free of mud, soil and organic matter before entering and exiting bushland. - Ensure any soil, plants or other materials entering the site are certified free of weeds and pathogens.	During construction	Weekly checklist	SS, All

Environmental Action	Timeframe	Monitoring	Responsible Person
A dedicated washdown location, at the entry/exit of the site is to be determined prior to construction works. If weeds or pathogens are known to be present within the development site, the WEMP (Appendix B) must be adhered to.			
OBJECTIVE: REDUCE HARM TO AQUATIC BIODIVERSITY			
Compliance with dewatering and aquatic fauna handling procedures per the DDP (Appendix C).	Prior to dewatering commencing and during works	Weekly checklist	SS, AE
OBJECTIVE: REDUCE SPREAD OF PRIORITY WEEDS			
Comply with all additional measures in accordance with the WEMP (Appendix B)	During pre-construction, construction and for Project life	Weekly checklist	SS, PM
OBJECTIVE: REDUCE POTENTIAL LIGHT AND NOISE IMPACTS TO NATIVE FAUNA			
Works will only occur during the standard daytime hours unless otherwise set out by the conditions of Development Consent: - Monday to Friday 7:00 am to 5:00 pm - Saturday 8:00 am to 1:00 pm. Works will be avoided after sunset to minimise indirect noise and light impacts to fauna species in adjacent retained vegetation.	During construction	Weekly checklist	SS
Where practical, avoid simultaneous operation of noisy plant within discernible range of vegetation outside of the development site.	During construction	Weekly checklist	All
Maximise the distance between noisy plant items and nearby residential receivers and potential fauna habitat.	During construction	Weekly checklist	All
Orient equipment such as offensive noise carriers away from residential receivers and potential fauna habitat.	During construction	Weekly checklist	All
Plant used intermittently is to be throttled or shut down when not required.	During construction	Weekly checklist	All
Permanent lighting installed during construction is to be designed as compliant with AS/NZS 4282:2019 <i>Control of the obtrusive effects of outdoor lighting</i> .	During and after construction.		PM

A4 Structure and Responsibility

Details of personnel responsibilities are outlined in Table 5. Contact details for these personnel are included in Section A7.

Table 5 Responsibilities of personnel

Role	Name, Position and Company	Responsibility
Project Manager	Name: Position: Company:	- Requires the contractor to adhere to the approved works. - Accountable for contractor's and subcontractor's environmental performance.
Site Supervisor	Name: Position: Company:	- Issues stop work orders, if required. - Records any community complaints (Section A6) and notifies Project Manager. - Responsible for site management, FFMP compliance, including subcontractors. - Facilitates environmental induction and toolbox talks for site personnel. - Undertakes minimum of weekly environmental inspections (or after environmental conditions change). - Ensures proponent, DPPI and community are notified of commencement of works. - Initiates corrective actions. - Reports FFMP non-conformances to the Project Manager. - Reports incidents. - Notifies the Project Manager if the FFMP needs revising.
Staff	Company:	- Comply with the FFMP. - Monitor and maintain controls. - Report breaches of the FFMP and potential / actual incidents to Site Supervisor - Report incidents. - Stop work and reports to Site Supervisor in the event of unexpected finds (e.g., native fauna). - Record any community complaints and notify the Site Supervisor (Section A6).

A5 Team Induction Sign-Off Sheet

The following personnel certify the works will be carried out in accordance with the FFMP.

Name	Position / Company	Signature	Date
	Position: Project Manager Company:		
	Position: Site Supervisor / Contractor Company:		
	Position: Project Ecologist Company:		
	Position: Staff Company:		
	Position: Staff Company:		
	Position: Staff Company:		
	Position: Staff Company:		
	Position: Staff Company:		
	Position: Staff Company:		
	Position: Staff Company:		
	Position: Staff Company:		
	Position: Staff Company:		

A6 Complaints Recording Template

Date	Received by phone / email / letter	Complaint	Name	Address	Contact	Follow-up Actions	Date Complete

A7 Phone and Emergency Contact List

Organisation	Name	Position	Contact Number
Project Contacts			
		Project Manager	
		Site Supervisor	
		Project Ecologist	
Emergency Contacts			
Emergency Services	-	-	000
Nepean Hospital	-	-	02 4734 2000
Environment Protection Authority	-	-	131 555
SafeWork NSW	-	-	131 050
Fire and Rescue NSW	-	-	02 9265 2999
State Emergency Services (SES)			132 500
WIRES	-	-	1300 094 737
Origin Energy			132 461
Energy Australia			133 466
Transgrid Operations	System		1800 027 253 / 9284 300
Police Assistance Line (PAL)			131 444
Gas – Agility			131 909
Poisons Information			131 126
Telstra			132 200
NSW Road and Maritime Services (RMS)			132 213

A8 Site Biodiversity Inspection Checklist (Weekly)

Constructor Details Site Supervisor - Environmental Checklist

Site Inspected: Burrah Park (1953-2109 Elizabeth Drive, Badgerys Creek NSW)

Time & Date:

Weather:

Biodiversity

All staff are inducted and aware of significant biodiversity values and procedures on site, including HBV, Avoided Land, Threatened Ecological Communities, habitat features (e.g. hollow-bearing trees) and clearing/protection procedures ☐

All collectable floristic material such as native vegetation seed stock, woody debris and bush rock has been collected for use in landscaping following removal ☐

No-go zones are clearly delineated and protected (on all site survey/GIS systems, and with physical fencing, bunting or similar) ☐

No clearing occurred outside approved development footprint, boundary or impact area ☐

Trees to be removed are clearly marked to differentiate between trees to be retained. ☐

No plant, equipment or stockpiles are positioned under the drip line of retained trees ☐

Pre-clearance surveys completed for habitat features (stags, woody debris, dams, buildings/sheds, trees) ☐

The Project Ecologist was present during habitat tree/feature removal and any displaced fauna have been appropriately relocated ☐

Removed hollow sections have been relocated to appropriate bushland areas ☐

Aquatic Biodiversity

Aquatic ecologist has been notified of intention to commence dam dewatering, DPI Fisheries notified of intended dewatering works and aquatic fauna relocation location has been chosen in accordance with DDP ☐

Erosion and sediment controls downstream of dam water irrigation areas are installed correctly ☐

Aquatic Ecologist completed capture and translocation of aquatic fauna ☐

Noise and Light

Simultaneous operation of noisy plants within discernible range of a sensitive receiver has been avoided ☐

The distance between noisy plant items and nearby residential receivers and potential fauna habitat has been maximised ☐

Equipment such as offensive noise carriers have been oriented away from residential receivers and potential fauna habitat ☐

Plants used intermittently have been throttled or shut down when not required ☐

Works occur only within standard daytime hours, or as otherwise approved per consent conditions ☐

Any required lighting is minimised, oriented away from retained habitat and warm-toned lighting used ☐

Inspected by: Signature:

Actions:

By Who:

Date Completed:

A9 Pre-Clearance Survey Procedure

A survey of habitat features identified within the Study area is to be completed by a suitably qualified ecologist prior to any vegetation clearing, to determine:

- If any fauna are using hollow-bearing trees (HBTs) or stags. In addition:
 - HBTs to be removed will be marked with flagging tape and an “H” spray painted onto two or three sides of the tree trunk with fluorescent paint
 - HBTs immediately adjacent to and / or within the Development Footprint that will be retained will be marked, for the establishment of an exclusion zone and protection from impacts. Note that the HBTs to be retained will be differentiated (marked differently (i.e. colour)) to those HBTs that are to be removed
 - Removal of HBTs is to be avoided during spring to minimise disturbance of the main breeding period of hollow-dependent fauna
- If any microbats are present in suitable habitat trees (hollows as above, or manmade structures and decorticating bark);
- Resident fauna or habitat features that may require active management prior to or during disturbance will be recorded using GPS (see active management protocols below). This may include:
 - actively nesting birds or mammals
 - habitat features including tree hollows or fallen logs that may contain roosts
 - nests, dreys or dens
 - suspected active microbat roosts, particularly within manmade structures (existing sheds and buildings)
- The presence of any previously unrecorded threatened flora or fauna species requiring management

Features identified in the pre-clearing survey will be recorded using handheld GPS. The use of a differential GPS unit will be considered where sensitive vegetation or features are identified to provide greater accuracy of the location.

Data collected in the pre-clearing inspection will be collated and reported by Project Ecologist and/or Site Supervisor to the Project Manager.

A10 Hollow-bearing Tree Removal Procedure

Prior to removal of hollow-bearing trees, the following is to be completed by, or under the supervision of, the Project Ecologist:

- Discourage fauna first by restricting access to the hollow, deterrence measures (e.g., noise).
- Check for fauna in the zone of disturbance before clearing.
- Remove all non-hollow bearing vegetation prior to the removal of the habitat trees.
- After clearing, re-check to ensure no fauna have become trapped or injured during clearing operations. Any fauna found should be safely relocated to nearby habitat.

- Leave habitat trees standing for at least one night after clearing of non-hollow bearing trees to allow any fauna the opportunity to remove themselves after site disturbance.
- Before felling the habitat tree, engage a climbing arborist to sectionally lop and lower branches one at a time.
- Re-check after felling the habitat tree to ensure no fauna have become trapped or injured during clearing operations. Any fauna found should be safely relocated to nearby habitat.
- If taking the habitat tree down in stages, the non-hollow-bearing branches should be removed before the hollow-bearing branches are removed.
- Take care when moving equipment near vegetation to be retained.

A11 Fauna Management

As a general principle, any native animals found within the construction area should be avoided. Fauna should only be handled by a qualified ecologist or wildlife carer with relevant skills and experience (e.g., snake handling), and only when absolutely necessary.

Where a need for active fauna management has been determined from the pre-clearing inspections, a qualified ecologist/licenced wildlife handler is to be present during vegetation clearing activities.

In any area to be cleared, non-habitat vegetation should be cleared first per vegetation removal procedures. Any fauna habitat (or resident fauna including actively nesting birds) demarcated during the pre-clearing procedure is then to be left standing overnight as a minimum (ideally longer up to three days) to encourage the self-relocation of fauna that may be using the available habitat feature.

A hierarchy of fauna management should be followed that prioritises passive fauna management and proactive measures prior to clearing, to reduce fauna disturbance and potential harm. Any injured fauna must be reported to the Project Manager and identified by a qualified Ecologist.

FAUNA MANAGEMENT HIERARCHY

Proactive discouragement of fauna by passive methods. This may involve using noise and light to make habitat less desirable, giving fauna time to leave site on their own.

Passive fauna management with higher disturbance. For example, felling non-habitat trees and leaving HBTs to stand overnight, or up to 3 days, to encourage fauna to leave.

Active fauna management – handling, manual removal etc. by Ecologist

Figure 5: Fauna management hierarchy

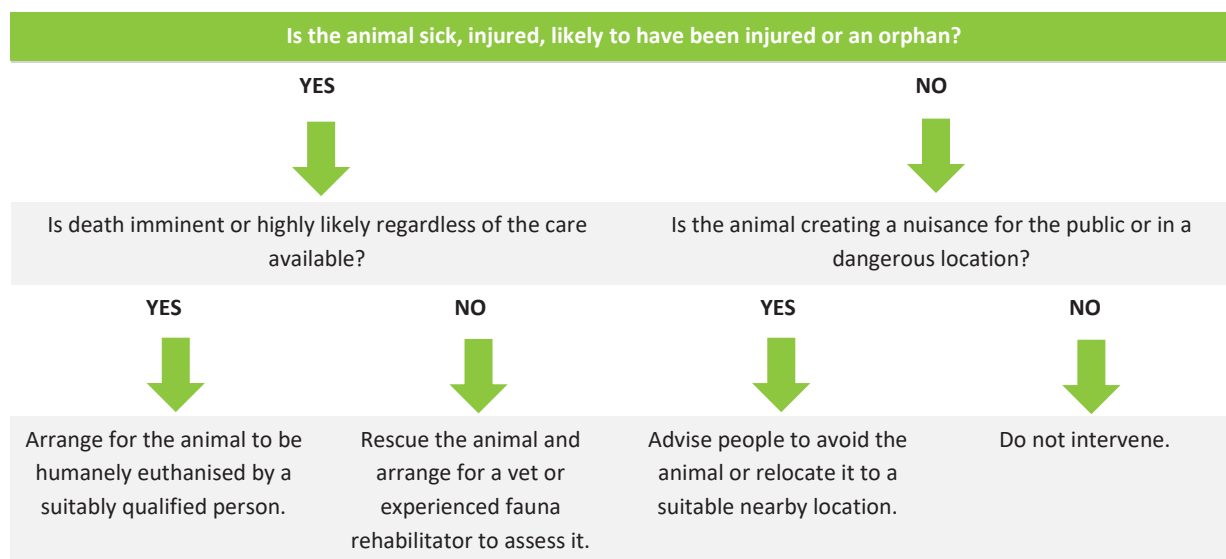
A12 Fauna Rescue and Release Procedure

The following Fauna Rescue and Release Procedure has been prepared in accordance with the NSW Department of Planning, Industry and Environment *Code of Practice for Injured, Sick and Orphaned Protected Fauna 2011*.

NATIVE FAUNA ENCOUNTER

If native fauna (including threatened fauna) is encountered during pre-clearance or clearance surveys, the decision tree outlined in Table 6 should be adhered to.

Table 6: Decision tree on how to respond to a native fauna encounter



RESCUING OF NATIVE FAUNA

If rescuing of the animal is chosen to be the most suitable option, the following must be adhered to:

- Assessment of all risk to fauna from environmental hazards and from capture.
- Confirmation that the correct rescue equipment for the type and size of fauna is at hand.
- Confirmation that enough trained personnel for that species and size are present.
- If the rescued wildlife needs assessment by a vet, wildlife rescuer or rehabilitator, ensure that an organisation such as WIRES has been contacted to ascertain an available person relevant to that species.

TRANSPORTATION OF RESCUED NATIVE FAUNA

When transporting the rescued native fauna to a veterinary surgery, wildlife rescuer, or rehabilitation facility guided by an organisation such as WIRES, the following must be adhered to:

- Ensure transport methods and container sizes are appropriate for the species, size, strength, and temperament of fauna. This may include incorporating padding walls and ensuring no ingestible surfaces are present. Containers must also be designed and positioned so breathing is not restricted.
- Transportation containers are kept at an appropriate temperature for the species (note a range of 25 – 27°C is appropriate for most species and ages; 31°C is appropriate for unfurred joeys and 21°C is appropriate for echidnas, platypuses, and frogs).

- Transportation containers are well ventilated.
- Ensure containers holding snakes and bats include a visible warning label outlining the danger.
- Ensure transportation containers are not left in the back of uncovered utility vehicles or car boots.
- During transportation, adult fauna should not be fed or watered during trips lasting less than a few hours.
- Attain approval by a veterinarian before use of medication to facilitate transport.
- Ensure fauna transport is the sole purpose of the trip.

RELOCATION OF NATIVE FAUNA

If the encountered native fauna does not require rescuing, however, is required to be located outside of the construction site, the following must be adhered to:

- A suitable environment must be identified prior to relocation, this is one that:
 - Contains appropriate habitat and adequate good resources.
 - Is occupied by members of the same species.
 - Does not place the animal at a high risk of injury.
 - Is not outside of an area which the fauna would not normally cross (i.e., brush-tail possums rarely move more than 50 m however; wombats have a radius of approximately 50 km).

A13 General prevention of Weeds and Pathogens

Construction works on development sites have the potential to introduce and promote the spread of weed species and pathogens. This general procedure is intended to prevent or minimise the spread of priority weed species and some pathogens. For detailed weed management requirements please refer to the **targeted required Weed Eradication Management Plan (WEMP) measures** described in **Appendix B**.

During construction, the Project Manager and Site Supervisor should adhere to best practice methods for weed management, which include:

- Mowing or slashing areas infested with weeds before they seed. This may reduce the propagation of new plants.
- Program works from least to most weed infested areas.
- Clean machinery, vehicles, and footwear before moving to a new location.
- Securely cover loads of weed-contaminated material to prevent weed plant material falling or blowing off vehicles.
- Dispose of weed-contaminated soil at an appropriate waste management facility.
- Remove weeds immediately onto suitable trucks and dispose of without stockpiling.

WEED ERADICATION

A Weed Eradication Management Plan (WEMP) has been prepared (Appendix B) which should be referred to in full for weed management measures. The WEMP includes:

- Identification and description of weed infested areas within the site.
- Recommendations for managing weeds.

- Weed control methods.
- Measures to prevent the spread of weeds.
- A monitoring program to measure the success of weed management.
- Communication strategies to improve contractor awareness of weeds and weed management.

MANAGEMENT OF PATHOGENS

Pathogens are agents such as bacterium, virus or fungus that cause disease in flora and fauna, which are spread on footwear, vehicles, or machinery. The four most common pathogens found in NSW include:

- **Phytophthora (*Phytophthora cinnamomi*):** A soil-borne fungus that attacks the roots of native plant species, causing them to rot and eventually die.
- **Chytrid fungus (*Batrachochytrium dendrobatidis*):** A waterborne fungus that affects native frog species.
- **Myrtle rust (*Uredo rangellii*):** An introduced fungus that attacks young leaves, shoot tips and stems of Myrtaceous plants (such as Bottle Brush, Tea Tree, Lilly Pilly and Turpentine), eventually killing the plant.

Construction works on development sites have the potential to promote the spread of pathogens. This procedure is intended to prevent or minimise the spread of pathogens if they have been identified within the development site. If the occurrence of pathogens is known within the locality, a test for presence through soil or water tests should first be undertaken. If pathogens are present, during construction, the Project Manager and Site Supervisor should adhere to best practice methods for pathogens (Table 7).

Table 7: Best practice hygiene protocols to prevent the spread of pathogens

Pathogen	Best Practice Hygiene Protocols
Phytophthora	• Minimise work during excessively wet or muddy conditions. • Programming of works should always move from uninfected areas to infected areas. • Set up exclusion zones with fencing and signage to restrict access into contaminated areas. • All personnel (including visitors) to be inducted on Phytophthora management measures for the site. Provide vehicle wash down facility. • Restrict vehicles to designated tracks, trails, and parking areas. • Provide parking and turn-around points on hard, well-drained surfaces. • Provide boot wash down facility. • Restrict personnel to designated tracks and trails. • Use a certified supply of plants and soil that is disease-free. • Retain all potentially affected materials within the contaminated area. • Ensure stockpiles of mulch, topsoil and fill material are separated to avoid potential contamination and spread.
Chytrid Fungus	• Minimise work during excessively wet or muddy conditions. • Programming of works should always move from uninfected areas to infected areas. • Set up exclusion zones with fencing and signage to restrict access into contaminated areas. • All personnel (including visitors) to be inducted on chytrid management measures for the site. • Provide vehicle wash down facility. • Restrict vehicles to designated tracks, trails, and parking areas. • Provide parking and turn-around points on hard, well-drained surfaces. • Provide boot wash down facility.

Pathogen	Best Practice Hygiene Protocols
	- Disinfect with cleaning products containing benzalkonium chloride or 70% methylated spirits in 30% water. - Disinfect hands or change gloves between the handling of individual frogs and between each site. - Only handle frogs when necessary. Use the 'one bag-one frog' approach. - To avoid cross contamination, generally avoid transferring water between two or more separate waterbodies.
Myrtle Rust	- To determine if Myrtle Rust is known within the locality of the development site, the following should be undertaken: - Use of The DPI Myrtle Rust Management Zone map (www.dpi.nsw.gov.au/biosecurity/plant/myrtle-rust/zones) - Photograph potentially infected plants and send to: biosecurity@industry.nsw.gov.au for confirmation. - Programming of works should always move from uninfected areas to infected areas. - Set up exclusion zones with fencing and signage to restrict access into contaminated areas. - All personnel (including visitors) to be inducted on Myrtle rust management measures for the site. - Provide vehicle wash down facility. - All vehicles and machinery to be washed with Truck wash-(or equivalent). - Restrict vehicles to designated tracks, trails, and parking areas. - For medium-long term projects, install a concrete wash down bay which will capture the water in a trench or bunded area. - Water used for wash downs must not be used for dust control. - Personnel working in an infected site should shower and launder clothes (especially hats) before moving to another bushland site. - Provide boot wash down facility. - Footwear and equipment to be cleaned of soil/mud then sprayed with 70% methylated spirits in 30% water. - Use a certified supply of plants and soil that is disease-free (the Australian Nursery Industry <i>Myrtle Rust Management Plan</i> (McDonald 2011) provides best practice Myrtle rust management that is to be expected from suppliers). - Plant material should be buried on site if possible. - Do not dispose of waste at another bushland site. - Buried material sites must be mapped to prevent re-exposure, especially if located near utility easements. - If material cannot be buried advice should be sought from Liverpool City Council.

A14 Re-Use of Floristic Material and Native Habitat Features Strategy

COLLECTION OF FLORISTIC MATERIAL

Native seed collection may be completed prior to construction to later be used in project landscaping, or nearby conservation areas. If this is the case, the following should be adhered to:

- Seed should first be collected from all areas that are to be cleared as part of the project. By selecting a seed source that is from plants growing in similar environmental conditions nearby, the plants should be naturally adapted to local conditions and more likely to survive and prosper in proposed re-use areas.

- Carry out all seed collection in accordance with the Florabank Guidelines (Florabank, 2000) and Model Code of Practice (Mortlock, 1998). Experienced and licensed seed collectors should carry out the seed collection.

RELOCATION OF WOODY DEBRIS AND BUSH ROCK

Many native fauna species utilise woody debris and bush rock for shelter, basking to hide from predators, find food and avoid extreme weather. When woody debris and bush rock are required to be removed from a development site, consideration should be given to finding suitable locations for re-use of these important habitat features.

Term	Definition
Woody Debris	Trees and wood, whether living or dead, at least 100 mm in diameter and 500 mm long, including hollows.
Bush Rock	Loose rock occurring on rock or soil surfaces.

Prior to relocation of woody debris found within the development site, consultation should be undertaken with DPHI and the Project Ecologist to determine a suitable location for re-use to ensure it does not have a negative impact on the receiving environment. For example, in areas of high-quality bushland, there may already be enough suitable hollows, fallen logs or bush rock and adding more may cause unnecessary disturbance or create a fire hazard.

If a suitable relocation area (such as a nearby conservation area) has been agreed upon by DPHI and the development proponent, the Project Manager and Site Supervisor should ensure the following best practice methods are undertaken during relocation:

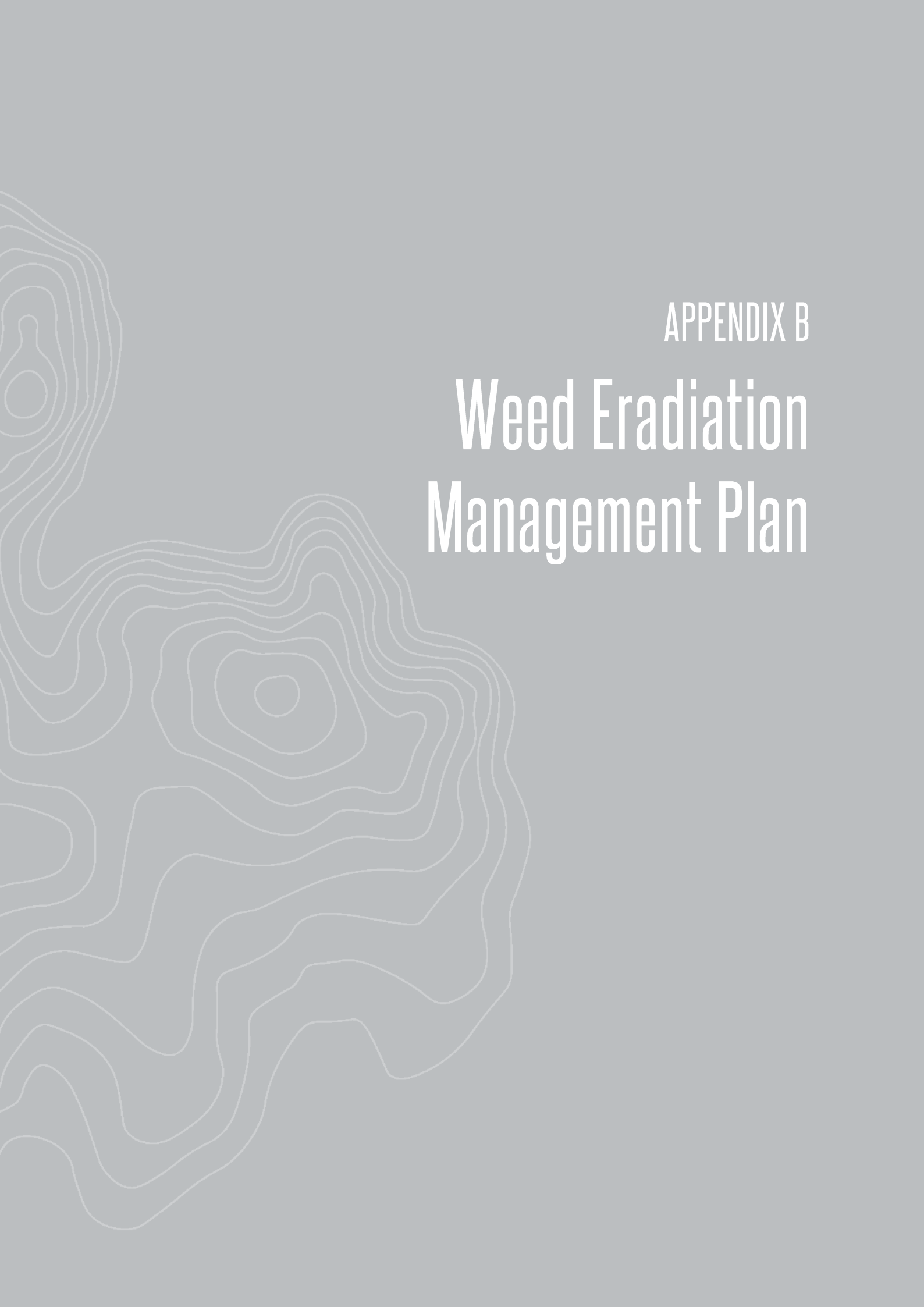
- Removal, stockpiling, transportation, and relocation of woody debris and/or bush rock is carried out in a manner that minimises disturbance to native vegetation (including the canopy, shrubs, dead trees, fallen timber and groundcover species) or bush rock.
- The spread of any weeds or pathogens that may be in the soil is avoided when relocating woody debris and bush rock from stockpiles.
- The Project Ecologist is consulted with to provide advice on positioning woody debris and bush rock in designated relocation areas.
- Topsoil disturbance is kept to a minimum and is not heaped up against woody debris or bush rock because of the potential to provide habitat for rabbits.
- Woody debris is placed evenly across the site.
- Where woody debris is to be mulched the Project Manager and/or Site Supervisor should ensure that weeds are separated from native vegetation.

USE OF NEST BOXES

Nest boxes can be used to provide supplementary breeding habitat and shelter for hollow-dependant fauna where hollows have been removed. If requested by DPHI, nest boxes may be required to be installed as a replacement for the removal of the identified hollow-bearing trees. Generally, it is recommended that three (3) nest boxes are installed for every hollow-bearing tree removed. Ideally, nest boxes should replicate the hollows being replaced as close as possible due to specific species requirements as outlined below.

If the installation of nest boxes is required, the following must be considered in consultation with the Project Ecologist:

- The target species.
- The tree hollow preferences of native hollow-dependant fauna known or likely to occur in the locality.
- The sizes, types, and quantities of potential tree hollows to be removed.
- The sizes, types and quantities of tree hollows existing in adjacent areas.
- The design, materials and quantity of nest boxes required.
- Whether the nest boxes are required to fill a short-term gap in the availability of hollows (e.g., during construction) or to compensate for the long-term reduced availability of hollows.
- Monitoring and maintenance of the nest boxes.

The background of the page is a light gray color. On the left side, there is a white line-art illustration of a topographic map. It features several concentric, irregular loops and wavy lines that represent contour lines on a map, suggesting a hilly or mountainous terrain. The lines are more densely packed in some areas and more spread out in others, creating a sense of depth and elevation.

APPENDIX B

Weed Eradication Management Plan

B1 About this Plan

Western Sydney Aerotropolis Phase 2 Development Control Plan (DCP) – Phase 2 applies to the development and as per Appendix D.48 of the DCP a ‘*Weed Eradication and Management Plan is required on land adjacent to areas avoided for biodiversity*’.

Weed management requirements are governed by the Greater Sydney Regional Strategic Weed Management Plan 2023-2027 prepared by Local Land Services (LLS). This plan outlines the obligations of weed management under the *Biosecurity Act 2015*.

This WEMP has been prepared to guide the land manager in the control and eradication of identified weeds in the development footprint.

SCOPE AND OBJECTIVES

The overall objective of this WEMP is to manage weeds within the development footprint for the period prior, during and after civil works and to manage weeds within adjacent areas set aside for biodiversity in accordance with Appendix D.48 of the Phase 2 Western Sydney Aerotropolis Development Control Plan (DCP).

This WEMP will guide the management and maintenance of WoNS, priority weeds and significant weeds for the Penrith City Council by:

- Identifying WoNS, Priority weeds and significant weeds onsite
- Documenting the area and degree of weed infestations within the site (i.e., low, medium, high)
- Identifying control methods for each weed type
- Identifying ongoing management and monitoring processes to reduce the potential for the weeds to regenerate or be re-introduced to the site.
- Identifying ongoing management processes to control weeds if introduction or re-introduction occurs.

BIOSECURITY ACT 2015 AND PRIORITY WEEDS

On 1 July 2017, the *Noxious Weed Act 1993* was repealed and replaced with the *Biosecurity Act 2015* and its accompanying *Biosecurity Regulations 2017*. Under the old Noxious Weeds Act certain plants were declared “Noxious Weeds” and were placed into “classes” that stated their required control measures. Under the Biosecurity Act 2015, all plants are assessed for their biosecurity risk. This is the risk that the introduction, presence, spread or increase of a plant will have, or may potentially have, an adverse effect on the economy, the environment or the community.

The new legislation states that any person (landowner, land manager, resident or general public) have a “General Biosecurity Duty” to prevent eliminate or minimise the Biosecurity Risk posed or likely to be posed from Priority Weeds.

The *Greater Sydney Regional Strategic Weed Management Plan 2023-2027* (Weed Plan) provides a framework for regional weed management. Weed management within the Penrith City Council LGA is undertaken by Hawkesbury River County Council, the regulatory authority that manages priority weeds. Priority weeds for local weed management can be found on the Hawkesbury River County Council website [Priority Weeds List - Hawkesbury River County Council \(nsw.gov.au\)](https://www.hawkesburyriver.nsw.gov.au/priority-weeds) and the Department of Primary Industries website [NSW WeedWise](https://www.dpi.nsw.gov.au/weedwise). The weed plan supports regional implementation of the *Biosecurity Act 2015* by articulating community expectations in relation to effective weed management

and facilitating a coordinated approach to weed management in the region. The plan (and the legislation that underpins it) is based on the premise that biosecurity is everyone's responsibility. It supports development of this culture, guiding the community in effective and coordinated management of weeds and meeting relevant statutory obligations. The weed plan relates to all lands and waters (excluding marine) in the Greater Sydney Local Land Services region of NSW.

AUSTRALIAN WEEDS STRATEGY

The *Australian Weeds Strategy 2017* aims to provide guidance on best practice weed management of identified priority weeds across all jurisdictions and affected stakeholders. This strategy details the roles and responsibilities of various stakeholders from people and organisations from local to nation scale.

The goals of this strategy are to obtain:

- Prevention, detection and early intervention
- Minimise the impact of established weeds
- Enhance Australia's capacity and commitment to weed management

Steps to achieve these goals are set out within this strategy and associated reference material. Within this strategy 32 introduced species are identified as Weeds of National Significance (WoNS). WoNS are listed based on a species ability to pose threats to human health and amenity, environment and economy.



Figure 6: WEMP Site Map

B2 Existing Environment

A site context map showing existing features, including a weed plume, are shown in Figure 6. The subject land is largely cleared of vegetation, it consists of pasture-improved exotic grassland, some remnant vegetation, planted natives, scattered paddock trees, farm dams and built form. The site is flanked by Cosgrove Creek and Oaky Creek to the west. These watercourses are tributaries of South Creek, within the Hawkesbury Nepean catchment. None of the first order streams mapped by Department of Primary Industries (DPI) within the subject site met the definition of a river under the *Water Management Act 2000* (WM Act).

Three (3) Plant Community Types (PCT) in various conditions have been identified within the study area (ELA 2024a):

- PCT 3962: Coastal Floodplain Phragmites Reedland (Degraded)
- PCT 4025: Cumberland Red Gum Riverflat Forest (Modified Understorey)
- PCT 3320: Cumberland Shale Plains Woodland (Poor)
- PCT 3320: Cumberland Shale Plains Woodland (Derived Native Grassland)

WEED PRESENCE

The exotic grassland areas in the development footprint primarily consist of *Cynodon dactylon* (Couch), *Sporobolus fertilis* (Giant Paramatta Grass), *Sporobolus africanus* (Paramatta Grass), *Chloris gayana* (Rhodes Grass), *Axonopus* sp. (Carpet Grass), *Paspalum dilatatum* (Paspalum), *Eragrostis curvula* (African Lovegrass), *Trifolium repens* (white clover) and *Senecio madagascariensis* (Fireweed). Fireweed covers approximately 10% of the pasture grass.

Areas of remnant PCT 4025 within the impact area featured either a weed-dominated mid-storey and shrub layer or a grazed understorey. Weeds present in the mid-storey and shrub layer included *Olea europaea* subsp. *cuspidata* (African Olive), *Asparagus asparagoides* (Bridal Veil), *Lycium ferocissimum* (African Boxthorn), *Solanum mauritianum* (Tobacco bush) and *Ligustrum* sp. (Privet). The understorey of the native 'planted' areas have been extensively grazed and are primarily exotic with species such as African Boxthorn (*Lycium ferocissimum*) present in the mid-storey.

The existing farm dams have weeds such as *Juncus acutus* (Sharp rush), *Ludwigia* sp., *Solanum sisymbriifolium* (Sticky Nightshade), *Cirsium vulgare* (Spear Thistle), *Modiola caroliniana* (red-flowered mallow), *Plantago lanceolata* (Plantain), *Sonchus oleraceus* (common sow thistle), *Conyza* sp. (fleabane), *Cyperus eragrostis* (Umbrella sedge), *Paspalum dilatatum* (Paspalum), *Senecio madagascariensis* (Fireweed) and *Lycium ferocissimum* (African Boxthorn) on or near their banks. *Azolla* sp. was found in the dam itself.

A weed plume was identified in an area in the southwest of the site (Figure 6) where consistent canopy species are present nearby, however the mid-storey is entirely exotic with a high density of *Olea europaea* subsp. *cuspidata* (African Olive), *Asparagus asparagoides* (Bridal Veil) and *Lycium ferocissimum* (African Boxthorn).

The built infrastructure is surrounded by a mix of native and exotic plantings with trees such as *Schinus molle* (Peppercorn) present. *Asparagus aethiopicus* (Ground Asparagus), *Cestrum parqui* (Green

Cestrum) and a Yucca were found in rubbish piles around the machinery shed in the southwestern quadrant of the site.

The majority of weed areas within the development footprint are of a low density with plants scattered throughout the site however weeds found within the Vegetation Management Plant (VMP) area (please refer to this document for further detail, ELA 2024c) have weeds at a higher density and/or threat level and so have also been noted within this report. A small patch of *Alternanthera philoxeroides* (alligator weed) was found within the VMP area only, this is a water weed that can severely affect waterways and floodplains, if this spreads into the development area it will need to be treated as per the recommendations in Appendix B6. Additionally, *Lantana camara* (Lantana), *Anredera cordifolia* (Madeira vine) and *Rubus fruticosus* (Blackberry) only occur within the VMP area and are a medium density infestation.

The list of exotic species identified during the site inspection for this WEMP is available in Table 8. Weed species identified during the field survey for this WEMP included 23 weeds with State Biosecurity restrictions, eight Weeds of National Significance (WoNS), three weeds listed as regional level priority and there were 15 weeds listed as weeds of other regional concern. The weeds present, the associated asset / value at risk and whether they are Weeds of National Significance or of regional concern are presented in Table 8.

Table 8: Priority weeds identified in the study area

Scientific Name	Common Name	WoNS	Regional level priority weeds	Other weeds of regional concern	Priority Weed Category
<i>Alternanthera philoxeroides</i> *	Alligator Weed	Yes	Yes	Yes	Asset Protection
<i>Anredera cordifolia</i>	Madeira Vine	Yes	No	Yes	-
<i>Araujia sericifera</i>	Moth Vine	No	No	No	-
<i>Asparagus aethiopicus</i>	Ground Asparagus	Yes	No	Yes	-
<i>Asparagus asparagoides</i>	Bridal Creeper	Yes	No	Yes	-
<i>Azolla sp.*</i>	Azolla	No	No	No	-
<i>Cardiospermum grandiflorum</i>	Balloon Vine	No	No	No	-
<i>Cestrum parqui</i>	Green Cestrum	No	Yes	Yes	Asset Protection
<i>Cirsium vulgare</i>	Spear Thistle	No	No	No	-
<i>Conyza sp.</i>	Fleabane	No	No	No	-
<i>Eragrostis curvula</i>	African Lovegrass	No	No	Yes	-
<i>Juncus acutus</i>	Spiny Rush	No	No	Yes	-
<i>Lantana camara</i>	Lantana	Yes	No	Yes	-
<i>Ligustrum sinense</i>	Chinese privet	No	No	Yes	-
<i>Lycium ferocissimum</i>	African Boxthorn	Yes	No	Yes	-
<i>Olea europaea subsp. cuspidata</i>	African Olive	No	Yes	Yes	Containment

Scientific Name	Common Name	WoNS	Regional level priority weeds	Other weeds of regional concern	Priority Weed Category
<i>Rubus fruticosus</i>	Blackberry	Yes	No	Yes	-
<i>Schinus</i> sp.	Peppercorn	No	No	No	-
<i>Senecio madagascariensis</i>	Fireweed	Yes	No	Yes	-
<i>Solanum sisymbriifolium</i>	Sticky nightshade	No	No	Yes	-
<i>Solanum mauritianum</i>	Wild Tobacco Bush				
<i>Sporobolus fertilis</i>	Giant Parramatta Grass	No	No	Yes	-
<i>Xanthium spinosum</i>	Bathurst Burr	No	No	No	-

*WATER WEED

B3 Management

WEED MANAGEMENT

Weed management within the subject site should be undertaken prior to construction. This should be undertaken by suitably qualified persons holding a minimum qualification of TAFE Cert II in Conservation & Land Management. In addition, team leaders should have, as a minimum, a Certificate III in Conservation & Land Management or equivalent and an AQF 3 Chemical user's certificate. All herbicides should be used as per the Australian Pesticides and Veterinary Medicines Authority (APVMA) approved chemical label and at the associated dilution and application rates.

All weeds on-site are required to be controlled as outlined in Table 9. In addition, WoNS and/or Priority weeds for Penrith City Council LGA must be managed in accordance with their Biosecurity and regional strategic requirements. Refer to Appendix B8 for a complete list of priority weed species relevant to the study area – being within the Sydney basin (Appendix B8,) and Hawkesbury River County Council Area (Appendix B8,), with legal requirements for each species.

As part of the proposal the development area will be cleared, and bulk earthworks undertaken to prepare the land for development. This will include removing the topsoil and stockpiling on site. As such, weed control is focused on processes to reduce the likelihood of transport of weeds to and from the site on vehicles and in soil. This has been broken up into three stages, prior, during and after civil works as shown in Table 10. It is recommended that these controls are implemented in addition to the ongoing management processes outlined further below. Given the seasonal nature of weed germination and growth, and the potential delay between approval and implementation of this plan, it is recommended that a qualified ecologist or bush regenerator be onsite immediately prior to any vegetation clearance or weed eradication to identify any additional significant weeds on site and provide recommendations for their management. If there is a significant delay in construction a further site inspection is required. Additional species-specific treatment methods are provided per Appendix B9.

Table 9: Weed Management – Stages and Actions

Stage	Management Actions
Pre-Civil Works	Weed control must commence prior to civil works commencing to allow for repeated treatments to exhaust the seed bank
	Control of woody weeds should be undertaken through the cut and paint method
	Control of pasture grasses should be undertaken through repeated slashing with machinery and herbicide spraying
	Control of woody weed regrowth and / or priority weeds (e.g. WONS, environmental) should be undertaken by herbicide spraying
	All vegetative material and weed propagules including from woody weeds should be disposed of appropriately at an off-site facility
	Woody weed material can be mulched and remain on site, stockpiled separately from native mulch
During Civil Works	Machinery is to be washed down before entering and leaving the site
	Mitigation measures including erosion control should be employed within the site to prevent movement of weed seed into or out of the site

Stage	Management Actions
	Topsoil should be removed as part of the earthworks only where there is minimal weed invasion. If significant weeds are present, then management of weeds as per above must be undertaken. Topsoil may be stockpiled on site and must be kept weed free. All stockpiles must be located >50m from riparian lands and areas of native vegetation. Any fill used on-site must be 'clean' fill free of weed propagules. The site supplying the fill (either onsite or off site) is to be inspected prior to the transportation of any fill material. This includes the inspection of any topsoil on site that is to be stockpiled. If invasive weeds are present within the fill material, the weeds are to be treated prior to fill transportation. Treatment must take into consideration the likelihood of seed being present in the soil and include measures to reduce the potential for transported seed to germinate (e.g., through stockpiling time or using pre-emergent herbicides). The inspection is to be undertaken by a qualified person holding a minimum qualification of TAFE Cert III in CLM. Written certification that the fill is 'clean' from weeds should be obtained prior to transportation. The area receiving fill, including stockpiles, must have sediment fences installed around the perimeter of the fill placement areas. Monitoring of fill, including stockpiles will be required fortnightly for a period of three months after fill has been transported. The frequency of the monitoring is designed to reduce the potential for weeds to reproduce and re-establish. A brief report is to be submitted following each site visit outlining the date of the inspection, weeds observed, and treatment action required. Monitoring is to be undertaken by a suitably qualified and experienced person holding a minimum qualification of TAFE Cert III CLM.
After Civil Works	Engage a qualified ecologist or bush regenerator holding a minimum qualification of TAFE Cert III in CLM to undertake regular maintenance inspections to ensure weeds do not re-establish and set seed. If weeds are recorded on site they must be treated within five days. Undertaken ongoing management of the site until land ownership is transferred.

WEED MANAGEMENT PROGRAM

A weed management program will be required during all stages of the civil works, especially focusing on expected peak weed growing seasons. The frequency of weed control / maintenance will depend on weed persistence and seasonal fluctuation in growth (e.g. less frequent requirement in the cooler months). It is expected that maintenance works following will be required at least bi-monthly during the peak growing seasons and quarterly in cooler periods.

Ongoing management actions that are required include:

- Treatment of any regrowth from primary treated weed species
- Control of subsequent growth of other weed species
- Reducing the potential for the spread of weeds to and from the site

These actions must be implemented through all stages of the civil works. These processes include but are not limited to the following:

- Any weeds recorded on site are to be treated in appropriate manner within five days of their presence being reported. It is recommended that the Proponent establish an agreement with a suitable service provider to provide responses within these timeframes.

- Wet areas within the site are monitored for weed occurrence monthly (including aquatic weeds) and weeds identified treated within the reporting period.
- Herbicide spraying in proximity to waterways is to only use herbicide formulated for this purpose (e.g. Roundup© Bioactive™) and is conducted with care to avoid unnecessary damage to native species.
- Where weed material from WoNS, or priority weeds and/or soil contaminated with those species is found onsite, it will be removed from the site in sealed plastic bags and disposed of offsite at an appropriately licenced waste disposal facility.
- Regular (at minimum monthly) surveys and weed treatment, undertaken by suitably qualified staff, of the Project boundaries and carriageways (e.g., pathways and access roads).

B4 Weed management specification and standards

Weed controls involve a combination of mechanical, physical, and chemical techniques to remove unwanted weeds and prevent their regrowth. Selecting weed control methods may depend on several factors including:

- the weed species or combination of weed species being targeted
- weed density
- available resources (e.g., time, labour, equipment and finances)
- weather conditions (windy, hot, rain)
- seasonal timing (e.g., winter/summer)
- contractor knowledge and/or expertise.

WEED CONTROL TECHNIQUES

Weed control techniques are varied (e.g., Brodie 1999, Buchanan 2000 and Muyt 2001). General approaches for different weed groups/types are provided below.

ANNUAL GRASSES

Where isolated or in low concentrations annual grasses (e.g., *Lepidium africanum*) should be hand removed or spot herbicide sprayed.

Larger patches can be slashed/brush-cut after flowering in late spring to early summer, but prior to seed set, to prevent seed re-entering the soil seed bank. For some species, cutting can promote vigorous regrowth and retreatment may be required to prevent seed production. Some annual grasses continue to grow and produce seed at various times of the year if conditions are suitable (e.g., high rainfall and warm temperatures).

Sites should be monitored to identify if secondary weed flushes require treatment. All vegetative material removed should be bagged, removed from site and disposed of appropriately.

PERENNIAL GRASSES

Where isolated or in low concentrations perennial weedy grasses (e.g., African Lovegrass (*Eragrostis curvula*), Rhodes grass (*Chloris gayana*), Giant Parramatta Grass (*Sporobolus fertilis*) and Parramatta Grass (*Sporobolus africanus*)) should be hand removed or spot herbicide sprayed.

Larger patches can be slashed/brush-cut prior to seed production in spring or summer and the regrowth herbicide sprayed 2-3 weeks later when foliage begins to actively grow (e.g., ~10 cm). Outcomes should be monitored and if plants survive and begin setting seed the same treatment will be required.

Note: Slashing will not remove exotic grasses, only reduce their biomass, for removal, treatments such as chemical, mechanical, or other (e.g., biological) must be used.

Actions should be monitored to identify if secondary weed flushes require treatment. All vegetative material removed should be bagged, removed from site and disposed of appropriately.

WOODY WEEDS

Treatment of woody weeds such as African olive (*Olea europaea* subsp. *cuspidata*), African Boxthorn (*Lycium ferocissimum*), Privet (*Ligustrum* sp.), Green Cestrum (*Cestrum parqui*), and Lantana (*Lantana*

camara) can be achieved with various techniques. Where plants are too numerous or too large for hand/mechanical removal, chemical herbicides can be applied using techniques such as stem injections ('cut and paint', 'drill and fill'), foliar sprays, gas or splatter gun (e.g., low volume of high concentration), rope or wick application (per control techniques using herbicides). Choosing the most appropriate technique will depend on various factors including site conditions, topography, population size and density and resources available.

Actions should be monitored to identify if secondary weed flushes require treatment. All vegetative material removed should be bagged, removed from site and disposed of appropriately.

CREEPERS AND CLIMBERS

Creeper weed control (e.g. Asparagus fern (*Asparagus aethiopicus*), Bridal creeper (*Asparagus asparagoides*), Madeira vine (*Anredera cordifolia*), Moth Vine (*Araujia sericifera*)) can vary depending on the species. For the most part, seedlings should be hand removed, while mature plants can be chemically controlled using the stem-scrape method or spot foliage sprays. The choice of method to be used will depend on the species being treated, plant size, plant reproductive status, and population density. All vegetative material removed should be bagged, removed from site and disposed of appropriately. Actions should be monitored to identify if secondary flushes of weeds require treatment.

HERBACEOUS WEEDS

Where isolated or in low concentrations herbaceous weeds (e.g., Cobblers Pegs (*Bidens pilosa*), Dock (*Rumex* sp.), Fireweed (*Senecio madagascariensis*), Sticky Nightshade (*Solanum sisymbriifolium*), Paddy's Lucerne (*Sida rhombifolia*) and Plantain (*Plantago* spp.)) can be hand removed or spot sprayed. Where population densities occur at a height above native ground-layer species, chemical wick or rope wipers can be used to selectively treat weeds. Herbaceous weeds can also be slashed to prevent flowering and seeding, and regrowth treated chemically (e.g., spot spray, or mounted wick application). All vegetative material removed should be bagged, removed from site and disposed of appropriately. Actions should be monitored to identify if secondary flushes of weeds require treatment.

MANAGEMENT OF WEED WASTE

Weed material containing propagules (especially priority weeds) should be securely bagged and disposed of as directed by regulation (e.g. facilities licenced to receive green waste).

HERBICIDE USE

Weeds should ideally be treated with herbicides during their active growing season for optimal chemical uptake into the plant. The selection of herbicides should consider the type of weed being treated or its stage of growth (e.g. grass/broadleaf, seedling/mature) and there are a range of products available that treat weed selectively or non-selectively. Some herbicides are toxic to aquatic life and must not be used in, or adjacent to, waterways (see Noxious and environmental weed control handbook (DPI 2010) and all chemicals used should be applied only as specified as per chemical label or Off label permit No. 9907. Usage records must be kept in accordance with NSW Pesticide Regulation 2009.

WEED CONTROL CONTRACTORS

All weed management works will be undertaken by suitably qualified and experienced bush regeneration contractors (e.g., members of the Australian Association of Bush Regenerators or fulfil the membership criteria). In addition, team leaders should have, as a minimum, a Certificate III in CLM or

equivalent and a current AQF 3 Chemicals user's certificate. A flexible approach to weed management is recommended as techniques may need to be changed or modified to suit conditions. This approach is consistent with adaptive management and allows contractors to develop and build on site knowledge whilst implementing this WEMP.

B5 Monitoring

MONITORING REPORTS

Reporting will be required at the completion of each of the three main stages (prior to, during and after civil works are completed) and during each stage, on a monthly basis. Monthly site walkover inspections are required to monitor weed management progress. In addition, multiple permanent monitoring photo points should be established as visual gauges of actions and change. Following walkover inspections, a report will be prepared and should include:

- Outline of management objectives for the period
- compliance with performance criteria
- works carried out, including weed species/zone targeted
- approximation of time spent on tasks
- notes on chemicals/herbicides used (including quantity, dilution rate and other relevant details)
- other weed controls used
- relevant observations (e.g., occurrence of new weed species, rates of weed regeneration)
- description of problems encountered (and if/how they were overcome)
- if required, maps showing weed distribution and density.

A final report should be prepared at the completion of development activities.

PERFORMANCE CRITERIA

Outcomes and progress of weed control actions should be assessed, reviewed and reported against performance criteria outlined below (Table 2)

Table 10: Performance criteria

Stage	Criteria
Prior to civil works	All significant weeds identified on-site by a qualified ecologist or bush regenerator prior to any vegetation clearance or weed eradication.
	Commencement of all tasks outlined in the WEMP or evidence of planning for their implementation.
	No woody weeds present on-site
	No weeds present in areas of topsoil translocation
	Evidence of weed seed bank suppression
	No WoNS or Priority Weeds present on-site
	Exotic material appropriately disposed off-site
	Machinery washed down before and after entering site
During civil works	Soil and water management actions implemented
	Proportion of weed cover no greater than 15% cover
	Fill used on site is 'clean' (i.e., free of weed seed and contamination)
	Development area including stockpiles and sediment basins monitored for weeds
	Weeds recorded on site in Civil Works zones are actively managed within 5 days
	No WoNs or Priority weeds present on-site

Stage	Criteria
After civil works	Exotic material appropriately disposed off-site
	Machinery washed down before and after entering site
	Soil and water management actions implemented
	Proportion of weed cover no greater than 15% cover
	Development area including stockpiles and sediment basins monitored for weeds
	Weeds recorded on site in Civil Works zones are actively managed within 5 days
	Machinery washed down before and after entering site
	No WoNS or Priority weeds present on-site

B6 Weed Treatments

Table 11: Weed species and appropriate treatments

Scientific Name	Common Name	Infestation Intensity	Primary Treatment (kill 70%)	Timing	Secondary treatment (90% Kill)	Ongoing Management
<i>Alternanthera philoxeroides</i>	Alligator weed	Low – currently found only in the VMP area	Refer to the Alligator Weed Control Manual for further information as control is site specific. If area of infestation <5m x 5m physical control (deep manual digging) combined with initial chemical control using Glyphosate 360 g/L (10mL in 1L of water). If the infestation has grown larger than 5m x 5m since the writing of this document, a suppression leading to eradication method must be implemented (physical control – shallow digging to remove above ground biomass, herbicide use implementing the Metsulfuron-methyl Annual Treatment Program over a 6 year period followed by deep manual digging once infestation is small enough to eradicate).	All year – for herbicide best to spray during the growing season November to May.	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring to manage
<i>Araujia sericifera</i>	Moth Vine	Low	Hand removal or 'scrape and paint' with 'neat' Glyphosate 360g/L	All year	Spot spray with Glyphosate 360g/L at a rate of 1:100 with the addition of a surfactant (i.e. Pulse) to the rate of 1L: 200L if water	Seeds are extremely viable. Regular monitoring required to manage seedlings.
<i>Araujia setifera</i>	Moth Vine	Low	Hand removal or 'scape and paint' with 'neat' Glyphosate 360 g/L	All year	Spot spray with Glyphosate 360 g/L at a rate of 1:100 with the addition of a surfactant (i.e. Pulse) to the rate of 1 L: 200L of water	Seeds are extremely viable. Regular monitoring required to manage seedlings
<i>Asparagus aethiopicus</i>	Ground Asparagus	Low	Manual removal of underground tubers with biomass taken from site <u>or</u> application of a	August to September	Spot spray seedlings <u>Or</u> hand remove with biomass taken from site	Ensure the crown to plant is completely

Scientific Name	Common Name	Infestation Intensity	Primary Treatment (kill 70%)	Timing	Secondary treatment (90% Kill)	Ongoing Management
			METSULFURON METHYL based herbicide applied at 10g: 100L			removed during Primary treatment
<i>Asparagus asparagoides</i>	Bridal Veil Creeper	Low	Manual removal of underground tubers with biomass taken from site <u>or</u> application of a METSULFURON METHYL based herbicide applied at 10g: 100L	August to September	Spot spray seedlings <u>Or</u> hand remove with biomass taken from site	Ensure the crown to plant is completely removed during Primary treatment
<i>Aster sp.</i>	Wild Aster	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring to manage seedling
<i>Axonopus</i>	Carpet Grass	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring to manage seedlings
<i>Azolla</i>	Water Fern	Low	Foliar spray on free floating plants utilising orange oil 55.2g/kg at a rate of 1 part product per 100 parts water	All year	Foliar spray on free floating plants utilising orange oil 55.2g/kg at a rate of 1 part product per 100 parts water	Regular monitoring to manage reinfestation
<i>Bidens pilosa</i>	Cobblers Pegs	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Cardiospermum grandiflorum</i>	Balloon vine	Med	Hand removal or 'scrape and paint' or cut and paint with 'neat' Glyphosate 360g/L	All year	Spot spray with Glyphosate 360g/L at a rate of 1:100 with the addition of a surfactant	Seeds are extremely viable. Regular monitoring required to manage seedlings.

Scientific Name	Common Name	Infestation Intensity	Primary Treatment (kill 70%)	Timing	Secondary treatment (90% Kill)	Ongoing Management
					(i.e., Pulse) to the rate of 1L: 200L if water	
<i>Centrum parqui</i>	Green Cestrum	Low	Cut and paint' Or drill/frill with 'neat' Glyphosate 360 g/L	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Chloris gayana</i>	Rhodes Grass	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Cirsium vulgare</i>	Black Spear Thistle	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Conyza</i> sp.	Fleabane	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring to manage seedling
<i>Cynodon dactylon</i>	Common Couch	Low	Boom <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year, best results achieved on actively growing plants. Slashing and stimulating regrowth prior to spraying will increase kill rate	Hand remove <u>Or</u> Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	This weed dominates the development footprint ground layer. Continue to slash as suppressant.

Scientific Name	Common Name	Infestation Intensity	Primary Treatment (kill 70%)	Timing	Secondary treatment (90% Kill)	Ongoing Management
<i>Cyperus brevifolius</i>	Mullumbimby couch	Low	Hand removal ensuring that all rhizomes are removed. spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year, best results achieved on actively growing plants, not stressed and haven't seeded.	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Cyperus eragrostis</i>	Tall Flat Edge	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Eragrostis curvula</i>	African Lovegrass	Low	Spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1 L per 100L of water <u>Or</u> Flupropanate based herbicide 300 mL : 100L water	All year, best results achieved on actively growing plants	Hand remove <u>Or</u> Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Treatment prior to seed set. A regular slashing will limit its further spread on site
<i>Juncus acutus</i>	Sharp rush	Low	Mechanical removal with cutters, graders or ploughs or slash then apply herbicide when the plant is actively regrowing with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :75L of water	All year	Mechanical removal or slash then wiping with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :75L of water.	Regular monitoring required to manage seedlings
<i>Lantana camara</i>	Lantana	Med	Cut and 'paint' or drill/frill with 'neat' Glyphosate 360 g/L	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Lepidium africanum</i>		Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year, hand removal best every 8-10 weeks before pods form.	Spot spray seedlings with Glyphosate based herbicide (360 g/L)	Regular monitoring required to manage seedlings

Scientific Name	Common Name	Infestation Intensity	Primary Treatment (kill 70%)	Timing	Secondary treatment (90% Kill)	Ongoing Management
					applied at a rate of 1L :100L of water	
<i>Lotus sp.</i>		Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring to manage seedlings
<i>Ligustrum lucidum</i>	Broad Leaved Privet	Med	Cut and 'paint' <u>or</u> drill/frill with 'neat' Glyphosate 360 g/L	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Ludwigia sp.</i>		Low	Hand pull individuals or small infestations by hand or spot spray actively growing plants with a non-selective and non-residual herbicide such as Glyphosate 450 Xtraquatic© herbicide (360 g/L) applied at a rate of 1L : 50L water.	When actively growing	Hand removal <u>Or</u> spot spray with a Glyphosate aquatic based herbicide (360 g/L)	Regular monitoring and repeat treatments if required
<i>Lycium ferocissimum</i>	African boxthorn	Med	Cut and 'paint' or Drill/frill with 'neat' Glyphosate 360 g/L	All year	Hand removal or spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L:100L of water	Regular monitoring required to manage seedlings
<i>Malva sylvestris</i>	Tall Mallow	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Hand removal or spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L:100L of water	Regular monitoring required to manage seedlings
<i>Modiola caroliniana</i>	Red Flowered Mallow	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of	All year	Spot spray seedlings with Glyphosate based herbicide (360 g/L)	Regular monitoring to manage seedlings

Scientific Name	Common Name	Infestation Intensity	Primary Treatment (kill 70%)	Timing	Secondary treatment (90% Kill)	Ongoing Management
			water or 200ml Flupropanate plus 150ml glyphosate 360g/l per 100 L of water		applied at a rate of 1L :100L of water	
<i>Olea europaea</i> subsp. <i>cuspidata</i>	African Olive	Med	Cut and 'paint' or drill/frill with 'neat' Glyphosate 360 g/L	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Oxalis corniculata</i>	Creeping Oxalis	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring to manage seedlings
<i>Paspalum dilatatum</i>	Paspalum	High	Boom or spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year, best results achieved on actively growing plants. Slashing and stimulating regrowth prior to spraying will increase kill rate	Hand remove <u>Or</u> Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	This weed dominates the development footprint ground layer. Continue to slash as suppressant
<i>Pinus radiata</i>	Radial Pine	Med	Cut and 'paint' or drill/frill with 'neat' Glyphosate 360 g/L	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Plantago lanceolata</i>	Lambs Tongue	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings

Scientific Name	Common Name	Infestation Intensity	Primary Treatment (kill 70%)	Timing	Secondary treatment (90% Kill)	Ongoing Management
<i>Rubus fruticosus</i>	Blackberry	Med	Cut and 'paint' or drill/frill with 'neat' Glyphosate 360 g/L	All year	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Rumex sp</i>	Dock Sp.	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Schinus molle</i>	Pepper Tree	Low	Cut and 'paint' or drill/frill with 'neat' Glyphosate 360 g/L	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Senecio Pterophorus</i>		Low	Manual removal <u>or</u> spot spraying application of a METSULFURON METHYL based herbicide applied at 10g: 100L	All year	Manual removal <u>Or</u> application of a METSULFURON METHYL based herbicide applied at 10g: 100L	Regular monitoring to manage seedlings. Gloves to be worn during removal
<i>Senecio madagascariensis</i>	Fireweed	Med	Manual removal <u>or</u> spot spraying application of a METSULFURON METHYL based herbicide applied at 10g: 100L	All year	Manual removal <u>Or</u> application of a METSULFURON METHYL based herbicide applied at 10g: 100L	Regular monitoring to manage seedlings. Gloves to be worn during removal
<i>Sida rhombifolia</i>	Paddy's Lucerne	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year. Avoid herbicide application on frost or heat stressed plants.	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings

Scientific Name	Common Name	Infestation Intensity	Primary Treatment (kill 70%)	Timing	Secondary treatment (90% Kill)	Ongoing Management
<i>Solanum pseudocapsicum</i>	Jerusalem Cherry	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring to manage seedlings
<i>Solanum sisymbriifolium</i>	Sticky Nightshade	Med	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage
<i>Solanum mauritianum</i>	Wild Tobacco	Low	Cut and 'paint' <u>or</u> drill/frill with 'neat' Glyphosate 360 g/L	All year	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Sonchus oleraceus</i>	Sow Thistle	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage
<i>Sporobolus africanus</i>	Parramatta Grass	Med	Spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1 L per 100L of water Or Flupropanate based herbicide 200 mL : 100L water	All year, best results achieved on actively growing plants	Hand remove <u>Or</u> Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Treatment prior to seed set. A regular slashing will limit its further spread on site
<i>Sporobolus fertilis</i>	Giant Parramatta Grass	Med	Spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1 L per 100L of water Or Flupropanate based herbicide 200 mL : 100L water	All year, best results achieved on actively growing plants	Hand remove <u>Or</u> Spot spray seedlings with Glyphosate based herbicide (360 g/L)	Treatment prior to seed set. A regular slashing will limit its further spread on site

Scientific Name	Common Name	Infestation Intensity	Primary Treatment (kill 70%)	Timing	Secondary treatment (90% Kill)	Ongoing Management
					applied at a rate of 1L :100L of water	
<i>Trifolium repens</i>	White Clover	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Verbena bonariensis</i>	Purple Top	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Verbena officinalis</i>	Common Verbena	Low	Hand removal <u>or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	All year	Hand removal <u>Or</u> spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings
<i>Xanthium spinosum</i>	Bathurst Burr	Low	Chipping, slashing or spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water.	All year. Avoid herbicide application on frost or heat stressed plants.	Chipping, slashing or spot spray with a Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water.	Regular monitoring required to manage seedlings
<i>Yucca sp.</i>	Yucca	Low	Cut to the stump, dig deep around the roots and apply herbicide. Cut and 'paint' Or drill/frill with 'neat' Glyphosate 360 g/L	All year	Spot spray seedlings with Glyphosate based herbicide (360 g/L) applied at a rate of 1L :100L of water	Regular monitoring required to manage seedlings

B7 Weeds of National Significance

Table 12: WoNS recorded within study area

Scientific Name	Common Name	Degree of Infestation	WoNS	Priority Weed Level	Control Requirement
<i>Alternanthera philoxeroides</i>	Alligator weed	Low	Yes	State priority – Asset Protection	Mandatory Measure prohibits sale within or import into NSW.
<i>Anredera cordifolia</i>	Madeira Vine	Low	Yes	State priority – Asset Protection	Mandatory Measure prohibits sale within or import into NSW.
<i>Asparagus aethiopicus</i>	Ground Asparagus	Low	Yes	State priority – Asset Protection	Mandatory Measure prohibits sale within or import into NSW.
<i>Asparagus asparagoides</i>	Bridal Creeper	Low	Yes	State priority – Asset Protection	Mandatory Measure prohibits sale within or import into NSW.
<i>Lantana camara</i>	Lantana	Med	Yes	State priority – Asset Protection	Mandatory Measure prohibits sale within or import into NSW.
<i>Lycium ferocissimum</i>	African Boxthorn	Med	Yes	State Priority – Asset Protection	Mandatory Measure prohibits sale within or import into NSW.
<i>Rubus fruticosus</i>	Blackberry	Med	Yes	State Priority – Asset Protection	Mandatory Measure prohibits sale within or import into NSW.
<i>Senecio madagascariensis</i>	Fireweed	Med	Yes	State Priority – Asset Protection	Mandatory Measure prohibits sale within or import into NSW.

B8 Priority Weeds

GREATER SYDNEY BASIN

Table 13: Priority weeds within the Greater Sydney Basin

COMMON NAME	BOTANICAL NAME	OBJECTIVE
African olive*	<i>Olea europaea subsp. Cuspidata</i>	CONTAINMENT
Alligator Weed	<i>Alternanthera philoxeroides</i>	CONTAINMENT
Asparagus fern	<i>Asparagus virgatus</i>	CONTAINMENT
Asparagus weeds	<i>Asparagus aethiopicus</i>	ASSET PROTECTION
Athel Pine	<i>Tamarix aphylla</i>	ASSET PROTECTION
Bellyache bush	<i>Jatropha gossypifolia</i>	ASSET PROTECTION
Bitou Bush	<i>Chrysanthemoides monilifera subsp. rotundata</i>	CONTAINMENT
Black knapweed	<i>Centaurea x moncktonii</i>	PREVENTION
Black willow	<i>Salix nigra</i>	ERADICATION
Blackberry	<i>Rubus fruticosus</i> agg. (Blackberry except the varieties Chester Thornless, Dirksen Thornless, Loch Ness, Silvan, Black Satin, Murrindindi, Smooth Stem, Thornfree and Chehalem)*	ASSET PROTECTION
Boneseed	<i>Chrysanthemoides monilifera subsp. monilifera*</i>	ERADICATION
Bridal veil creeper	<i>Asparagus declinatus</i>	PREVENTION
Broomrape	<i>Orobancha spp. (all species except the native O. cernua var. australiana and O. minor)</i>	PREVENTION
Cabomba	<i>Cabomba caroliniana</i>	ASSET PROTECTION
Cape/Montpellier broom	<i>Genista monspessulana</i>	ASSET PROTECTION
Cat's claw creeper	<i>Dolichandra unguis-cati</i>	ASSET PROTECTION
Chilean needle grass	<i>Nassella neesiana</i>	ASSET PROTECTION
Chinese knotweed	<i>Persicaria chinensis</i>	ERADICATION
Chinese violet	<i>Asystasia gangetica subsp. micrantha</i>	PREVENTION

COMMON NAME	BOTANICAL NAME	OBJECTIVE
Climbing asparagus	<i>Asparagus africanus</i>	ERADICATION
Coolatai grass	<i>Hyparrhenia hirta</i>	ERADICATION
Coral creeper	<i>Barleria repens</i>	ERADICATION
East Indian hygrophila	<i>Hygrophila polysperma</i>	PREVENTION
Eurasian water milfoil	<i>Myriophyllum spicatum</i>	PREVENTION
Fireweed*	<i>Senecio madagascariensis</i>	ASSET PROTECTION
Flax-leaf broom	<i>Genista linifolia</i>	ASSET PROTECTION
Frogbit / Spongeplant	<i>Limnobium spp. (all species)</i>	PREVENTION
Gamba Grass	<i>Andropogon gayanus</i>	Prevention
Giant devils fig	<i>Solanum chrysotrichum</i>	PREVENTION
Giant rats tail grass	<i>Sporobolus pyramidalis</i>	PREVENTION
Giant reed	<i>Arundo donax</i>	ASSET PROTECTION
Glory lily	<i>Gloriosa superba</i>	ERADICATION
Gorse	<i>Ulex europaeus</i>	ASSET PROTECTION
Green cestrum*	<i>Cestrum parqui</i>	ASSET PROTECTION
Grey sallow	<i>Salix cinerea</i>	ERADICATION
Groundsel bush	<i>Baccharis halimifolia</i>	ERADICATION
Hawkweed	<i>Hieracium spp. (all species)</i>	PREVENTION
Holly-leaved senecio	<i>Senecio glastifolius</i>	ERADICATION
Horsetails	<i>Equisetum spp.</i>	CONTAINMENT
Hydrocotyle/Water pennywort	<i>Hydrocotyle ranunculoides</i>	PREVENTION
Hygrophila	<i>Hygrophila costata</i>	ERADICATION

COMMON NAME	BOTANICAL NAME	OBJECTIVE
Hymenachne	<i>Hymenachne amplexicaulis</i>	ASSET PROTECTION, PREVENTION
Karoo acacia	<i>Vachellia karroo</i> (syn. <i>Acacia karroo</i>)	PREVENTION
Kei apple	<i>Dovyalis caffra</i>	ERADICATION
Kidney leaf mud plantain	<i>Heteranthera reniformis</i>	ERADICATION
Kochia	<i>Bassia scoparia</i> (excluding subsp. <i>trichophylla</i>)	PREVENTION
Koster's curse	<i>Clidemia hirta</i>	PREVENTION
Kudzu	<i>Pueraria lobata</i>	ERADICATION
Lagarosiphon	<i>Lagarosiphon major</i>	PREVENTION
Lantana	<i>Lantana camara</i>	ASSET PROTECTION
Leaf cactus	<i>Pereskia aculeata</i>	ERADICATION
Madeira vine*	<i>Anredera cordifolia</i>	ASSET PROTECTION
Mesquite	<i>Prosopis</i> spp.	ASSET PROTECTION
Mexican feather grass	<i>Nassella tenuissima</i> (syn. <i>Stipa tenuissima</i>)	PREVENTION
Miconia	<i>Miconia</i> spp. (all species)	PREVENTION
Mikania vine	<i>Mikania micrantha</i>	PREVENTION
Mimosa	<i>Mimosa pigra</i>	PREVENTION
Ming fern	<i>Asparagus macowanii</i> var. <i>zuluensis</i>	ERADICATION
Mysore thorn	<i>Caesalpinia decapetala</i>	ERADICATION, PREVENTION
Nodding thistle	<i>Carduus nutans</i>	PREVENTION
Opuntia	<i>Opuntia</i> spp.	ASSET PROTECTION
Ox eye daisy	<i>Leucanthemum vulgare</i>	ERADICATION
Pampas grass*	<i>Cortaderia jubata</i>	ASSET PROTECTION

COMMON NAME	BOTANICAL NAME	OBJECTIVE
Parkinsonia	<i>Parkinsonia aculeata</i>	ERADICATION
Parthenium Weed	<i>Parthenium hysterophorus</i>	PREVENTION
Pond apple	<i>Annona glabra</i>	PREVENTION
Prickly acacia	<i>Vachellia nilotica</i> (syn. <i>Acacia nilotica</i>)	PREVENTION
Rubber vine	<i>Cryptostegia grandiflora</i>	PREVENTION
Sagittaria	<i>Sagittaria platyphylla</i>	ASSET PROTECTION
Salvinia	<i>Salvinia molesta</i>	ASSET PROTECTION
Scotch/English broom	<i>Cytisus scoparius</i> subsp. <i>scoparius</i>	ASSET PROTECTION
Sea spurge	<i>Euphorbia paralias</i>	ERADICATION
Senegal tea	<i>Gymnocoronis spilanthoides</i>	CONTAINMENT
Serrated tussock	<i>Nassella trichotoma</i>	ASSET PROTECTION
Siam weed	<i>Chromolaena odorata</i>	PREVENTION
Sicilian sea lavender	<i>Limonium hyblaeum</i>	ERADICATION
Sicklethorn	<i>Asparagus falcatus</i>	ERADICATION
Silverleaf nightshade	<i>Solanum elaeagnifolium</i>	ASSET PROTECTION
Singapore daisy	<i>Sphagneticola trilobata</i>	ASSET PROTECTION
Skunk vine	<i>Paederia foetida</i>	ERADICATION
Spanish broom	<i>Spartium junceum</i>	PREVENTION
Spotted knapweed	<i>Centaurea stoebe</i> subsp. <i>australis</i>	PREVENTION
Tropical soda apple	<i>Solanum viarum</i>	ERADICATION
Water caltrop	<i>Trapa</i> spp. (all species)	PREVENTION
Water hyacinth	<i>Eichhornia crassipes</i>	CONTAINMENT
Water lettuce	<i>Pistia stratiotes</i>	PREVENTION

COMMON NAME	BOTANICAL NAME	OBJECTIVE
Water poppy	<i>Hydrocleys nymphoides</i>	CONTAINMENT
Water primrose	<i>Ludwigia peruviana</i>	ASSET PROTECTION
Water soldier	<i>Stratiotes aloides</i>	PREVENTION
Water star grass	<i>Heteranthera zosterifolia</i>	PREVENTION
White blackberry / Mysore raspberry	<i>Rubus niveus</i>	PREVENTION
Willow-leaf primrose	<i>Ludwigia peruviana</i>	ASSET PROTECTION
Willows	<i>Salix spp.</i> (excludes <i>S. babylonica</i>)	ASSET PROTECTION
Witchweed	<i>Striga spp.</i> (except the native <i>S. parviflora</i>)	PREVENTION
Yellow burrhead	<i>Limnocharis flava</i>	PREVENTION

HAWKESBURY RIVER COUNTY COUNCIL AREA

Table 14: Priority weeds within the Hawkesbury River County Council area

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
African Boxthorn	<i>Lycium ferocissimum*</i>	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold	STATE
African Milk Bush	<i>Synadenium grantii</i>	ERADICATION	The following weeds are present in limited distribution and abundance. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.	LOCAL
African Olive	<i>Olea europaea</i> subsp. <i>cuspidata</i>	CONTAINMENT	Strategic response in the Greater Sydney region Promote best practice principles to landholders, including a range of control techniques for integrated weed management. Implement quarantine and/or hygiene protocols. Monitor change in distribution. Within exclusion zone: Destroy all infestations and continuously suppress thereafter Within core infestation area:	REGIONAL

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
			- Destroy and continuously suppress infestations where feasible - Targeted management of priority asset	
Alligator Weed	<i>Alternanthera philoxeroides</i> *	CONTAINMENT	Alligator Weed Biosecurity Zone (Biosecurity Regulation - Part 5, Division 2) An owner or occupier of land in the Alligator Weed Biosecurity Zone on which there is the weed <i>Alternanthera philoxeroides</i> (alligator weed) must: - if the weed is part of a new infestation of the weed on the land, notify the local control authority for the land as soon as practicable in accordance with Part 6. - eradicate the weed or if that is not practicable destroy as much of the weed as is practicable and suppress the spread of any remaining weed. Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) A person must not import into the state or sell Strategic response in the Greater Sydney Region Implement quarantine and/or hygiene protocols. Targeted management of priority assets Promote best practice weed management principles to landholders. Land managers reduce the impact on priority assets	STATE, REGIONAL
Anchored Water Hyacinth	<i>Eichhornia azurea</i>	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: Implement quarantine and/or hygiene protocols.	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
			- Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol.	
Arrowhead	<i>Sagittaria calycina</i> var. <i>calycina</i>	CONTAINMENT	<u>Regional Recommended Measures</u> Exclusion zone: - all lands in the region, except the core infestation area of Central Coast local government area 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 - Notify the Local Control Authority if found. Exclusion zone: - The plant should be eradicated from the land and the land kept free of the plant. Core infestation: - Land managers should mitigate spread from their land. Land managers should reduce impacts from the plant on priority assets	LOCAL
Asparagus Fern	<i>Asparagus virgatus</i>	CONTAINMENT	Strategic response in the Greater Sydney region - Promote best practice principles to landholders, including a range of control techniques for integrated weed management. - Implement quarantine and/or hygiene protocols. - Monitor change in distribution Within exclusion zone: - Destroy all infestations and continuously suppress thereafter - Within core infestation area: - Destroy and continuously suppress infestations where feasible - Targeted management of priority asset	REGIONAL
Asparagus Weeds	<i>Asparagus aethiopicus</i>	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Athel Pine	<i>Tamarix aphylla</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold	STATE
Bellyache Bush	<i>Jatropha gossypifolia</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold	STATE
Bitou Bush	<i>Chrysanthemoides monilifera</i> subsp. <i>rotundata</i> *	CONTAINMENT	Bitou Bush Biosecurity Zone (Biosecurity Regulation - Part 5, Division 3) An owner or occupier of land in the Bitou Bush Biosecurity Zone on which there is the weed <i>Chrysanthemoides monilifera</i> subsp. <i>rotundata</i> (Bitou Bush) must: - if the weed is part of a new infestation of the weed on the land, notify the local control authority for the land as soon as practicable in accordance with Part 6 - eradicate the weed or if that is not practicable destroy as much of the weed as is practicable and suppress the spread of any remaining weed. Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) A person must not import into the state or sell. Regional strategic response: Implement Bitou Bush State Strategic Plan.	STATE
Black Knapweed	<i>Centaurea x moncktonii</i>	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol.	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Black Willow	<i>Salix nigra</i> *	ERADICATION	Strategic response in the Greater Sydney Region Promote best practice principles to landholders, including a range of control techniques for integrated weed management. Implement quarantine and/or hygiene protocols. Monitor change in distribution. Within exclusion zone: • Destroy all infestations and continuously suppress thereafter • Within core infestation area: • Destroy and continuously suppress infestations where feasible • Targeted management of priority assets	REGIONAL
Blackberry	<i>Rubus fruticosus</i> agg. (Blackberry except the varieties Chester Thornless, Dirksen Thornless, Loch Ness, Silvan, Black Satin, Murrindindi, Smooth Stem, Thornfree and Chehalem)*	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold.	STATE
Boneseed	<i>Chrysanthemoides monilifera</i> subspecies <i>monilifera</i> *	ERADICATION	Control Measures – Owners of occupied lands • The owner or occupier of land in the control zone on which there is a new infestation of Boneseed must notify the local control authority for that land as soon as practicable of the following information: ○ the person's full name and contact details, including a telephone number ○ the address of the land, including the lot and deposited plan number and the property identification code for the land (if these are known) ○ any other information that is requested by the local control authority. • The owner or occupier of the land must ensure that the land is kept free of Boneseed by immediately destroying all Boneseed on the land. This requirement applies to any new infestation as well as any subsequent generations of Boneseed on that land.	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
			The owner or occupier does not need to comply with subclause (1) if they know that notification of the new infestation on the land has already been given to the local control authority of that land.	
Bridal Veil Creeper	<i>Asparagus declinatus</i> *	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol.	STATE
Broadleaf Pepper Tree	<i>Schinus terebinthifolius</i>	ERADICATION	The following weeds are present in limited distribution and abundance. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.	LOCAL
Broomrape	<i>Orobanche</i> spp. (all species except the native <i>O. cernua</i> var. <i>australiana</i> and <i>O. minor</i>)	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol.	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Cabomba	<i>Cabomba caroliniana</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold. Strategic response in the Greater Sydney Region: Implement quarantine and/or hygiene protocols. Targeted management of priority assets - Promote best practice weed management principles to landholders. - Land managers reduce the impact on priority assets.	STATE, REGIONAL
Cape/Montpellier Broom	<i>Genista monspessulana</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold	STATE
Cat's Claw Creeper	<i>Dolichandra unguis-cati</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold Strategic response in the Greater Sydney Region: Implement quarantine and/or hygiene protocols. Targeted management of priority assets Promote best practice weed management principles to landholders. Land managers reduce the impact on priority assets	STATE, REGIONAL
Chilean Needle Grass	<i>Nassella neesiana</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold	STATE
Chinese Celtis	<i>Celtis sinensis</i>	CONTAINMENT	These weeds are widely distributed in the region. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed by these weeds is reasonably practicable.	LOCAL
Chinese Knotweed	<i>Persicaria chinensis</i>	ERADICATION	Strategic response in the Greater Sydney region - Manage in accordance with New Weed Incursion Plan. - Mapping and surveillance to locate all infestations. - Implement quarantine and/or hygiene protocols. - Destruction of all infestations where feasible.	REGIONAL

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Chinese Violet	<i>Asystasia gangetica</i> subsp. <i>micrantha</i>	PREVENTION	Control order – (Chinese Violet Control Zone) <i>Control measures for owners and occupiers of land</i> Pursuant to section 62(1)(b) of the Act, an owner or occupier of land in the Chinese violet Control Zone 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 of Chinese violet on the land: ○ as soon as practicable after becoming aware of the new infestation ○ verbally or in writing ○ giving the following: (1) the person's full name and contact number (2) the location of the Chinese violet, including the property identification code for the land (if this is known) (3) any other information reasonably requested by the local control authority • destroy all Chinese violet on the land, including fruit • ensure that subsequent generations of Chinese violet are destroyed • that the land is kept free of Chinese violet • the owner or occupier does not need to comply with (a) above if they know that notification of the infestation on the land has already been given to the local control authority for the area.	REGIONAL
Climbing Asparagus	<i>Asparagus africanus</i> *	ERADICATION	Strategic response in the Greater Sydney region • Manage in accordance with New Weed Incursion Plan. • Mapping and surveillance to locate all infestations. • Implement quarantine and/or hygiene protocols. • Destruction of all infestations where feasible	REGIONAL
Coolatai Grass	<i>Hyparrhenia hirta</i>	ERADICATION	The following weeds are present in limited distribution and abundance. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.	LOCAL
Coral Creeper	<i>Barleria repens</i>	ERADICATION	Strategic response in the Greater Sydney region • Manage in accordance with New Weed Incursion Plan. • Mapping and surveillance to locate all infestations. • Implement quarantine and/or hygiene protocols. • Destruction of all infestations where feasible	REGIONAL

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Corky Passionfruit	<i>Passiflora suberosa</i>	CONTAINMENT	These weeds are widely distributed in the region. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed by these weeds is reasonably practicable.	LOCAL
Crofton Weed	<i>Ageratina adenophora</i>	ASSET PROTECTION	These weeds are widely distributed in some areas of the State. As Weeds of National Significance, their spread must be minimised to protect priority assets.	LOCAL
East Indian Hygrophila	<i>Hygrophila polysperma</i>	PREVENTION	Strategic response in the Greater Sydney region - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Implement New Weed Incursion Plan if detected.	REGIONAL
Eurasian Water Milfoil	<i>Myriophyllum spicatum</i>	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol.	STATE
Fireweed	<i>Senecio madagascariensis</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold	STATE
Flax-Leaf Broom	<i>Genista linifolia</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold	STATE
Frogbit / Spongeplant	<i>Limnobium</i> spp. (all species)	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence.	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
			A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: • Implement quarantine and/or hygiene protocols. • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. • Trigger rapid response protocol.	
Gamba Grass	<i>Andropogon gayanus*</i>	Prevention	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: • Implement quarantine and/or hygiene protocols. • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. • Trigger rapid response protocol.	STATE
Giant Devils Fig	<i>Solanum chrysotrichum</i>	PREVENTION	Strategic response in the Greater Sydney region • Manage in accordance with New Weed Incursion Plan. • Mapping and surveillance to locate all infestations. • Implement quarantine and/or hygiene protocols. • Destruction of all infestations where feasible	REGIONAL
Giant Rats Tail Grass	<i>Sporobolus pyramidalis</i>	PREVENTION	Strategic response in the Greater Sydney region • Implement quarantine and/or hygiene protocols	REGIONAL

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
			- Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options - Implement New Weed Incursion Plan if detected	
Giant Reed	<i>Arundo donax</i>	ASSET PROTECTION	Strategic response in the Greater Sydney Region Implement quarantine and/or hygiene protocols. Targeted management of priority assets Promote best practice weed management principles to landholders. Land managers reduce the impact on priority assets	REGIONAL
Glory Lily	<i>Gloriosa superba</i>	ERADICATION	Strategic response in the Greater Sydney region - Manage in accordance with New Weed Incursion Plan. - Mapping and surveillance to locate all infestations. - Implement quarantine and/or hygiene protocols. - Destruction of all infestations where feasible	REGIONAL
Gorse	<i>Ulex europaeus*</i>	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold Strategic response in the Greater Sydney Region - Promote best practice principles to landholders, including a range of - control techniques for integrated weed management - Implement quarantine and/or hygiene protocols. - Monitor change in distribution Within exclusion zone: - Destroy all infestations and continuously suppress thereafter Within core infestation area: - Destroy and continuously suppress infestations where feasible - Targeted management of priority assets	STATE, REGIONAL
Green Cestrum	<i>Cestrum parqui</i>	ASSET PROTECTION	Strategic response in the Greater Sydney Region - Implement quarantine and/or hygiene protocols. - Targeted management of priority assets. - Promote best practice weed management principles to landholders. - Land managers reduce the impact on priority assets.	REGIONAL

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Grey Sallow	<i>Salix cinerea</i> *	ERADICATION	Strategic response in the Greater Sydney region • Manage in accordance with New Weed Incursion Plan. • Mapping and surveillance to locate all infestations. • Implement quarantine and/or hygiene protocols. • Destruction of all infestations where feasible	REGIONAL
Groundsel Bush	<i>Baccharis halimifolia</i>	ERADICATION	Strategic response in the Greater Sydney region • Manage in accordance with New Weed Incursion Plan. • Mapping and surveillance to locate all infestations. • Implement quarantine and/or hygiene protocols. • Destruction of all infestations where feasible	REGIONAL
Hawkweed	<i>Hieracium</i> spp. (all species)	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: • Implement quarantine and/or hygiene protocols. • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. • Trigger rapid response protocol.	STATE
Holly-Leaved Senecio	<i>Senecio glastifolius</i>	ERADICATION	Strategic response in the Greater Sydney region • Manage in accordance with New Weed Incursion Plan. • Mapping and surveillance to locate all infestations. • Implement quarantine and/or hygiene protocols. • Destruction of all infestations where feasible	REGIONAL
Honey Locust	<i>Gleditsia tricanthos</i>	CONTAINMENT	These weeds are widely distributed in the region. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed by these weeds is reasonably practicable.	LOCAL

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Horsetails	<i>Equisetum</i> spp.	CONTAINMENT	Strategic response in the Greater Sydney Region - Promote best practice principles to landholders, including a range of control techniques for integrated weed management - Implement quarantine and/or hygiene protocols. - Monitor change in distribution Within exclusion zone: - Destroy all infestations and continuously suppress thereafter Within core infestation area: - Destroy and continuously suppress infestations where feasible - Targeted management of priority assets	REGIONAL
Hydrocotyl/Water Pennywort	<i>Hydrocotyle ranunculoides</i>	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol.	STATE
Hygrophila	<i>Hygrophila costata</i>	ERADICATION	Strategic response in the Greater Sydney region - Manage in accordance with New Weed Incursion Plan. - Mapping and surveillance to locate all infestations. - Implement quarantine and/or hygiene protocols. - Destruction of all infestations where feasible	REGIONAL

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Hymenachne	<i>Hymenachne amplexicaulis</i> *	ASSET PROTECTION, PREVENTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): Must not be imported into the State or sold Strategic response in the Greater Sydney region - Implement quarantine and/or hygiene protocols - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options - Implement New Weed Incursion Plan if detected	STATE, REGIONAL
Karoo Acacia	<i>Vachellia karroo</i> (syn. <i>Acacia karroo</i>)	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol.	STATE
Kei Apple	<i>Dovyalis caffra</i>	ERADICATION	Strategic response in the Greater Sydney region - Manage in accordance with New Weed Incursion Plan. - Mapping and surveillance to locate all infestations. - Implement quarantine and/or hygiene protocols. - Destruction of all infestations where feasible	REGIONAL
Kidney Leaf Mud Plantain	<i>Heteranthera reniformis</i>	ERADICATION	Strategic response in the Greater Sydney region - Manage in accordance with New Weed Incursion Plan. - Mapping and surveillance to locate all infestations. - Implement quarantine and/or hygiene protocols. - Destruction of all infestations where feasible.	REGIONAL

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Kochia	<i>Bassia scoparia</i> (excluding subsp. <i>trichophylla</i>)	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: • Implement quarantine and/or hygiene protocols. • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. • Trigger rapid response protocol.	STATE
Koster's Curse	<i>Clidemia hirta</i>	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: • Implement quarantine and/or hygiene protocols. • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. • Trigger rapid response protocol.	STATE
Kudzu	<i>Pueraria lobata</i>	ERADICATION	Strategic response in the Greater Sydney region • Manage in accordance with New Weed Incursion Plan. • Mapping and surveillance to locate all infestations. • Implement quarantine and/or hygiene protocols. • Destruction of all infestations where feasible	REGIONAL

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Lagarosiphon	<i>Lagarosiphon major</i>	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: • Implement quarantine and/or hygiene protocols. • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. • Trigger rapid response protocol.	STATE
Lantana	<i>Lantana camara</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold.	STATE
Leaf Cactus	<i>Pereskia aculeata</i>	ERADICATION	Strategic response in the Greater Sydney region • Manage in accordance with New Weed Incursion Plan. • Mapping and surveillance to locate all infestations. • Implement quarantine and/or hygiene protocols. • Destruction of all infestations where feasible	REGIONAL
Leafy Elodea	<i>Egeria densa</i>	CONTAINMENT	These weeds are widely distributed in the region. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed by these weeds is reasonably practicable.	LOCAL
Lippia	<i>Phyla canescens</i>	ERADICATION	The following weeds are present in limited distribution and abundance. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.	LOCAL
Long Leaf Willow Primrose	<i>Ludwigia longifolia</i>	CONTAINMENT	These weeds are widely distributed in the region. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed by these weeds is reasonably practicable.	LOCAL
Madeira Vine	<i>Anredera cordifolia</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold.	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Mesquite	<i>Prosopis</i> spp.	ASSET PROTECTION*	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold.	STATE
Mexican Feather Grass	<i>Nassella tenuissima</i> (syn. <i>Stipatenuissima</i>)	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol.	STATE
Miconia	<i>Miconia</i> spp. (all species)	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol.	STATE
Mikania Vine	<i>Mikania micrantha</i>	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
			prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: • Implement quarantine and/or hygiene protocols. • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. • Trigger rapid response protocol.	
Mimosa	<i>Mimosa pigra</i> *	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: • Implement quarantine and/or hygiene protocols. • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. • Trigger rapid response protocol.	STATE
Ming Fern	<i>Asparagus macowanii</i> var. <i>zuluensis</i>	ERADICATION	Strategic response in the Greater Sydney region • Manage in accordance with New Weed Incursion Plan. • Mapping and surveillance to locate all infestations. • Implement quarantine and/or hygiene protocols. • Destruction of all infestations where feasible	REGIONAL
Mother Of Millions	<i>Bryophyllum species</i>	ASSET PROTECTION	These weeds are widely distributed in some areas of the State. As Weeds of National Significance, their spread must be minimised to protect priority assets.	LOCAL

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Mysore Thorn	<i>Caesalpinia decapetala</i>	ERADICATION, PREVENTION	Strategic response in the Greater Sydney region - Manage in accordance with New Weed Incursion Plan. - Mapping and surveillance to locate all infestations. - Implement quarantine and/or hygiene protocols. - Destruction of all infestations where feasible Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. Implement New Weed Incursion Plan if detected.	REGIONAL
Nodding Thistle	<i>Carduus nutans</i>	PREVENTION	Strategic response in the Greater Sydney region - Manage in accordance with New Weed Incursion Plan. - Mapping and surveillance to locate all infestations. - Implement quarantine and/or hygiene protocols. - Destruction of all infestations where feasible	REGIONAL
Opuntia	<i>Opuntia</i> spp.	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold	STATE
Ox Eye Daisy	<i>Leucanthemum vulgare</i>	ERADICATION	The following weeds are present in limited distribution and abundance. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.	LOCAL
Pampas Grass	<i>Cortaderia jubata</i>	ASSET PROTECTION	Strategic response in the Greater Sydney Region Implement quarantine and/or hygiene protocols. Targeted management of priority assets Promote best practice weed management principles to landholders. Land managers reduce the impact on priority assets	REGIONAL
Paper Mulberry	<i>Broussonetia papyrifera</i>	PREVENTION	The following weeds are currently not found in the Greater Sydney region, pose significant biosecurity risk and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.	LOCAL
Parkinsonia	<i>Parkinsonia aculeata</i> *	ERADICATION	Control Measures – Owners of occupied lands - The owner or occupier of land in the control zone on which there is a new infestation of Parkinsonia must notify the local control authority for that land as soon as practicable of the following information: - the person's full name and contact details, including a telephone number - the address of the land, including the lot and deposited plan number and the property identification code for the land (if these are known) - any other information that is requested by the local control authority.	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
			- The owner or occupier of the land must ensure that the land is kept free of Parkinsonia Apple by immediately destroying all Parkinsonia on the land. This requirement applies to any new infestation as well as any subsequent generations of Parkinsonia on that land. - The owner or occupier does not need to comply with subclause (1) if they know that notification of the new infestation on the land has already been given to the local control authority of that land.	
Parthenium Weed	<i>Parthenium hysterophorus</i>	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol. Mandatory Measure (Division 8, Clause 35, Biosecurity Regulation) <u>35 Parthenium weed carriers – machinery and equipment</u> - This clause applies to the following equipment– - 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 equipment used for moving grain - vehicles used for transporting grain harvesters - vehicles used as support vehicles with grain harvesters and that have been driven in paddocks during harvest operations - mineral exploration drilling rigs and vehicles used for transporting those rigs - A person must not import into the State from Queensland any equipment to which this clause applies.	STATE
Pond Apple	<i>Annona glabra</i> *	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act)	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
			A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: • Implement quarantine and/or hygiene protocols. • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. • Trigger rapid response protocol.	
Prickly Acacia	<i>Vachellia nilotica</i> (syn. <i>Acacia nilotica</i>)*	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: • Implement quarantine and/or hygiene protocols. • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. • Trigger rapid response protocol.	STATE
Rattlepod	<i>Crotalaria lunata</i>	ASSET PROTECTION	These weeds are widely distributed in some areas of the State. As a WoNS, their spread must be minimised to protect priority assets.	LOCAL
Rubber Vine	<i>Cryptostegia grandiflora</i> *	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised.	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
			A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: • Implement quarantine and/or hygiene protocols. • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. • Trigger rapid response protocol.	
Sagittaria	<i>Sagittaria platyphylla</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold	STATE
Salvinia	<i>Salvinia molesta</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold Strategic response in the Greater Sydney Region • Implement quarantine and/or hygiene protocols • Targeted management of priority assets • Promote best practice weed management principles to landholders • Land managers reduce the impact on priority assets	STATE, REGIONAL
Scotch/English Broom	<i>Cytisus scoparius</i> subsp. <i>scoparius</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold Strategic response in the Greater Sydney Region • Implement quarantine and/or hygiene protocols • Targeted management of priority assets • Promote best practice weed management principles to landholders • Land managers reduce the impact on priority assets	STATE, REGIONAL
Sea Spurge	<i>Euphorbia paralias</i>	ERADICATION	Strategic response in the Greater Sydney region • Manage in accordance with New Weed Incursion Plan. • Mapping and surveillance to locate all infestations. • Implement quarantine and/or hygiene protocols. • Destruction of all infestations where feasible	REGIONAL

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Senegal Tea	<i>Gymnocoronis spilanthoides</i>	CONTAINMENT	Strategic response in the Greater Sydney Region - Promote best practice principles to landholders, including a range of control techniques for integrated weed management - Implement quarantine and/or hygiene protocols - Monitor change in distribution Within exclusion zone: - Destroy all infestations and continuously suppress thereafter Within core infestation area: - Destroy and continuously suppress infestations where feasible - Targeted management of priority assets	REGIONAL
Serrated Tussock	<i>Nassella trichotoma</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold Strategic response in the Greater Sydney Region - Promote best practice principles to landholders, including a range of control techniques for integrated weed management - Implement quarantine and/or hygiene protocols. - Monitor change in distribution Within exclusion zone: - Destroy all infestations and continuously suppress thereafter Within core infestation area: - Destroy and continuously suppress infestations where feasible - Targeted management of priority assets	STATE, REGIONAL
Siam Weed	<i>Chromolaena odorata</i>	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response:	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
			- Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol.	
Sicilian Sea Lavender	<i>Limonium hyblaum</i>	ERADICATION	Strategic response in the Greater Sydney region - Manage in accordance with New Weed Incursion Plan. - Mapping and surveillance to locate all infestations. - Implement quarantine and/or hygiene protocols. - Destruction of all infestations where feasible	REGIONAL
Sicklethorn	<i>Asparagus falcatus</i>	ERADICATION	Strategic response in the Greater Sydney Region - Promote best practice principles to landholders, including a range of control techniques for integrated weed management - Implement quarantine and/or hygiene protocols. - Monitor change in distribution Within exclusion zone: - Destroy all infestations and continuously suppress thereafter Within core infestation area: - Destroy and continuously suppress infestations where feasible - Targeted management of priority assets	REGIONAL
Silverleaf Nightshade	<i>Solanum elaeagnifolium</i> *	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold	STATE
Singapore Daisy	<i>Sphagneticola trilobata</i>	ASSET PROTECTION	Strategic response in the Greater Sydney Region - Implement quarantine and/or hygiene protocols. - Targeted management of priority assets. - Promote best practice weed management principles to landholders. - Land managers reduce the impact on priority assets.	REGIONAL
Skunk Vine	<i>Paideia foetida</i>	ERADICATION	Strategic response in the Greater Sydney region - Manage in accordance with New Weed Incursion Plan. - Mapping and surveillance to locate all infestations.	REGIONAL

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
			- Implement quarantine and/or hygiene protocols. - Destruction of all infestations where feasible	
Spanish Broom	<i>Spartium junceum</i>	PREVENTION	Strategic response in the Greater Sydney region - Implement quarantine and/or hygiene protocols - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options - Implement New Weed Incursion Plan if detected	REGIONAL
Spotted Knapweed	<i>Centaurea stoebe</i> subsp. <i>australis</i>	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol.	STATE
Tropical Soda Apple	<i>Solanum vivarium</i>	ERADICATION	Control Measures – Owners of occupied lands - The owner or occupier of land in the control zone on which there is a new infestation of Tropical Soda Apple must notify the local control authority for that land as soon as practicable of the following information: - the person's full name and contact details, including a telephone number - the address of the land, including the lot and deposited plan number and the property identification code for the land (if these are known) - any other information that is requested by the local control authority. - The owner or occupier of the land must ensure that the land is kept free of Tropical Soda Apple by immediately destroying all tropical soda apple on the land. This requirement applies to any new infestation as well as any subsequent generations of tropical soda apple on that land.	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
			The owner or occupier does not need to comply with subclause (1) if they know that notification of the new infestation on the land has already been given to the local control authority of that land	
Velvety Tree Pear	<i>Opuntia tomentosa*</i>	ERADICATION	The following weeds are present in limited distribution and abundance. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.	LOCAL
Water Caltrop	<i>Trapa</i> spp. (all species)	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol.	STATE
Water Hyacinth	<i>Eichhornia crassipes</i>	CONTAINMENT	Water Hyacinth Biosecurity Zone (Biosecurity Regulation – Part 5, Division 4) An owner or occupier of land in the Water Hyacinth Biosecurity Zone on which there is the weed <i>Eichhornia crassipes</i> (Water Hyacinth) must: - if the weed is part of a new infestation of the weed on the land, notify the local control authority for the land as soon as practicable in accordance with Part 6 - eradicate the weed, or if that is not practicable destroy as much of the weed as is practicable and suppress the spread of any remaining weed. Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation): A person must not import into the State or sell. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Targeted management of priority assets. - Promote best practice weed management principles to landholders. - Land managers reduce the impact on priority assets.	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Water Lettuce	<i>Pistia stratiotes</i>	PREVENTION	Strategic response in the Greater Sydney region - Implement quarantine and/or hygiene protocols - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options - Implement New Weed Incursion Plan if detected	REGIONAL
Water Poppy	<i>Hydrocleys nymphoides</i>	CONTAINMENT	Strategic response in the Greater Sydney Region - Promote best practice principles to landholders, including a range of control techniques for integrated weed management - Implement quarantine and/or hygiene protocols. - Monitor change in distribution Within exclusion zone: - Destroy all infestations and continuously suppress thereafter Within core infestation area: - Destroy and continuously suppress infestations where feasible - Targeted management of priority assets	REGIONAL
Water Primrose	<i>Ludwigia peruviana</i>	ASSET PROTECTION	Strategic response in the Greater Sydney Region Implement quarantine and/or hygiene protocols. Targeted management of priority assets Promote best practice weed management principles to landholders. Land managers reduce the impact on priority assets	REGIONAL
Water Soldier	<i>Stratiotes aloides</i>	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options.	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
			Trigger rapid response protocol.	
Water Star Grass	<i>Heteranthera zosterifolia</i>	PREVENTION	Strategic response in the Greater Sydney region - Implement quarantine and/or hygiene protocols - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options - Implement New Weed Incursion Plan if detected	REGIONAL
White Blackberry / Mysore Raspberry	<i>Rubus niveus</i>	PREVENTION	Strategic response in the Greater Sydney region - Implement quarantine and/or hygiene protocols - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options - Implement New Weed Incursion Plan if detected	REGIONAL
Willows	<i>Salix</i> spp. (excludes <i>S. babylonica</i> *)	ASSET PROTECTION	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation) Must not be imported into the State or sold	STATE
Willow-Leaf Primrose	<i>Ludwigia peruviana</i>	ASSET PROTECTION	Strategic response in the Greater Sydney Region Implement quarantine and/or hygiene protocols. Targeted management of priority assets Promote best practice weed management principles to landholders. Land managers reduce the impact on priority assets	REGIONAL
Witchweed	<i>Striga</i> spp. (except the native <i>S. parviflora</i>)	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: - Implement quarantine and/or hygiene protocols. - Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. - Trigger rapid response protocol.	STATE

Common Name	Botanical Name	Objective	Legal Requirements	Listing Status
Yellow Bells	<i>Tecoma stans</i>	ERADICATION	The following weeds are present in limited distribution and abundance. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.	LOCAL
Yellow Burrhead	<i>Limnocharis flava</i>	PREVENTION	Prohibited Matter (Part 4, Biosecurity Act) A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised. A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event. Regional strategic response: • Implement quarantine and/or hygiene protocols. • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options. • Trigger rapid response protocol.	STATE

B9 Weed control techniques

CUT AND PAINT

Cut and paint methods are suitable for the control of woody weeds, large herbaceous weeds and vines/climbers (Figure 7). This is commonly used when the biomass is to be removed from the site following the primary weed control. It is most suitable for plants with a small diameter at the base and a single stem or trunk. The cut and paint method is suitable for the control of species such as Lantana. Where plants have a larger diameter at the base or multiple stems, the drill and fill method may be more efficient, e.g., large Privets.

The plant should be cut as close to the base as possible, below any branches and the cut should be horizontal. The remaining stump should not exceed 10mm in height. The tools required to make the cut may be a handsaw, secateurs or chainsaw. Any dirt on the stump needs to be removed and the herbicide needs to be directly applied to the stump using a dabber bottle. Some plant species re-sprout after this treatment and follow up work may be required to kill the plant effectively. A non-selective herbicide should be used for the cut and paint method. A non-selective herbicide formulated for use around waters (e.g., RoundUp® Biactive™) is required when working near waterways or sensitive areas.

Cut-Paint method

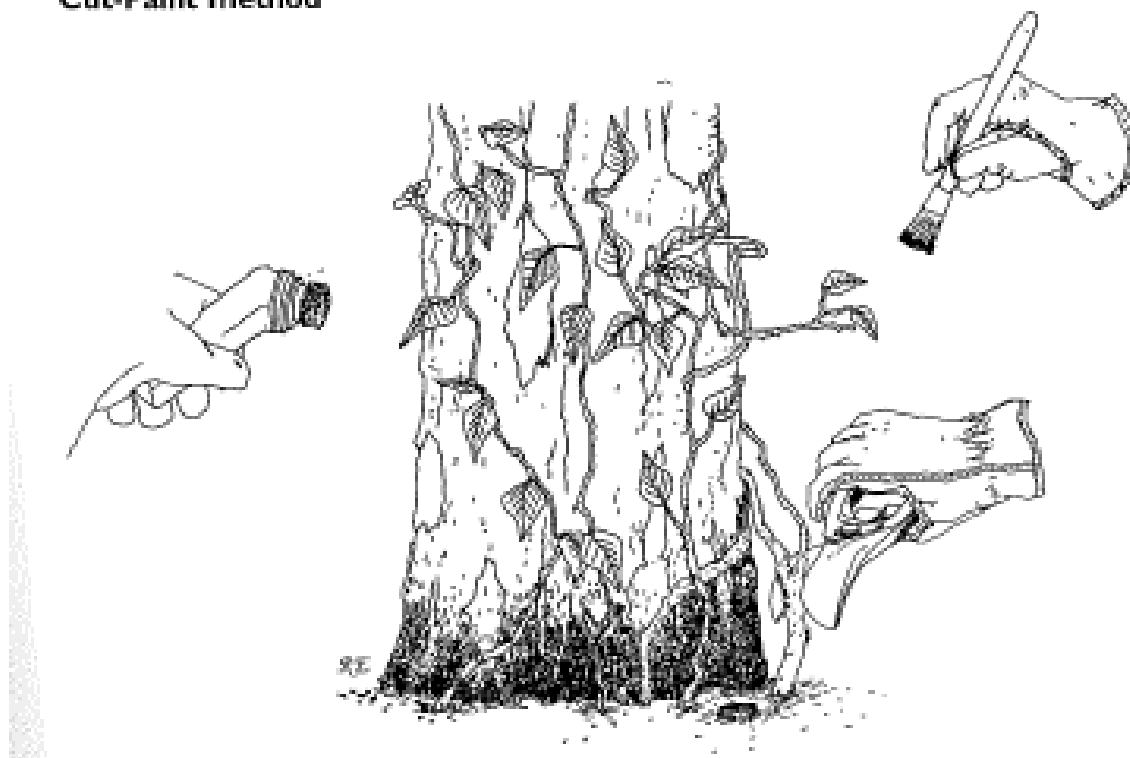


Figure 7: The cut and paint method (Muyt 2001)

STEM SCRAPE

The stem scrape method is used to control vines or woody shrubs and herbaceous weed species such as *Solanum mauritianum* (Wild Tobacco Bush) and *Sida* sp. However, this method is not suitable for most

herbaceous climbing species such as Bridal Creeper (*Asparagus asparagoides*) or Balloon Vine (*Cardiospermum grandiflorum*).

The stem scrape method involves using a sharp knife to scrape back the top layer of bark from the shrub or vine 20-30cm long. An appropriately mixed herbicide needs to be applied immediately (within 30 seconds) using a dabber bottle (Figure 8). The root system of the plant should not be disturbed until the plant has died as this may reduce the effectiveness of the herbicide. Skirting method may be used in conjunction with stem scrape. This method is especially important to remove large infestations of vines within the canopy layer. Skirting involves cutting the vines within the canopy at chest height. This will allow an increase in the amount of light and resources to the canopy trees through the reduction of plants biomass.

SPOT SPRAYING GRASSES AND OTHER WEEDS

The most important issue to consider when controlling grasses is to understand their active growing period. Some species are only actively growing in late winter - spring, while other species are actively growing in spring – summer.

The spraying of grasses needs to be undertaken while they are actively growing, but before their flowering season to prevent seed set. Grasses may be slashed using a brush cutter before they are sprayed to remove any dead foliage and to promote the growth of new foliage. The grasses should be sprayed, using a knap-sack sprayer, once new growth has sprouted ensuring herbicide mix is sprayed carefully to prevent off target damage from occurring.

If adjacent aquatic environments, a non-selective herbicide suitable for use near waterways (e.g., RoundUp® Biactive™) should be used. However, in circumstances away from aquatic environments the use of grass selective herbicides may be suitable to be used (i.e., Fusillade®). The use of a grass selective herbicide will prevent off target damage to broad leaf species. Spray drift should be kept at a minimal and correct handling and application must be followed to ensure non-target impacts on native species. Spot spraying should not be applied in sensitive areas.

Spot spraying is also suitable for small patches of emerging saplings (e.g., Privets or Balloon Vine). Intensive spraying is usually done during primary weed control and is usually reduced during consecutive weed control.

HAND REMOVAL / MANUAL REMOVAL

The hand removal or pulling of weeds is suitable for many species of weeds as long as they have a shallow root system (Figure 9). This includes woody weeds, grasses and herbaceous species. It is useful for follow up work on woody weeds to control seedlings. The hand pulling of weeds involves pulling the plant as close to the base as possible and ensuring the entire tap root is pulled out of the soil. This usually results in soil disturbance and the soil should be replaced and compressed to prevent further weed invasion.

Some weeds require additional effort to ensure the entire regenerative parts are removed; this may require the use of a hand mattock, knife or trowel. Crowning involves using a knife to cut the roots around the crown of the plant. This method is suitable for *Cirsium vulgare* (Spear Thistle) (Figure 10).

MANAGEMENT OF WEED WASTE

All fruiting parts and tubers should be carried off site and composted at a registered green waste disposal facility. Unless otherwise specified, non-fruiting organic waste may remain in-situ. When leaving debris *in situ* it should be 'rafted'; dead wood should be laid on the ground first then stacked with the cut, living material on top. This keeps the live tips off the ground, preventing them from re-sprouting. Black plastic sheets can be used to accelerate the composting process.



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Regenerators

Illustrations: V. Bear

Control of Vines and Scramblers

Examples of vines include: ● balloon vine, morning glory, honeysuckle, cape ivy, jasmine, madeira vine, blackberry

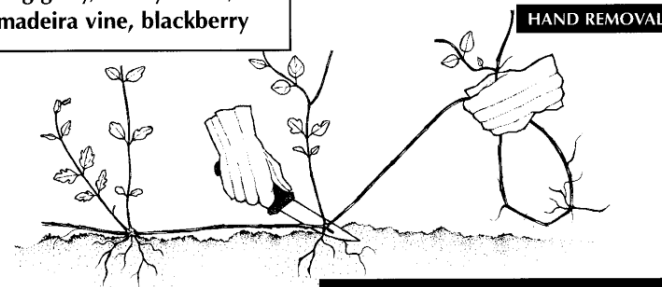
METHODS OF REMOVAL

1 HAND REMOVAL

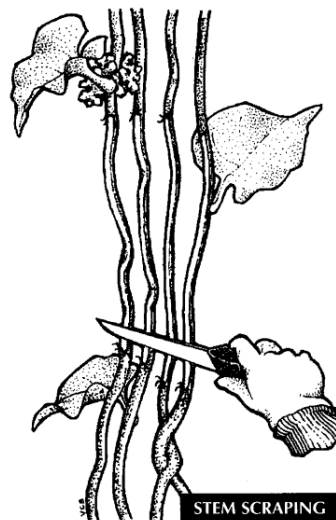
- STEP 1** Take hold of one runner and gently pull it along the ground towards you.
- STEP 2** Check points of resistance where fibrous roots grow from the nodes. Cut roots with a knife or dig out with a trowel and continue to follow the runner.
- STEP 3** The major root systems need to be removed manually or scrape/cut and painted with herbicide.
- STEP 4** Bag any reproductive parts.

2 STEM SCRAPING

- STEP 1** With a knife, scrape 15 to 30 cm of the stem to reach the layer below the bark/outer layer.
- STEP 2** Immediately apply herbicide along the length of the scrape.



HAND REMOVAL



STEM SCRAPING

considerations

- A maximum of half the stem diameter should be scraped. Do not ring bark.
- Larger stems (>1 cm) should have two scrapes opposite each other.
- Aerial tubers on madeira vine should die with the plant when stem scraping is used. Those that fall from the plant in the scraping process need to be bagged.
- Vines can be left hanging in trees after treatment.

Figure 8: Control of vines and scramblers (AABR 2010)



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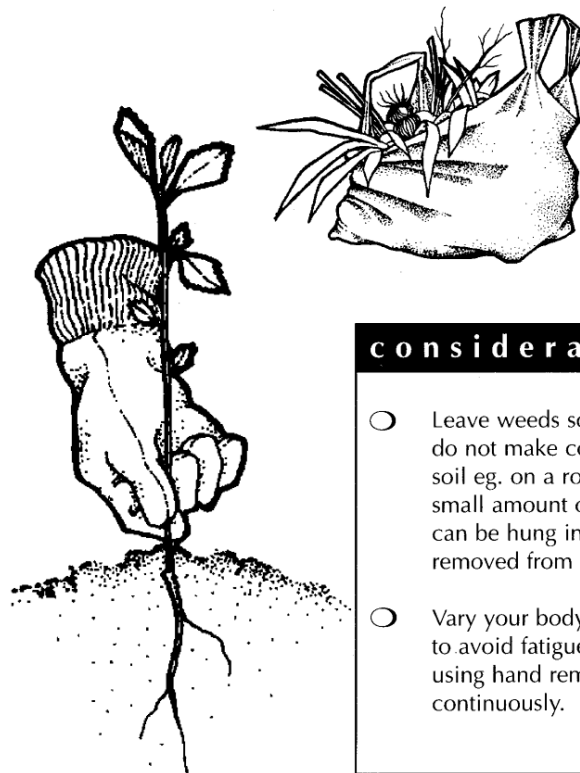
Control of Small Hand-pullable Plants

To Control: ● Small soft weeds eg. fleabane, crofton weed, small grasses
● Seedlings of any weeds including privet, lantana, moth vine

METHODS OF REMOVAL

① HAND REMOVAL (*Minimal Disturbance*)

- STEP 1** Gently remove any seeds or fruits and carefully place into a bag.
- STEP 2** Grasp stem at ground level.
- STEP 3** Rock plant backwards and forwards to loosen roots, and pull out gently.
- STEP 4** Carefully tap the roots to dislodge any soil. Replace disturbed soil and pat down.



considerations

- Leave weeds so that roots do not make contact with soil eg. on a rock - a small amount of debris can be hung in a tree or removed from the site.
- Vary your body position to avoid fatigue when using hand removal continuously.

Figure 9: Hand pulling method (AABR 2010)



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Illustrations: V.Bear

BUSH REGENERATION INFORMATION SHEET

Control of Weeds with Underground Reproductive Structures

- Examples: Weeds with
- Tap roots - catsear, dandelion
 - Rhizomes - asparagus fern, ginger plant
 - Bulbs and corms - oxalis, onion weed, watsonia, freesias, montbretia
 - Tubers - madiara vine, arrow head vine

METHODS OF REMOVAL

① HAND REMOVAL OF PLANTS WITH A TAPROOT

Examples: Paddy's lucerne, dandelion

- STEP 1** Gently remove and bag seeds or fruit.
- STEP 2** Push a narrow trowel or knife into the ground next to the taproot. Carefully loosen soil. Repeat this step around the taproot.
- STEP 3** Grasp stem at ground level, rock plant back wards and forwards and pull gently.
- STEP 4** Gently tap the roots to dislodge soil. Replace disturbed soil and lightly pat down.

② CROWNING (Many grasses can be crowned)

Example: asparagus fern

- STEP 1** Gently remove and bag stems with seed or fruit.
- STEP 2** Grasp the leaves or stems together so that the base of the plant is visible.
- STEP 3** Insert, at an angle, a knife or lever, close to the "crown".
- STEP 4** Cut through all the roots around the crown.
- STEP 5** Remove and bag the crown.

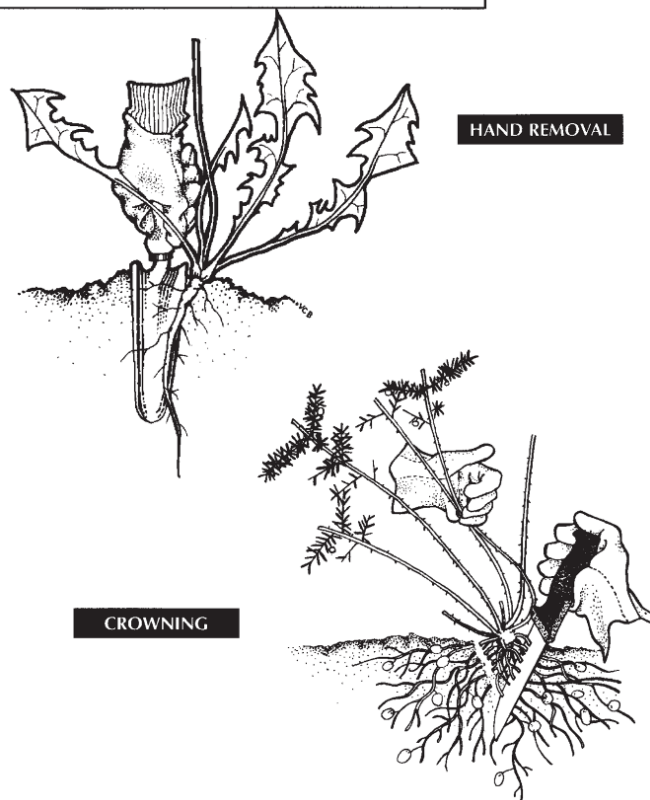
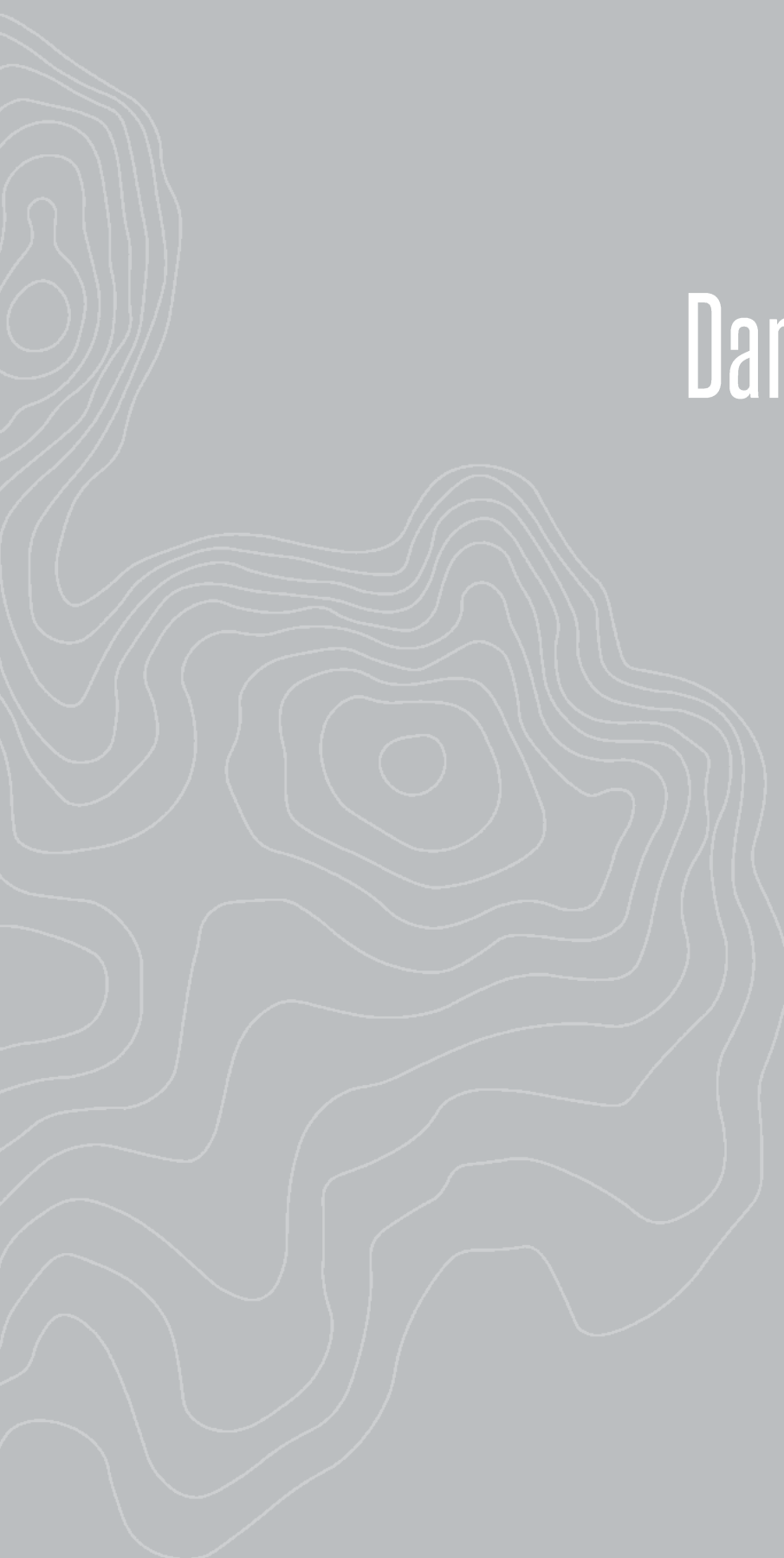


Figure 10: Crowning method (AABR 2010)

A decorative graphic on the left side of the page consisting of white contour lines on a gray background, resembling a topographic map. The lines are concentric and irregular, with some forming circular shapes and others elongated, suggesting a hilly or mountainous terrain.

APPENDIX C

Dam Dewatering Plan

C1 Aquatic Fauna Handling Procedures

NOTICE

The Aquatic Ecologist is to notify DPI Fisheries of the activity 48 hours prior to fish relocation (unless an agreement is in place), including locations of dewatered and relocation sites (see regional office contacts <https://www.dpi.nsw.gov.au/contact-us/local-office>). Fisheries require permits to be carried by the licensed ecologist, who should also display a sign clearly showing licence number (if working in public areas, especially when releasing fauna to local creek).

PLANNING

The dewatering schedule should allow time for fish rescue, especially during the final 0.3 m water depth or as advised by Aquatic Ecologist. Fauna should be captured in one day, so pumps need to be of an adequate size and placed in an area free from mud and debris (e.g. inside excavator bucket or screened sump pit). If wetland birds are observed nesting, or young birds (chicks) are using the dam, advise the Aquatic Ecologist immediately for advice. Depending on species and age, birds may be able to relocate themselves. Chicks will need temporary refuge during dewatering, or works may need to be postponed.

CAPTURE

Fish are to be collected by hand nets during the dewatering process. This is most effective when the water is < 0.3 m deep. Dissolved oxygen concentration will drop rapidly as water volume decreases, especially in warm water or if lots of fish are present. Larger bodied fish should be targeted first. Wetland birds will scavenge for small fish in the shallows (e.g., *Gambusia*). Most small fauna will likely remain uncaptured in the dam until the water becomes very shallow (especially eels and turtles). Eels are best captured by large hand nets in water < 0.3 m deep, although they burrow into mud. When the water is extremely low, turtles and fish may head towards the intake pump (placed in deepest part). This area should be monitored to intercept fauna (e.g., stand in water next to intake). Turtles will burrow into mud and may require observation and rescue the following morning but can also move themselves to suitable nearby habitat if an escape ramp is graded. Frogs can be collected by hand using a freezer/snap-lock bag if observed or heard around the fringe. Hygiene protocols are to be followed and each frog stored in a separate bag. For safety, at least two people are required when wading and handling heavy tubs of water/fish up banks (excavator can dig access steps/ramp).

RELOCATE

Native fish healthy enough for relocation are to be contained and transported in an aerated tub/tank to an appropriate waterbody. DPI Fisheries advise that the host location should be large enough to accommodate additional fish, especially predatory eels. Additional release sites may be needed. Do not overstock tubs or leave in direct sun for extended periods. Aeration can be provided by battery aquarium pumps or manual turbulence if only stored for a short period. Turtles can be transported in a shaded tub with a wet hessian bag placed inside for moisture and support during transport. Frogs can be transported in an inflated freezer/snap-lock bag containing leaves moistened with bottled water or dam water. Tadpoles can be transported in small buckets with dam water.

RELEASE

Water from the receiving waterbody should be mixed slowly over 5 - 10 minutes with the tank water to allow fish to acclimatise to the new water quality. Eels are less susceptible to changes in water quality.

Care should be taken when releasing fauna not to also transfer weeds or invasive species (e.g. Carp eggs and Gambusia). Transfer animals via hand nets, rather than tipping the tub with water in the host waterbody. Eels can be released on land a few metres from the edge and pointed towards the water. Frogs are to be released in dense shade alongside water in the nearest protected riparian corridor.

PESTS

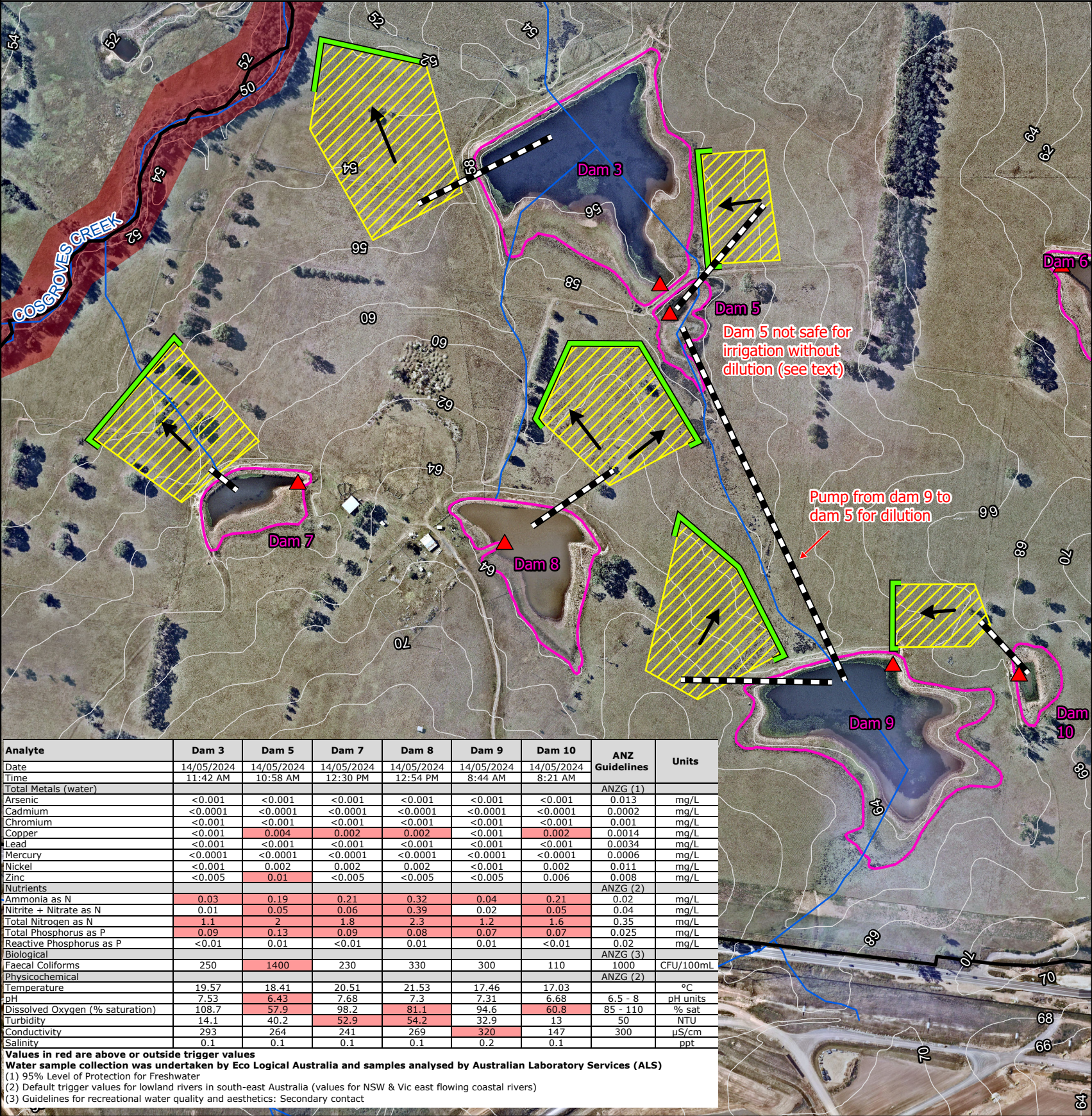
Exotic fish (e.g., Carp, Gambusia) are to be intercepted, euthanised and disposed of in accordance with the NSW Secretary's Animal Care & Ethics Committee. Exotic *Trachemys scripta* (Red-eared Slider Turtle) are to be contained humanly and Department of Primary Industries (DPI) immediately notified (Biosecurity Line - 1800 680 244). They will collect the live turtle from the ecologist.

POST-DEWATERING

An escape ramp should be graded to allow trapped fauna to escape overnight. The Project Aquatic Ecologist will advise on ramp design (slope and location) on the day. Sediment should be left up to two nights to allow hidden fauna to emerge, unless the ecologist confirms there are no fauna remaining (site specific assessment). Earthworks staff should notify the Project Aquatic Ecologist if stranded fish or turtles are observed post-dewatering.

REPORTING

The Project Aquatic Ecologist should prepare a summary report suitable for submission to Council within 7 days of completing the aquatic fauna relocation works. The report would detail that the works have been completed according to this aquatic fauna handling procedure, and would include information relating to the location of the dam, the licences held by the staff involved in the works, the number and type of native species relocated, location of release point/s for native fauna and the number and type of exotic species dispatched. Photographic evidence of various steps in the procedure should be included.



Site	Location	Estimated maximum depth when full	Surface area when full	Volume (when full) (0.4 x Depth x Surface Area / 1000)	Catchment size	Slope of irrigation area	Water quality analytes that did not meet guidelines (see table to left for full results)
Dam 3	-33.863110, 150.730977	2.5 m	38,866 m ²	38.87 ML	79 ha	1:77	Ammonia, Total Nitrogen, Total Phosphorus
Dam 5	-33.864686, 150.732078	1.5 m	3881 m ²	2.33 ML	51 ha	1:22	Copper, Zinc, Ammonia, Nitrite + Nitrate, Total Nitrogen, Total Phosphorus, Faecal Coliforms, pH, Dissolved Oxygen
Dam 7	-33.866353, 150.726972	1.5 m	7132 m ²	4.28 ML	8 ha	1:33	Copper, Ammonia, Nitrite + Nitrate, Total Nitrogen, Total Phosphorus, Turbidity
Dam 8	-33.866982, 150.730328	3.0 m	15,359 m ²	18.43 ML	12 ha	1:37	Copper, Ammonia, Nitrite + Nitrate, Total Nitrogen, Total Phosphorus, Dissolved Oxygen, Turbidity
Dam 9	-33.868735, 150.734334	3.0 m	34,251 m ²	41.10 ML	32 ha	1:24	Ammonia, Total Nitrogen, Total Phosphorus, Conductivity
Dam 10	-33.868368, 150.736057	1.0 m	3250 m ²	1.30 ML	4 ha	1:25	Copper, Ammonia, Nitrite + Nitrate, Total Nitrogen, Total Phosphorus, Dissolved Oxygen

Water quality

Water testing and a brief field survey occurred on 14 May 2024, using a calibrated water quality meter and samples analysed at ALS Laboratories Smithfield. Water quality analytes that did not meet the adopted ANZ guidelines are summarised above, including minor exceedance of some heavy metals and moderate exceedance of nutrients. Faecal Coliform count exceeded the guidelines in dam 5. Therefore, the water in dam 5 is not suitable for secondary human contact during dewatering. Therefore, some water from dam 9 should be released into dam 5 to dilute the Faecal Coliform concentration and ensure workers are not at risk of infection. Sediment from the base of dam after dewatering is to be reviewed by the geotechnical consultant prior to onsite re-use. The contractor's unexpected finds protocol is to be used to ensure suitability for re-use or classification for waste disposal.

Dewatering method

The works could be completed at any time of the year, provided that daytime temperature does not exceed 36°C during the final stages (to prevent stress to fauna and ecologists). Water should be pumped and slowly irrigated across the adjacent grassland prior to the removal of any vegetation. The intake pipe should be caged or shielded to minimise injury to aquatic fauna. Pumped water should be released at the highest ground and allowed to infiltrate the soil with minimal overland flow, using *AS/NZS 1547:2012 Onsite domestic wastewater management* as a guide to calculate flow rate. The contractor would be required to make this calculation, considering soil permeability (including saturation from recent rain), pump size, hose length, slope and area. The flow rate and position of hoses would need monitoring and adjusting if soils become saturated in the irrigation area. As a guide, but not necessarily suited here, other dewatering in the Sydney-Illawarra start at a maximum of 36 mm/hr and adjust as suited to prevent runoff into the local watercourses. A large irrigation area would reduce soil saturation and minimise concentrated application of contaminants into the soil. Silt fences are recommended to filter sediments from inadvertent overland flow during pumping. Hay bales are suited to deflect and slow water across a broader irrigation area, rather than filter sediments. The bottom sludge material and any remaining turbid water should be excavated and dried onsite. All turbid water and sediment must be prevented from entering other waterbodies. Breaching the wall is not recommended as water collects clays and fines from the wall structure, resulting in turbid flows offsite.

Timeline of fauna relocation to be coordinated with Dam Decommissioning Work Method Procedure (or similar) and Project Aquatic Ecologist

Day 1	Day 2 - 5 (or longer)	Day 6	Day 7 - 8	Ongoing
Install erosion controls, such as silt fence (see map on left), hay bales and/or geotextile fabric, and prepare flat pump pad near the deepest end. The pump intake head is best positioned on a floating device above the deepest part of dam, held in position with ropes spanning the dam. It is difficult to move the pipe when the water is low, so it's easiest to install when dam is full. Test discharge to ensure no erosion/sedimentation occurs. Avoid disturbing vegetation (grass) where water will travel. Notify Project Aquatic Ecologist to explain type of equipment in place and likely dewatering timeframe.	Pump water and irrigate overland at a rate allowing infiltration to the soil. Check sediment controls if irrigation saturates soil causing surface runoff. Adjust pumping rate to slow runoff. Update Project Aquatic Ecologist and send photos of water level to coordinate timing of fauna relocation.	During final 0.3 m of dewatering allow Project Aquatic Ecologist to rescue fauna in one day. Contractor must be able to pump all remaining water that day. Ecologist will instruct excavator operator to dig a solid surface around pump pit and carve steps for safe access up the bank. A suitable pump, excavator and communication with site staff is essential. Water will become turbid as it lowers and when ecologists trample sediment. This water should be discharged overland and away from drainage lines. To allow rapid fauna rescue, the pump inlet needs to be large enough to suck sediment (e.g. 4 - 6 inch). Earthworks machinery can push sediment across the dam to assist final fish capture (adjusted to suit conditions and ecologist's instructions). Grade escape ramp for fauna hidden in bottom sediment overnight. Project Aquatic Ecologist to advise on ramp design (slope and location).	Leave escape ramp for fauna trapped overnight (minimum two nights).	Remove sediment and wall and commence construction.

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Metres

Datum/Projection:
GDA2020 MGA Zone 56
Project: 24SYD8475-LT
Date: 23/05/2024

nearmap

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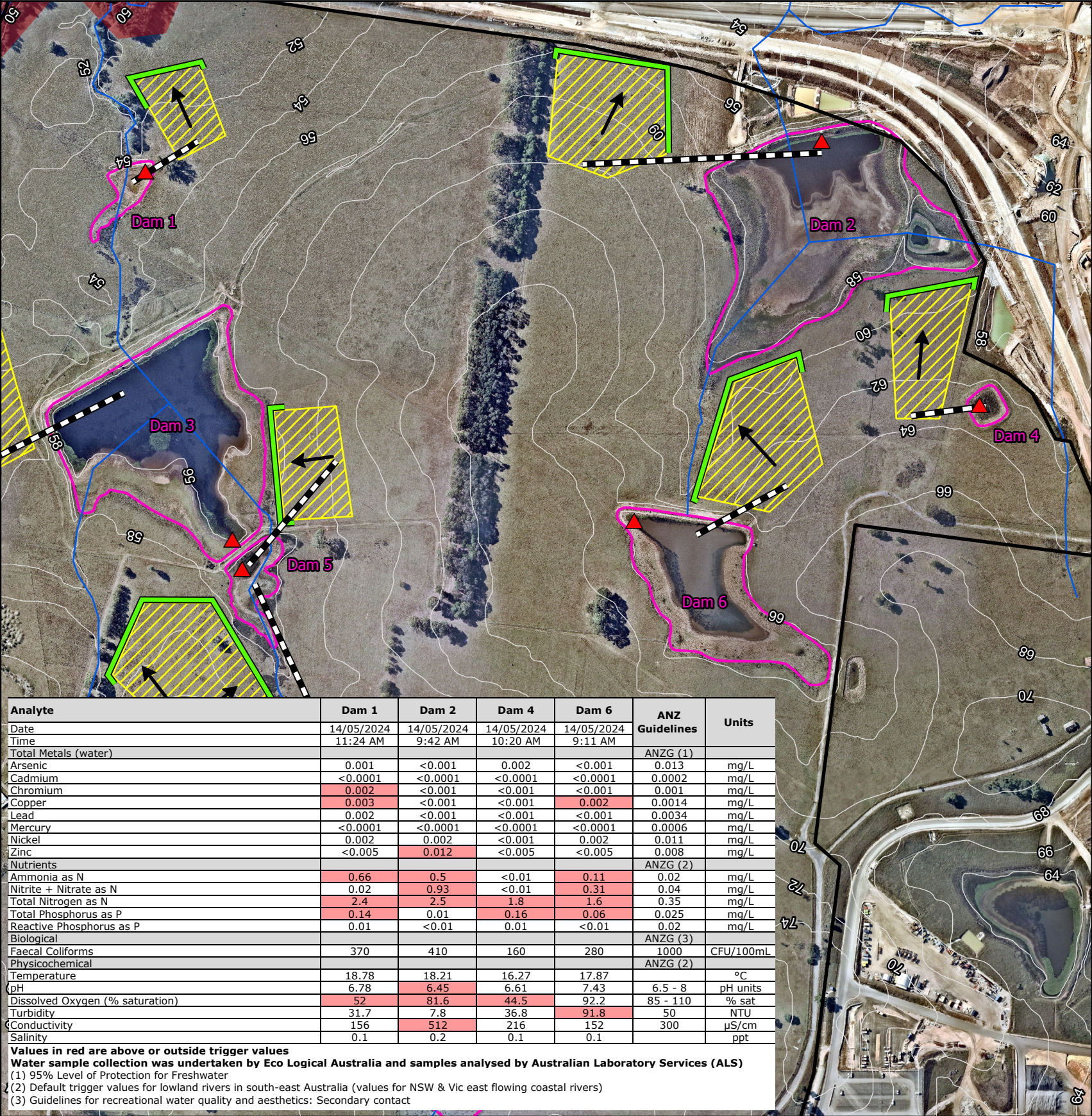
eco

logical

AUSTRALIA

A TETRA TECH COMPANY

Imagery: 30/03/24



Site	Location	Estimated maximum depth when full	Surface area when full	Volume (when full) (0.4 x Depth x Surface Area / 1000)	Catchment size	Slope of irrigation area	Water quality analytes that did not meet guidelines (see table to left for full results)
Dam 1	-33.860939, 150.730806	1.5 m	2258 m ²	1.35 ML	4 ha	1:49	Chromium, Copper, Ammonia, Total Nitrogen, Total Phosphorus, Dissolved Oxygen
Dam 2	-33.861003, 150.738845	2.5 m	44,229 m ²	44.23 ML	59 ha	1:29	Zinc, Ammonia, Nitrite + Nitrate, Total Nitrogen, pH, Dissolved Oxygen, Conductivity
Dam 4	-33.863279, 150.740740	1.0 m	1326 m ²	0.53 ML	1 ha	1:32	Total Nitrogen, Total Phosphorus, Dissolved Oxygen
Dam 6	-33.864770, 150.737249	2.5 m	20,718 m ²	20.72 ML	17 ha	1:33	Copper, Ammonia, Nitrite + Nitrate, Total Nitrogen, Total Phosphorus, Turbidity

Approvals and permits

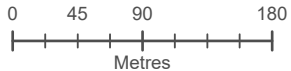
This dam removal is part of a State Significant Development Approval. This plan should be included in the approval documents and/or referenced in the conditions of consent that a trained ecologist or licensed wildlife handler is present to relocate fauna. This will only be performed by a person with a s.37 license under the *Fisheries Management Act 1994* (for fish), which approves handling methods and gear used. Care for animals during relocation, or dispatching sick, injured or feral fish species is to follow procedures expected by the NSW Secretary's Animal Care & Ethic Committee. If there is no development approval or condition of consent specifying an ecologist or licensed wildlife handler be present, then a Biodiversity Conservation Licence (Part 2 - Permit to Harm) under the *Biodiversity Conservation Act 2016* is required to relocate turtles, frogs and wetland birds. If the dam is licensed with Water NSW, the landowner can remove it from the register: <https://waterregister.watarnsw.com.au/water-register-frame>.

Biodiversity

During a brief field survey, the following fauna species were observed: *Anas superciliosa* (Pacific Black Duck), *Ardea intermedia* (Intermediate Egret), *Chenonetta jubata* (Australian Wood Duck), *Crinia signifera* (Common Eastern Froglet), *Cygnus atratus* (Black Swan), *Fulica atra* (Eurasian Coot), *Limnodynastes peronii* (Striped Marsh Frog), *Phalacrocorax melanoleucos* (Little Pied Cormorant) and *Porphyrio porphyrio* (Purple Swamphen). Based on dewatering activities nearby, the following native aquatic fauna could inhabit the site: *Anguilla australis* (Shortfin Eel), *Anguilla reinhardtii* (Longfin Eel), *Chelodina longicollis* (Eastern Long-necked Turtle) and *Phyllonodon grandiceps* (Flathead Gudgeon). Pest species may also occur, including *Carassius auratus* (Wild Goldfish), *Cyprinus carpio* (European Carp) and *Gambusia holbrooki* (Eastern Gambusia). Dominant native macrophytes and sedges included: *Azolla pinnata* (Azolla), *Eleocharis sphacelata* (Tall Spikerush), *Juncus* sp. (Juncus), *Ludwigia peploides* subsp. *montevideensis* (Water Primrose), *Marsilea mutica* (Banded Nardoo), *Typha domingensis* (Narrow-leaved Cumbungi) and *Vallisneria australis* (Ribbonweed). One significant aquatic weed was observed: *Juncus acutus* (Sharp Rush), which is best removed mechanically and dried on site at least 50 m from a waterway.

- Aquatic fauna handling procedure**
- NOTICE:** The Aquatic Ecologist is to notify DPI Fisheries of the activity 48 hours prior to fish relocation (unless an agreement is in place), including locations of dewatered and relocation sites (see regional office contacts <https://www.dpi.nsw.gov.au/contact-us/local-office>). Fisheries require permits to be carried by the licensed ecologist, who should also display a sign clearly showing licence number (if working in public areas, especially when releasing fauna to local creek).
 - PLANNING:** The dewatering schedule should allow time for fish rescue, especially during the final 0.3 m water depth or as advised by Aquatic Ecologist. Fauna should be captured in one day, so pumps need to be of an adequate size and placed in an area free from mud and debris (e.g. inside excavator bucket or screened sump pit). If wetland birds are observed nesting, or young birds (chicks) are using the dam, advise the Aquatic Ecologist immediately for advice. Depending on species and age, birds may be able to relocate themselves. Chicks will need temporary refuge during dewatering, or works may need to be postponed.
 - CAPTURE:** Fish are to be collected by hand nets during the final day of dewatering. This is most effective when the water is <0.3 m deep. Dissolved Oxygen concentration will drop rapidly as water volume decreases, especially in warm water or if lots of fish are present. Larger bodied fish should be targeted first. Wetland birds will scavenge for small fish in the shallows (e.g. Gambusia). Most small fauna will likely remain uncaptured in the dam until the water becomes very shallow (especially eels and turtles). Eels are best captured by large hand nets in water <0.3 m deep, although they burrow into mud. When the water is extremely low, turtles and fish may head towards the intake pump (placed in deepest part). This area should be monitored to intercept fauna (stand in water next to intake on hard surface). Turtles will burrow into mud and may require observation and rescue the following morning but can also move themselves to suitable nearby habitat if an escape ramp is graded. Frogs can be collected by hand using a freezer/snap-lock bag if observed or heard around the fringe. Hygiene protocols are to be followed and each frog stored in a separate bag. For safety, at least two people are required when wading and handling heavy tubs of water/fish up banks (excavator should dig access steps/ramp).
 - RELOCATE:** Native fish healthy enough for relocation are to be contained and transported in an aerated tub/tank to an appropriate waterbody. DPI Fisheries advise that the host location should be large enough to accommodate additional fish, especially predatory eels. Additional release sites may be needed. Do not overstock tubs or leave in direct sun for extended periods. Aeration can be provided by battery aquarium pumps or manual turbulence if only stored for a short period. Turtles can be transported in a shaded tub with a wet hessian bag placed inside for moisture and support during transport. Frogs can be transported in an inflated freezer/snap-lock bag containing leaves moistened with bottled water or dam water. Tadpoles can be transported in small buckets with dam water.
 - RELEASE:** Water from the receiving waterbody should be mixed slowly over 5 - 10 minutes with the tank water to allow fish to acclimatise to the new water quality. Eels are less susceptible to changes in water quality. Care should be taken when releasing fauna not to also transfer weeds or invasive species (e.g. Carp eggs and Gambusia). Transfer animals via hand nets, rather than tipping the tub with water in the host waterbody. Eels can be released on land a few metres from the edge and pointed towards the water. Frogs are to be released in dense shade alongside water in the nearest protected riparian corridor.
 - PESTS:** Exotic fish (e.g. Carp, Gambusia) are to be intercepted, euthanised and disposed of in accordance with methods endorsed by the NSW Secretary's Animal Care & Ethic Committee. Exotic *Trachemys scripta elegans* (Red-eared Slider Turtle) are to be contained humanly and DPI immediately notified (Biosecurity Line - 1800 680 244). They will collect the live turtle from the ecologist.
 - POST-DEWATERING:** An escape ramp should be graded to allow trapped fauna to escape overnight. The Project Aquatic Ecologist will advise on ramp design (slope and location) on the day. Sediment should be left up to two nights to allow hidden fauna to emerge, unless the ecologist confirms there are no fauna remaining (site specific assessment). Earthworks staff should notify the Project Aquatic Ecologist if stranded fish or turtles are observed post-dewatering.
 - REPORTING:** The Project Aquatic Ecologist should prepare a summary report suitable for submission to Council within 7 days of completing the aquatic fauna relocation works. The report would detail that the works have been completed according to this aquatic fauna handling procedure, and would include information relating to the location of the dam, the licences held by the staff involved in the works, the number and type of native species relocated, location of release point/s for native fauna and the number and type of exotic species dispatched. Photographic evidence of various steps in the procedure should be included.

- ▲ Water quality sample point
- ➔ Direction of slope
- ▬ Recommended erosion control
- ▬ Recommended pump position
- 1:25,000 waterway mapping (DCCEEW - Water Group)
- Contours (2 m)
- ▭ Dam
- ▨ Recommended irrigation area
- Key Fish Habitat (DPI Fisheries)
- ▭ Study area



Datum/Projection:
GDA2020 MGA Zone 56
Project: 24SYD8475-LT
Date: 23/05/2024

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APPENDIX D

Wildlife Hazard Management Plan

D1 Introduction

This Wildlife Hazard Management Plan (WHMP) has been prepared to satisfy the requirements of Appendix D.7 of the Phase 2 DCP. These requirements have been summarised in Table 15 below. A Wildlife Hazard Assessment (WHA) has been prepared as a separate document (ELA 2024d) to address the DCP requirements and is summarised in the following section.

Table 15: Appendix D.7 DCP requirements

Appendix D.16 DCP Requirement	
Applications for the following uses within the 3 km and 8 km wildlife buffers must be accompanied with a Wildlife Hazard Assessment and Wildlife Management Plan that incorporates relevant mitigation and monitoring measures:	
• Agricultural produce industry • Agriculture • Aquaculture • Camping ground • Garden Centre • Intensive livestock agriculture • Intensive plant agriculture • Livestock processing industry	• Plant nursery • Recreation facility (outdoor) • Recreation facility (major) • Recreational area • Sewage treatment plant • Waste or resource management facility • Waste or resource transfer station • Water storage facility.
Wildlife Hazard Assessment Reports must assess the wildlife attraction risk of the land use, the design of the building and ancillary works including proposed landscaping, water facilities (incl. stormwater infrastructure), waste management, and temporary risks associated construction activity.*	
The Wildlife Management Plan must respond to the findings and recommendations of the wildlife hazard assessment.	
Where monitoring is required to be undertaken in accordance with the Management Plan, copies of the report are to be submitted to the airport lessee company within 28 days of completion.	
A waste management plan for the operation of the use must be submitted for the following uses within the 3 km, 8 km, and 13 km buffer:	
• Agriculture • Agricultural produce industry • Aquaculture • Camping Grounds • Eco-tourist facility • Food and Drink Premises • Garden Centre • Hotel	• Intensive plant agriculture • Intensive livestock agriculture • Kiosk • Livestock processing industry • Plant Nursery • Recreation facility (outdoor) • Recreation facility (major)
Landscaping within the Enterprise Zone and Agribusiness Zone must comply with Appendix B: Western Sydney Aerotropolis Landscape Species List, except where the property is subject to biodiversity certification conditions or identified as one of the key government commitments.*	

* ADDRESSED WITHIN THE WILDLIFE HAZARD ASSESSMENT (ELA 2024D).

D2 Background

PURPOSE AND OBJECTIVES

The study area is located immediately north of the Western Sydney International (Nancy-Bird Walton) Airport (WSI) and is within the 3 km wildlife buffer zone. In accordance with Section 4.19(2)(c) of the Western Parkland City SEPP, development consent must not be granted to relevant development within 13 km of the Airport unless the development will mitigate risk of wildlife to the operation of the Airport, for example by waste management, landscaping, grass, stormwater or removal of food. This WHMP has been prepared in conjunction with the WHA (ELA 2024d) which assessed the potential risk of wildlife attraction to the study area, identifying the highest risk species and providing an analysis of existing and proposed land use in relation to wildlife risk.

Bird and bat strike is a risk firstly for the safety of Airport operations, as well as a threat to biodiversity. There is a double incentive, and a statutory requirement, for all parties involved in development surrounding the WSI to minimise and manage the potential for wildlife hazards to occur. This report summarises the highest risk species, the types of wildlife habitat available or proposed in the subject land, and a plan for:

- Implementation and induction
- Management Actions (passive management, trigger responses and regular monitoring)
- Reporting requirements
- Review and adaptive management

A key challenge in managing wildlife risk is the inherent conflicts between Airport operations and other requirements of the Phase 2 DCP and Precinct Plan. This includes objectives to increase native vegetation under Connection to Country strategies, canopy targets, stormwater infrastructure and restoration of riparian corridors which, to some degree, can increase the attractiveness of wildlife habitat across a given site. It is not feasible to avoid wildlife habitat features altogether in the context of the site and its surrounding landscape. Landscaping, open waterbodies and vegetated riparian zones (VRZs) are essential in the context of this development for many reasons, not least of which include urban heat reduction, public amenity, stormwater management and supporting regional ecosystem health.

As such, while design measures across the Project have been implemented to reduce wildlife attractiveness, this WHMP provides additional support and assurance through a monitoring and reporting regime. This includes ongoing passive management actions, that will require collaboration between qualified ecologists, DPHI and NSW DCCEEW, and the WSI to effectively and humanely manage any real or anticipated wildlife risk for the life of the Project.

HIGHEST RISK SPECIES

Species risk rankings by guild or main functional group are presented in Table 16. A total of 30 high-risk species need to be considered for mitigation and monitoring. Mitigation and monitoring should be prioritised for the following high-risk groups and species:

- Flying foxes or Megabats (e.g. Grey-headed Flying-fox and Little Red Flying-fox)
- Waterbirds (e.g. Ibis and Masked Lapwing)

- Pigeons
- Large parrots (e.g. Galah, corellas, cockatoos)
- Waterfowl (e.g. Black Swan, grebes and duck species)
- Raptors (e.g. Wedge-tailed Eagle and Little Eagle)
- Owls (e.g. Masked Owl, Eastern Barn Owl)
- Australian Magpie
- Common Starling

The highest risk strike groups relevant to this development are the following with an extreme hazard ranking (ELA 2024d):

- **Megabats** (Grey-headed Flying-fox and Little Red Flying-fox)
- **Pigeons** (Rock Dove)
- **Ibis** (Australian White Ibis, Straw-necked Ibis)

Megabats (flying-foxes), are an extreme hazard species due to their large size and flocking behaviour and have several active camps in Western Sydney. These species are also the most recorded for strikes at the nearby Sydney Airport and Bankstown Airport. No flying-fox camps are currently known from or nearby the study area.

PROPOSED HABITAT TYPES

The study area contains existing habitat for birds in the form of native vegetation communities and farm dams. Additional habitat proposed under the Project that offers potential wildlife habitat includes:

- Cosgroves Creek riparian corridor (to be restored and managed under a VMP (ELA 2024c).
- Parkland Priority Areas, to be partially relegated and managed under a VMP (ELA 2024c).
- Street trees and on-lot landscaping (species selection and density in accordance with Appendix B of the DCP).
- Stormwater infrastructure in accordance with Sydney Water requirements. This includes stormwater basins, wetlands, bioretention basins and naturalised trunk drainage.
- Warehouse buildings and waste facilities, to be subject to a Waste Management Plan.

The locations of proposed wildlife habitat, in accordance with land use type, are presented in Figure 11.

Table 16: Summary of hazard rankings for common guilds/functional groups

Hazard Rank	No. of Species	Guilds/Functional Groups															
		Bush Birds	Corvids	Game fowl	Honeyeaters	Kingfishers	Megabats	Microbats	Owls	Parrots	Pigeons	Rails	Raptors	Swifts and Swallows	Waders	Waterbirds	Waterfowl
Extreme	5	-	-	-	-	-	2	-	-	-	1	-	-	-	-	2	-
Very High	3	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	1
High	22	1	1	-	-	-	-	-	2	1	2	-	2	-	-	6	7
Medium	38	3	5	-	-	-	-	-	4	7	3	2	4	2	-	6	2
Low	35	2	3	2	5	1	-	1	1	6	-	1	6	2	4	1	-
Negligible	74	45	1	-	12	2	-	8	1	-	1	-	-	3	1	-	-
Total	177	51	10	2	17	3	2	9	8	16	7	3	12	7	5	15	10

Table 17: Species examples per guild/function group

Guild/Functional Group	Examples
Bush birds	Fairy-wrens, Thornbills, Gerygones, Scrubwrens, Weebills, Treecreepers, Pipits, Whistlers, Robins, Starlings, Silvereyes, Pardalotes, Finches, Sparrows
Corvids	Australian Magpie, Ravens, Currawongs, Butcherbirds, Cuckoo-shrikes, White-winged Chough.
Game fowl	Australian Brush-turkey, Quails, Button-quails, Junglefowl
Gulls	Silver Gull
Honeyeaters	Wattlebirds, Spinebills, Noisy Miner, Noisy Friarbird, other Honeyeaters.
Kingfishers	Kookaburra, Sacred Kingfisher, other Kingfishers
Large flightless birds	Emu
Megabats	Grey-headed Flying-fox, Little Red Flying-fox
Microbats	Free-tailed Bats, Long-eared Bats, Wattled Bats, Little Forest Bat
Owls	Eastern Barn Owl, Southern Boobook, Tawny Frogmouth, other nightjars
Parrots	Cockatoos, Corellas, Galah, Cockatiel, Budgerigar, Lorikeets, Rosellas, other Parrots such as Swift Parrot
Pigeons	Rock Dove, Peaceful Dove, Bar-shouldered Dove, Wonga Pigeon, Crested Pigeon, Spotted Turtle-Dove, Common Bronzewing
Rails	Coots, Moorhens, Swampheens, Crakes, Rails.
Raptors	Wedge-tailed Eagle, other Eagles, Goshawks, Kites, Falcons, Kestrels, Hobbies.
Seabirds	Terns, Petrels
Swifts and Swallows	Welcome Swallow, Fairy Martin, Tree Martin, Fork-tailed Swift, Wood swallows, White-throated Needletail
Waders	Snipe, Stilts, Dotterel, Plovers, Sandpipers, Curlews
Waterbirds	Ibis, Herons, Egrets, Bitterns, Snipe, Darters, Pelicans, Cormorants, Spoonbills
Waterfowl	Ducks, Grebes, Swans



Figure 11: Proposed land use and habitat types (ELA 2024d)

D3 Implementation

ROLES AND RESPONSIBILITIES

The Proponent and/or nominated Project Manager is responsible for:

- Developing induction and training modules and records.
- Engaging a suitably qualified Ecologist(s) to complete monitoring works and reporting.
- Maintaining a record of monitoring and reporting.
- Notifying DPHI, WSI and/or the Ecologist of hazards and risks as they arise.

Site or building managers are responsible for:

- Implementing training and inducting all staff.
- Ensuring passive management actions are undertaken within their lot/building.
- Notifying the proponent, DPHI, WSI and/or the Ecologist of hazards and risks as they arise.

All staff, contractors and visitors are responsible for:

- Notifying the site/building manager of a management need or risk.
- Maintaining familiarity with the requirements of this Plan and the induction process.

INDUCTION AND TRAINING

All staff are to be aware of the potential wildlife hazards on site, and the contents of this WHMP. All contractors and building managers are to be aware of the level of wildlife risk on site, and must have completed an induction that includes:

- Roles and responsibilities.
- Passive, trigger and monitoring actions.
- An understanding of the risk ratings (Extreme, Very High, High, Medium, Low and Negligible). including what guilds and functional groups occur in each rating.
- Highest risk bird/bat species to consider on site.
- Lower risk but high strike species to consider.
- Reporting responsibilities.
- Injured or struck fauna procedures.

D4 Management Actions

The WHMP consists of the following management actions:

- **Passive management actions** (Table 18) – to modify habitats or other aspects of the environment to reduce the attractiveness of habitat for risk bird and bat species;
- **Trigger, response and action plan** (Table 19) – recommended actions triggered by wildlife presence or habitat use at any time during the Project life; and
- **Regular monitoring regime** (Table 20) – to monitor and record potential wildlife hazards on a regular recommended schedule.

Passive management is ongoing for the life of the Project and should be completed on a regular basis. The majority of management actions will depend on the severity of the wildlife risk, and would require input from an Ecologist, DPHI and WSI for appropriate future actions. Severe measures such as culling should only be considered as a last resort and it is expected that with a regular monitoring and trigger response cycle hazards can be identified early and culling can be avoided. Table 19 applies to triggers that may be observed during or outside of the scheduled monitoring activities.

Table 18: Passive management actions

Passive Management Type	Description	Recommended Schedule
Open space lawn management	Regular mowing/maintenance of open space lawns. Removal of clumping, fruiting or otherwise suitable foraging habitat in areas designated for open space lawn.	As required
Natural food supply management	Removal of fallen fruit from any fruiting native or exotic plants from public domain street tree, on-lot landscaping and native vegetation areas.	Twice monthly during peak fruiting/flowering season
Food waste management	Ensure all food waste generated by on-lot activities is managed appropriately, with closed bins emptied regularly to discourage scavengers (e.g. Ibis). All waste is to be taken off site.	Ongoing
Other waste management	Ensure waste is disposed of appropriately in accordance with the Waste Management Plan and bins and other waste storage facilities are maintained with closed lids or other suitable covering wherever practicable.	Ongoing

Table 19: Trigger, action and response plan (TARP)

Trigger	Justification / Notes	Immediate Action	Recommended Response
High-risk species More than 5 individuals of a high risk strike species (or guild) (Table 16) are observed using habitat on site. Excludes birds and bats flying over site.	Strike species or high risk birds and bats may occur on site and indicate a potential risk to Airport operations. This must be addressed early to avoid a potentially greater risk if left until the regular monitoring schedule.	- Consult with an Ecologist. Complete monitoring as per Table 20, if deemed necessary by qualified ecologist. - Monitoring to be tailored to species identified and its potential habitat usage.	Provide outcomes of monitoring in a report to WSI and DPHI as soon as practical. Consult with DPHI and qualified Ecologist to determine if further management or mitigation measures are required.
Megabat camp A Flying-fox camp (e.g. Grey-headed Flying-fox and/or Little Red Flying-fox) is established within the study area. This trigger also applies where fauna behaviours indicate a flying-fox camp may become established.	Grey-headed Flying-fox is a high risk species for wildlife hazard and is a threatened species under the BC Act and EPBC Act. Little Red Flying-fox is not a threatened species however is a high risk species.	- Record approximate numbers, behaviours and species (if possible). - Seek ecologist advice and liaise with DPHI.	Consult with Ecologist and DPHI. Following consultation, further mitigations may include: - Removal of food sources to deter camp establishment - Exclusion of individuals and translocation of camp
Megabat foraging Large numbers of Flying-fox individuals favour the study area for foraging habitat at night.	Flying-fox can forage over large distances (20 - 50 km in a night). If large numbers of Flying-fox are observed using the site, they may pose a risk to aircraft depending on the direction of their travel and number of individuals.	- Record approximate numbers, behaviours and species (if possible). - Seek ecologist advice and liaise with DPHI.	Following consultation with Ecologist and DPHI, additional measures such as removal of food sources may be required to deter Flying-fox foraging behaviours.
Breeding birds (colony-forming) Colony-forming birds establish a breeding cycle that relies on habitat in the study area.	Colony forming birds that are high-risk (e.g. Ibis) may require action to deter from site. Other lower-risk bird species may not require immediate action and ongoing monitoring may suffice. An Ecologist must assess the potential risk based on hazard rankings for individual species.	- Record approximate numbers, behaviours and species. - Seek ecologist advice and liaise with DPHI.	Following consultation with Ecologist, the following may be required: - Discouragement of colony using deterrents targeted to individual species. - Liaise with stakeholders to reduce availability of food supply such as and not limited to, in waste bins or landfill or by being hand fed.

Trigger	Justification / Notes	Immediate Action	Recommended Response
Breeding birds (waterfowl) Waterfowl are observed breeding in waterways or stormwater facilities (e.g. water retention basins) in the subject land.	The level of risk will be dependent on the size of the breeding flock, including mixed flocks (e.g. ducks, grebes and teals). For example, waterfowl may not require deterrence or relocation if few are observed and their behaviour is not likely to interfere with aircraft operations.	- Record species, habitat, breeding behaviour and numbers. - Seek ecologist advice.	If risk of breeding waterfowl is deemed high, the following may be required on advice from the Ecologist and/or DPHI: - Exclusion of waterfowl and protect ponds using Barriers such as bird balls or netting - Ongoing deterrence using a combination of methods such as light, noise and scare tactics such as predator kites.
Foraging resources (general) Suitable foraging resources for large or high-risk species may become present on site over time. Trigger where a significant increase in higher risk species presence is observed.	Landscaping and restoration across the study area will be undertaken progressively over a multi-year period. Colonisation of new flora and fauna may occur over this time, with changes to habitat and resources available to fauna. Foraging resources may include plant material such as fruits, or habitat on site may encourage small mammal, reptile or amphibian use which can offer a food resource for medium to large/carnivorous birds.	- Record species ID, location, habitat or resource (e.g. plant material, fruit or animal), observed behaviour and number of individuals - Consult with Ecologist regarding observations and carry out monitoring if necessary	Following consultation with Ecologist, the following may be required: - Removal of foraging resources - Revision of plant assemblage in landscaping or VMP works - Thinning of established vegetation Alternate measures may be deemed appropriate and necessary in accordance with adaptive management principles, based on the circumstance.
Foraging resources (waste) Human-produced waste onsite during construction or operation of the Project supports foraging behaviours of high risk and colony forming birds (e.g. Ibis).	Urban capable species, including but not limited to Ibis, are resourceful and may opportunistically forage waste receptacles for food. A Waste Management Plan is required to guide the management of waste on site for both the construction phase and operation of each warehouse.	- Record site or warehouse location, species, behaviour and numbers - Immediate removal of waste or securing of waste facilities - Ensure Waste Management Plan is in force and compliant	Consult with a qualified Ecologist in relation to incident, species and behaviours. Additional training for staff (construction and operation) or revision of the Waste Management Plan may be required.

MONITORING

The recommended monitoring regime includes surveys designed to establish baseline habitat usage and identify potential wildlife hazards and trends. All surveys should be conducted in survey seasons Autumn/Winter and Spring/Summer in the same month each survey event over consecutive years. The wildlife hazard monitoring plan is provided in Table 20. The following survey methods are recommended:

- **Diurnal (daytime) 2 ha, 20-minute point search bird survey** – morning and afternoon monitoring and data collection for a minimum of three consecutive days, in accordance with the timing in Table 20 for different habitat types.
- **Nocturnal (nighttime) bird surveys** – call back surveying and data collection for target bird species for a minimum of 2 hours over a minimum of two nights.
- **Diurnal Flying-fox ground counts** if deemed present (CSIRO 2011)
- **Deploy electronic recording devices** – Anabats, Songmeters and infrared motion detection cameras to record at target locations over a minimum of three nights.

Recommended survey points are to be developed by an Ecologist on site. In addition to the recommended monitoring schedule, targeted monitoring (and associated reporting) should be undertaken if and when strike species are identified on the site.

During monitoring, the Ecologist should make note of any general habitat type changes that may have occurred and potentially increased wildlife attraction. For example, a large storm event may cause the falling of branches and logs in wetland areas which provides new perching habitat for birds. Flooding events may result in long-term standing water in wetlands, which have been assumed to drain quickly, therefore changing the habitat type and availability. Findings are to be included in the monitoring reports. Consultation with DPHI and/or Western Sydney Airport would provide guidance on any additional approvals or actions required (e.g. removal or dispersal of changed habitat).

Table 20: Wildlife monitoring plan

Habitat Type	Monitoring Schedule	Data Collection	Objective
Street trees	Twice annual diurnal: • Bird survey • Flying-fox ground counts (if deemed present)	• Species • Number of individuals • Age for example chicks, juvenile or adult. Male or female • Habitat description (e.g. species, native, mature, flowering tree, establishment of any hollows, fissures, cracks or other habitat such as nests) • Behaviour (e.g. foraging, drinking, nesting, resting, flying, breeding behaviour, flock behaviour if flocking)	To establish and monitor usage of habitat. To establish and monitor increases or decreases in populations of higher risk species To use this data as part of an adaptive management approach to guide the modification of habitats and/or other mitigation measures. To determine if long-term monitoring and/or management of street trees is required or can be reduced, based on observations.

Habitat Type	Monitoring Schedule	Data Collection	Objective
On-lot landscaping	Twice annual diurnal: - Bird survey - Flying-fox ground counts (if deemed present)	- Species - Number of individuals - Age for example chicks, juvenile or adult. Male or female - Habitat description (e.g. species, native, mature, flowering tree, establishment of any hollows, fissures, cracks or other habitat such as nests) - Behaviour (e.g. foraging, drinking, nesting, resting, flying, breeding behaviour, flock behaviour if flocking)	To establish and monitor usage of habitat. To establish and monitor increases or decreases in populations of higher risk species To use this data as part of an adaptive management approach to guide the modification of habitats and/or other mitigation measures.
Warehouse (non-food) and offices	Twice annual: - Diurnal bird survey - Deploy anabats at targeted buildings	- Species - Number of individuals - Age for example chicks, juvenile or adult. Male or female - Habitat description (e.g. Building type, establishment of any building damage, creating access to habitat for resting or roosting, nests, bat maternity roost) - Behaviour (e.g. foraging, drinking, nesting, resting, flying, breeding behaviour, flock behaviour if flocking) - For Anabat data collection include call type (social or foraging)	To establish and monitor usage of habitat, focusing on waste storage areas and any evidence of roosting in buildings.
Stormwater basins	Diurnal bird survey: - Once prior to the commencement of pond construction. - Twice annually after construction of wetlands. Electronic surveys: - All electronic equipment deployed – 1 of each type at each waterbody. Survey locations to be at least one in each wetland.	- Species - Number of individuals - Age for example chicks, juvenile or adult. Male or female - Habitat description (e.g. species, native, mature, flowering tree, establishment of any hollows, fissures, cracks or other habitat such as nests) - Behaviour (e.g. foraging, drinking, nesting, resting, flying, breeding behaviour, flock behaviour if flocking)	To establish and monitor usage of ephemeral wetland habitat by birds and bats
Cosgroves Creek – waterway, vegetation riparian	Diurnal bird survey: Once prior to the commencement of riparian restoration.	- Species - Number of individuals	To establish and monitor usage of more densely vegetated riparian habitat.

Habitat Type	Monitoring Schedule	Data Collection	Objective
corridor and/or VMP area	- Twice annually after commencement of riparian restoration. - Infrared motion detection camera – 1 in each corridor Survey locations to be at least one in each corridor.	- Age for example chicks, juvenile or adult. Male or female - Habitat description (e.g. species, native, mature, flowering tree, establishment of any hollows, fissures, cracks or other habitat such as nests) - Behaviour (e.g. foraging, drinking, nesting, resting, flying, breeding behaviour, flock behaviour if flocking)	To establish and monitor increases or decreases in populations of higher risk species To use this data as part of an adaptive management approach to guide the modification of habitats and/or other mitigation measures.
All native and fruiting exotic vegetation (including street trees and riparian zones)	Bat surveys: - Megabat diurnal ground counts if deemed present - Microbats – deploy Anabats within most optimal habitat Survey locations to be at least one in each corridor.	- Species - Number of individuals - Age for example juvenile or adult. Male or female - Habitat description (e.g., species, native, mature, flowering tree, establishment of any hollows, fissures, cracks or other habitat such as nests) - Behaviour (e.g., foraging, drinking, nesting, resting, flying, breeding behaviour, flock behaviour if flocking)	To establish and monitor flying-fox and microbat roosting and foraging behaviours. To use this data as part of an adaptive management approach to guide the modification of habitats and/or other mitigation measures.

D5 Reporting Requirements

ROUTINE REPORTING

Routine reporting ensures site managers are equipped with the information needed to adapt hazard management activities and the WHMP when required. The following reports are to be prepared:

- **Monitoring cycle reports** are to be provided to Western Sydney Airport within 28 days of each survey described in Table 20, in accordance with the DCP.
- **Annual report** describing all monitoring activities relating to wildlife hazard. This report must provide the details of monitoring activities completed in the current period and summarise all previously collected data from previous years so that trends can be identified.
- **Ad-hoc reporting** will be required where hazards are identified in accordance with the trigger, response and action plan. Reports must include the trigger for the action, who was notified (e.g., Western Sydney Airport, Ecologist and/or DPHI) and details of any follow-up actions within 2 weeks of the event.

An Ecologist may be required to provide input to the above reports. The proponent is responsible for engaging suitable staff to prepare the reports and must maintain a record of all reporting and activities.

Reporting of immediate wildlife hazard or strike is generally not expected to be required for wildlife observations within the subject land itself, being off-airport. The trigger response action plan should be implemented in this instance (Table 19).

INCIDENT REPORTING

If injured or struck fauna are observed in the subject land (regardless of cause), immediately notify the Project Ecologist and WIRES Wildlife Rescue. Even if deceased fauna is found on site, for example in the case of a Grey-headed Flying-fox, WIRES may still attend site to conduct a pup search (e.g. young may be alive nearby but unable to fly or still lactating).

PERFORMANCE INDICATORS

The successful implementation of this plan may not only be measured through the reported statistics or trends. In order to measure the effectiveness of this WHMP, key (primary) performance indicators to be adopted are:

- % of correctly filled wildlife management reports.
- % scheduled diurnal surveys completed.
- % staff training attendance or induction completion.
- % passive management actions completed on schedule.

If gaps in the performance indicators are identified, management measures and reporting requirements or templates should be reviewed as often as needed, at least on a 3-yearly review cycle (below) to ensure ongoing effectiveness.

D6 Review and Adaptation

To ensure this WHMP remains effective and is updated to fulfil future requirements, a review of the WHMP will be undertaken at a minimum every three years. If the results of regular monitoring justify a review prior to this due to the ineffectiveness of mitigation measures, the WHMP will be updated as required. Adaptive management measures will be implemented in consultation with a qualified Ecologist and necessary authorities (e.g. DPHI, WSI).

A major review is recommended be completed after 9-10 years and would involve complete revision and reissue of this document and the associated Wildlife Hazard Assessment (ELA 2024d). This includes reviewing the likelihood of bird species, updating risk assessments, strike statistics and adaptive management actions to address shortcomings or unsuccessful aspects of this WHMP. The review must also ensure compliance with all current legislation and strategic plans and adopt best-practice management actions and knowledge at the time of major review.

