A-2 Biosecurity Management Subplan (incorporating weed, disease, and hygiene plan)

Stage 1 – North West Transmission Developments Project

TN ID: NWTD-EP-PL-102-0A2.0.5

GNI ID: PLN-J0955-GNI-0012






TASMANIAN
PLANNING COMMISSION

Endorsed

Date: 27 August 2026

Table of Contents

1. Introduction **3**
2. Objectives **3**
3. Reference documents **4**
4. Induction and training **7**
5. Responsibility **7**
6. Potential risks and impacts **8**
6.1 Potential risks 8
6.2 Preconstruction surveys 8
6.2.1 Recorded weeds 8
6.2.2 Recorded diseases or pathogens 9
6.3 Potential impacts 10
7. Performance criteria **10**
8. Management controls **11**
9. Monitoring requirements **19**
10. Adaptive management measures **20**
11. Reporting and documentation requirements **21**
12. Reviews and updates **21**
13. Document history **22**
13.1 Current document authoriser 22
13.2 Revision history 22

Tables

Table 1 Objectives for the Biosecurity Management Subplan **3**
Table 2 Reference documents for the Biosecurity Management Subplan **4**
Table 3 Induction and training for biosecurity management **7**
Table 4 Responsibilities for biosecurity management **7**
Table 6 Performance criteria for biosecurity management **10**
Table 7 Summary of Biosecurity Management Subplan management controls **11**
Table 8 Summary of Biosecurity Management Subplan monitoring program **19**
Table 9 Biosecurity Management Subplan triggers and contingencies **20**
Table 10 Biosecurity Management Subplan reporting requirements **21**

1. Introduction

This document is the Biosecurity Management Subplan (BMSP). The purpose of the BSMSP is to outline environmental management requirements aimed at preventing and limiting the risk of introducing or spreading weeds, diseases or pathogens during construction. This is a subplan under the Construction Environmental Management Plan (CEMP) for Stage 1 of the North West Transmission Developments Project (NWTD) in Tasmania.

The Contractor for the delivery of the project is Genus Infrastructure (NSW) Pty Ltd, referred to as Genus throughout this document. Genus has developed the CEMP and subplans to address the environmental management of the project.

The CEMP should be referred to for additional context including:

Project details, including document control, commitments/conditions and person accepting responsibility for the CEMP and all associated subplans including this Biosecurity Management Subplan
Project description
Emergency contacts and procedures
Potential environmental risks and impacts of the project
Auditing and review requirements
Glossary and abbreviations

This CEMP subplan applies to all personnel and subcontractors engaged by Genus for the duration of the contract. The CEMP and subplans will be used to develop site specific, or activity specific environmental management plans.

This Biosecurity Management Subplan is supported by a Weed Management Protocol (WMP), which is provided as an appendix to this Subplan (Appendix D). The WMP provides site-specific information relating to known weed species and details control measures relevant to the treatment and management of weeds for the Project. The requirements of the WMP are to be implemented in conjunction with this Biosecurity Management Subplan.

2. Objectives

The primary objectives of the Biosecurity Management Subplan are to comply with:

- Commitments in the Development Application (DA) and Environmental Impact Statement (EIS)
- Conditions of approval in Permit number MIPP-2026-01 issued under the MIDA Act
- Conditions of approval in EPBC 2022/09247 issued under the EPBC Act.
- All relevant TasNetworks standards and procedures.

Aspect specific objectives are outlined in Table 1.

Table 1 Objectives for the Biosecurity Management Subplan

Aspect	Objectives
Pathogens	Prevent the spread of existing pathogens within the project area: – *Phytophthora cinnamomi* – *Chytrid fungus* – *Pomovirus solani*

Aspect	Objectives
	Prevent the introduction of new pathogens into the project area.
Weeds	Prevent the spread of existing weeds within the project area.
	Prevent the introduction of new weeds into the project area.
Waterways	No contamination of waterways through the use of herbicides or disposal of weeds and infected plant material.
Inductions	All project site contractors and employees have been inducted on the contents and requirements of the Biosecurity Management Subplan, as well as weed identification and biosecurity risk. All project contractors and employees complete site induction and relevant training as outlined below.

3. Reference documents

Table 2 Reference documents for the Biosecurity Management Subplan

Title	Reference/link
Regulator Permits	
Major Infrastructure Project Planning Permit Granted under the *Major Infrastructure Development Approvals Act 1999* and the *Land Use Planning and Approvals Act 1993*	Permit number: MIPP-2026-01 North West Transmission Upgrades Project - Palmerston to Hampshire Section - Final Report and permit, 10 March 2026
Environment Protection and Biodiversity Protection Act 1999	EPBC 2022/09247
Legislation	
Biosecurity Act 2019	*https://www.legislation.tas.gov.au/view/html/inforce/current/act-2019-022*
TasNetworks protocols	
Biosecurity Hygiene Work Practice	Biosecurity Hygiene Work Practice, R0002143258, TasNetworks, April 2023.
Environmental Standards for Vegetation Management and Clearing	TasNetworks 2025. Environmental Standards for Vegetation Management and Clearing. Tasmanian Networks Pty Ltd.
Biosecurity Standard	Biosecurity Standard, R0002091338, TasNetworks, July 2025.
Wildlife Interactions Standard	Wildlife Interactions Standard, R0002849257, TasNetworks, July 2025
Forest Practices Authority guidelines	
Forest Practices Code 2020	Forest Practices Authority 2020. Forest Practices Code. Forest Practices Authority, Hobart, Tasmania. Forest Practices Code

Title	Reference/link
Flora Technical Note No. 8 – Management of Phytophthora cinnamomi in production forest	Forest Practices Authority 2024. Flora Technical Note No. 8 – Management of Phytophthora cinnamomi in production forest. FPA
Other relevant guidelines	
Tasmanian Washdown Guidelines for Weed and Disease Control – Machinery Vehicles & Equipment	Tasmanian Washdown Guidelines for Weed and Disease Control - Machinery, Vehicles and Equipment. Edition 1. Department of Natural Resources and Energy. Department of Natural Resources and Energy 2004.
Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania	Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania. (Eds.) Karen Stewart and Michael Askey-Doran. Department of Primary Industries, Parks, Water and Environment, Hobart, Tasmania. Department of Primary Industries, Parks, Water and Environment 2015.
Keeping It Clean - A Tasmanian Field Hygiene Manual to Prevent the Spread of Freshwater Pests and Pathogens	Allan, K., and Gartenstein, G. 2010. Keeping It Clean - A Tasmanian Field Hygiene Manual to Prevent the Spread of Freshwater Pests and Pathogens. NRM South.
Farm Access Code of Conduct	TasFarmers and Victorian Farmers Federation 2024. Farm Access Code of Conduct. TasFarmers and VFF.
Arrive Clean, Leave Clean	Department of Climate Change, Energy, the Environment and Water 2021. Arrive Clean, Leave Clean. DCCEEW.
Threat Abatement Plan for infection of amphibians with chytrid fungus resulting in chytridiomycosis	Department of the Environment and Energy 2016. Threat Abatement Plan for infection of amphibians with chytrid fungus resulting in chytridiomycosis. DoEE
Weeds of Tasmania: A Guide to Environmental and Agricultural Weeds of Tasmania	Reprinted by TasNetworks with permission of NRM South and the Department of Primary Industries, Parks, Water and Environment. (originally published by NRM South and the Southern Tasmanian Councils Authority, March 2010)
North West Transmission Developments DA/EIS information	
Ecology Baseline Characterisation and Impact Assessment (NWTD-EP-DA-502)	Entura 2025. Ecology Baseline Characterisation and Impact Assessment. Remaining North West Transmission Developments, Part E – Attachments and appendices, Appendix B. NWTD-EP-DA-502.
Management Measures (NWTD-EP-DA-610)	TasNetworks 2025. Management measures. Remaining North West Transmission Developments, Part E – Attachments and appendices, Attachment 10. NWTD-EP-DA-610.
Related subplans	
Flora and Fauna Management Subplan	NWTD Construction Environment Management Plan.
Vegetation Rehabilitation Management Subplan	NWTD Construction Environment Management Plan.

Title	Reference/link
Weed Disease and Hygiene Management Protocol	See Appendix D of this Subplan

4. Induction and training

Table 3 Induction and training for biosecurity management

Induction/training	Details (as required)	Who
General biosecurity – site induction	Requirement for and implementation of biosecurity controls, including General Biodiversity Duty responsibilities under the *Biosecurity Act 2019* (Tas).	All workers
Weed and pathogen identification	Provide information on identification of weeds specifically declared weeds and plant and animal pathogens including dieback and amphibian chytrid fungus. Dieback is a soil or water borne plant pathogen that causes plants to die with initial symptoms visible in the canopy. The common pathogen is *Phytophthora cinnamomi.*	All workers
Vehicle hygiene	Provide onsite vehicle hygiene training and implement a vehicle clean down checklist.	All workers
Site specific biosecurity protocols – toolbox meetings and pre-start meetings	Each worksite may have individual biosecurity requirements that have been established within the Property Management Plans.	All workers

5. Responsibility

Table 4 Responsibilities for biosecurity management

Role	Responsibility
Environmental Manager	Oversight of the implementation of the Biosecurity Management Subplan.
Suitably qualified person	A person suitably qualified in the required scientific field, e.g. suitably qualified weed specialist, suitably qualified pest specialist. Suitably qualified person will have any required licenses and permits to undertake works, e.g. baiting and trapping pests or the removal of weeds.
Suitably qualified weed technician	A person suitably qualified in weed management and removal will have the required Tasmanian commercial operator license.
Suitably qualified pest technician	A person suitably qualified in pest management and removal will have the required Tasmanian commercial operator license.
All workers	Implementing controls outlined in this management subplan as applicable.

6. Potential risks and impacts

6.1 Potential risks

Weeds, disease and pathogen spread may occur where soil or vegetation is disturbed and where vehicles, machinery or materials move between locations without appropriate hygiene controls. Areas of active construction are most vulnerable to weed establishment, particularly following vegetation clearing or earthworks.

The primary risks at the Project Site relate to:

- movement of contaminated plant or equipment;
- disturbance of areas where declared weeds are present; and
- inadequate washdown or disposal practices.

6.2 Preconstruction surveys

Pre-construction weed surveys were undertaken across the notified corridor and construction footprint in February and March 2026. The location and extent of declared weeds (listed under the Tasmanian *Biosecurity Act 2019*) and Weeds of National Significance (WoNS) were recorded and incorporated into the Project GIS.

The location of declared weeds and WoNS were recorded in the field as individual points or polygons on handheld devices using the ArcGIS Field Maps data collection application. Where a single plant or a few individuals were recorded, a single point was logged; where larger infestations were observed, a radius of up to 20 metres (m) was applied to each point to estimate the full extent of the population observed. Where infestations exceeded an approximate 20 m radius, polygons were used to map the approximate extent of the infestation within the Project Site.

The spatial distribution of recorded declared weeds and Weeds of National Significance (WoNS) within the Project area is presented in Appendix E which extracts the weed mapping provided in Figure 6.11 of Attachment 9 of the development application documentation. This mapping has informed the identification of weed-infested areas and the development of management controls within this Subplan and the Weed Management Protocol (Appendix D)

6.2.1 Recorded weeds

Pre-construction weed surveys recorded 17 species listed as declared weeds under the Tasmanian *Biosecurity Act 2019* and/or Weeds of National Significance (WoNS). During survey efforts, weeds were observed as primarily occurring along fencelines and immediately under the current towers.

Each declared weed is classified as either Zone A or Zone B according to Local Government Area (LGA) across Tasmania, where Zone A requires species eradication and Zone B requires containment only within each municipality. Table 5 identifies the 17 species recorded across the Project Site and the designated Zonation (A or B) within each municipality within the Project site.

Table 5 Declared weeds and LGA zonation for species recorded at the Project Site

Declared Weed	Status	Zone A LGA within Project Site	Zone B LGA within Project Site
Blackberry (*Rubus fruticosus* agg.)	WoNS		Whole Project Site
Californian Thistle (*Cirsium arvense*)		Devonport, Launceston	Northern Midlands, Central Highlands, Kentish, Burnie, Meander Valley

Declared Weed	Status	Zone A LGA within Project Site	Zone B LGA within Project Site
Elisha's tears (*Leycesteria formosa*)		Northern Midlands, Central Highlands, Launceston, Meander Valley	Kentish, Devonport, Burnie
English broom (*Cyticus scoparius*)	WoNS		Whole Project Site
Fennel (*Foeniculum vulgare*)			Whole Project Site
Foxglove (*Digitalis* sp.)		Whole Project Site	
Gorse (*Ulex europaeus*)	WoNS	Kentish, Devonport	Northern Midlands, Central Highlands, Burnie, Launceston, Meander Valley
Holly (*Ilex aquifolium*)		Kentish	Northern Midlands, Central Highlands, Launceston, Devonport, Meander Valley, Burnie
Horehound (*Marrubium vulgare*)		Meander Valley	Northern Midlands, Central Highlands, Launceston, Devonport, Kentish, Burnie
Montpellier broom (*Genista monspessulana*)	WoNS		Whole Project Site
Pampas grass (*Cortaderia selloana*)		Whole Project Site	
Ragwort (*Senecio jacobeae*)	WoNS	Launceston, Northern Midlands, Burnie	Central Highlands, Meander Valley, Devonport, Kentish
Serrated tussock (*Nassella trichotoma*)	WoNS	Whole Project Site	
Slender thistle (*Carduus* sp.)[1]			Whole Project Site
Spanish heath (*Erica lusitanica*)		Northern Midlands	Kentish, Central Highlands, Launceston, Devonport, Meander Valley, Burnie
St John's wort (*Hypericum perforatum*)		Whole Project Site	
Willow (*Salix* sp.)[2]	WoNS	Whole Project Site	

6.2.2 Recorded diseases or pathogens

Phytophthora cinnamomi and *Pomovirus solani* (potato mop top virus) are not presently known to occur within the Project Site, however, both are considered high risk pathogens, and management measures have been implemented to ensure that the aforementioned pathogens will not be introduced to the Project Site.

[1] It is noted that where *Carduus sp.* was recorded, not all individuals were identified to species level, and therefore while only winged slender thistle (*C. tenuiflorus*) was recorded as present, it is likely that both *C. teniflorus* and *C. pycnocephalus* (slender thistle) are present throughout the Project Site.

[2] Similarly, where *Salix sp.* is recorded, while only *Salix fragilis* var. *fragilis* (Crack willow) was recorded, it is likely that other willow species may be present within the Project Site.

The presence of chytrid fungus could not be determined due to a lack of targeted surveys, however, is assumed as present in suitable amphibian habitat for the purposes of this plan.

The main activities that have potential to introduce or spread chytrid fungus, potato mop top virus and *Phytophthora* include:

- Soil or other materials spread through the movement of machinery and vehicles
- Importing water, soil or other materials for construction purposes
- Waste from infected potato material
- Spreading the disease/pathogen from infected sites to unaffected sites

6.3 Potential impacts

The introduction and proliferation of weeds and disease can have a range of potential impacts within the Project Site, and its surrounding environment.

Disturbed or modified areas are particularly vulnerable, providing opportunities for invasive species and diseases to establish, spread, and outcompete native flora. These biosecurity risks can lead to the degradation of ecosystem health, threaten biodiversity, and impact the long-term resilience of natural habitats. Construction activities, vehicle movement, and vegetation clearance further exacerbate these risks.

The potential impacts related to weeds and pathogens include:

- Alteration of native vegetation, reducing biodiversity and increasing bushfire risks, through:
  - Spread of existing declared weeds, which are present in disturbed areas, due to construction and operational activities
  - Introduction of new weed or pathogen species through vehicle, machinery and material movement, posing risks to largely weed/pathogen-free areas
- Impacts to native fauna through:
  - Loss of habitat due to weed or disease infestation
  - Introduction of chytrid fungus through human activity, impacting amphibians and ecosystems.

Management controls listed within this plan together with the Weed, Disease and Hygiene Management Protocol (WDMHP) in Appendix D outline key controls to minimise disturbance to the existing environment and decrease the risk of introducing and spreading weeds, pathogens and diseases.

7. Performance criteria

Table 6 Performance criteria for biosecurity management

Objective	Performance criteria
Minimise harm to existing environment	100% compliance with controls listed in Table 8.
Prevent the introduction of new pathogens, environmental weeds or exotic terrestrial species that could harm the environment	No new pathogens, environmental weeds or exotic terrestrial species introduced to the project area.
Prevent the spread of pathogens, environmental weeds, or exotic terrestrial species to areas where they were not previously present	Pathogens, environmental weeds and exotic terrestrial species are not spread to areas within or surrounding the project area where they were not previously present.

Objective	Performance criteria
Prevent the contamination of waterways	No contamination of waterways through the use of herbicides or disposal of weeds and infected plant material.

8. Management controls

Table 7 Summary of Biosecurity Management Subplan management controls

Item	Specific control	Reference	Responsibility
Pre-construction			
B01	The Weed Management Protocol (WMP) (Appendix D) will be implemented during construction to manage biosecurity risks including the introduction, spread and establishment of weeds and diseases.	CM023 MIDAA permit condition 17 MIDAA permit condition 18 WMP (Appendix D)	Environmental Manager
B02	– Suitable washdown facilities/locations will be established in accordance with the *Tasmanian Washdown Guidelines for Weed and Disease Control, Machinery, Vehicles & Equipment, Edition 1 DPIWE, 2004 and Keeping It Clean - A Tasmanian Field Hygiene Manual to Prevent the Spread of Freshwater Pests and Pathogens* at each construction site for the duration of the project. – Prior to construction commencing, washdown locations and facilities will be agreed with the relevant landowners and established on site – Suitable sediment collection and drainage consideration (e.g. paths to watercourses) will be implemented when constructing washdown or clean down areas.	CM023 CM059	Environmental Manager Construction Manager
B03	– All workers inductions must be up to date; induction records will be available upon request.	TasNetworks	All workers
B04	– Infected areas will be identified, mapped, and demarcated for animal pathogens (such as amphibian chytrid fungus), plant pathogens (such as *Phytophthora cinnamomi* or *Pomovirus solani*), and weed infestations (particularly declared weeds), using suitably qualified person. – For pathogens and diseases where there is insufficient evidence to map their location (eg. Potato Mop Top Virus) all locations that involve activities that have been identified as high risk (eg.	CM023 WMP (Appendix D)	Environmental Manager

Item	Specific control	Reference	Responsibility
	Potato farming, processing or disposal) will be treated as though the pathogen/disease is present		
B05	– The Australian Quarantine Inspection Service certificates for imported plant, equipment and materials will be reviewed prior to construction.	CM059	Environmental Manager
B06	– Property management plans to be negotiated and finalised with individual landholders prior to construction commencing and be consistent with the TasFarmers Farm Access Code of Conduct, will include property specific biosecurity requirements, including existing farm or forestry biosecurity plans where available.	CM018	TasNetworks
B07	– Housing for critical equipment will be designed to ensure it is vermin-proof.	CM006	Environmental Manager
Construction			
B08	– All vehicle movements are to be on formed roads, access tracks or hard stand areas	Biosecurity Hygiene Works Practice – TasNetworks	All Workers
B09	– All equipment and vehicles will be inspected and deemed clean and free of soil, mud, plant and organic debris prior to entering and before leaving the project area and in between landholder's properties to avoid the introduction or spread of weed infestations (particularly declared weeds). – The minimum standard for machinery and vehicles is not containing weed seeds or propagules, no clumps of dirt or loose soil present, and where there is risk of water borne pathogen transfer, vehicles and machinery must be dry before entry. – All inspections and washdowns will be recorded via QR Code form (oultined in Appendix C), including location, date, time, type, disinfectants used, and person carrying out inspection/washdown. – washdowns facilities/equipment will be subject to regular maintenance and inspections as detailed in Table 8.	CM023 CM059 TasNetworks Work Practice: Biosecurity Hygiene (TasNetworks, 2025a) Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania (NRE Tas, 2015)	Construction Manager All workers
B10	– All ground engaging plant and equipment engaged in weed clearance shall be cleaned of all loose soil and vegetation material in accordance the washdown procedures outlined in the *Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds*	Weed and Disease Planning and Hygiene Guidelines – Preventing the	All workers

Item	Specific control	Reference	Responsibility
	and diseases in Tasmania (NRE Tas, 2015). – A documented inspection of the plant and/or equipment must be completed as per the monitoring described in Table 8	spread of weeds and diseases in Tasmania (NRE Tas, 2015)	
B11	– All PPE will be cleaned and free from soil, mud, plant, and organic debris upon entry/exit of the project area. i.e. Upon entry, exit or movements between landholder's properties (or individual paddocks if required by landowner) to avoid spread of any existing infestations.	CM023 TasNetworks Work Practice: Biosecurity Hygiene	All workers
B12	– Washdowns will only be undertaken at designated wash down facilities/locations. – Washdown stations will use reticulated water supply or tank water. – Washdown will not be located within 50m of a waterway.	CM023 TasNetworks Work Practice: Biosecurity Hygiene (TasNetworks, 2025a)	All workers
B13	– A mobile wash-down trailer or bay will be used in locations where crews are required to cross property boundaries (i.e. from one property directly into another) to ensure no pathogens or weeds are transported between properties.	TasNetworks Work Practice: Biosecurity Hygiene (TasNetworks, 2025a)	All workers
WDH4	– All run-off from washdown bays will be contained – Where excess effluent is expected, washdown areas will be bunded to prevent water entering drainage lines or into vegetation	Arrive Clean, Leave Clean Guidelines (DCCEEW, 2021) Keeping It Clean - A Tasmanian Field Hygiene Manual to Prevent the Spread of Freshwater Pests and Pathogens (Allan, K., and Gartenstein, G. 2010)	All workers
B14	– Waste water from washdown stations/areas will be managed in accordance with Arrive Clean, Leave Clean Guidelines and Keeping It Clean - A Tasmanian Field Hygiene Manual to	Arrive Clean, Leave Clean Guidelines	All workers

Item	Specific control	Reference	Responsibility
	Prevent the Spread of Freshwater Pests and Pathogens.	(DCCEEW, 2021) Keeping It Clean - A Tasmanian Field Hygiene Manual to Prevent the Spread of Freshwater Pests and Pathogens (Allan, K., and Gartenstein, G. 2010)	
WDH6	– Where water is needed to be brought into the Project area and that water is at risk of containing pathogens, the water will be disinfected with a suitable disinfectant such as Phytoclean™ or F10™ to prevent introduction of pathogens	Flora Technical Note No. 8: Management of *Phytophthora cinnamomi* in production forest (FPA, 2024)	All workers Environmental Manager
B15	– Travel through areas with declared weed infestations will be avoided as far as reasonably practicable – If travel through declared weed infestations is unavoidable, removable screens will be placed over vehicle grills when travelling through declared weed infestations to prevent seeds from lodging in the radiator, where practicable.	CM023	All workers
B16	– The appropriate treatment approach for pest, pathogen or weed species will be defined by a suitably qualified contractor and required to be in accordance with the FPA Flora Technical Note No. 8 and other relevant guidelines. – All quarantine notices or directions from relevant authorities will be considered for the control of declared weed, animal pathogen or plant pathogen infestations.	CM023 Flora Technical Note No. 8: Management of *Phytophthora cinnamomi* in production forest (FPA, 2024) Management of *Phytophthora cinnamomi* for Biodiversity Conservation in Australia (DEH, 2005)	Environmental Manager

Item	Specific control	Reference	Responsibility
		WMP (Appendix D)	
B17	– Treatment (physical, chemical or both) of weeds/pathogens will be undertaken with consultation with landholders, included in Property Management Plans and will be conducted by a suitably qualified contractor. – Any treatment will be in line with the Forest Practice Code (FPA, 2020) and the Guidelines for Safe and Effective Herbicide Use Near Waterways (DPIPWE, 2012). – The SQP engaged to treat/manage weed infestations, must record the location of any new outbreaks that they identify and upload information into the Natural Values Atlas – Any weeds that are disturbed as part of project works will be either left onsite in a manner that will minimise further spread or be disposed of at a registered waste disposal facility as per TasNetworks Biosecurity Hygiene Works Practice. – The use of any herbicides will be in accordance with TasNetworks *Environmental Standard for Vegetation Management and Clearing July 2021*	CM023 CM080 Forest Practice Code (FPA, 2020) Management of *Phytophthora cinnamomi* for Biodiversity Conservation in Australia (DEH, 2005) Guidelines for Safe and Effective Herbicide Use Near Waterways (DPIPWE, 2012) TasNetworks *Environmental Standard for Vegetation Management and Clearing July 2021* WMP (Appendix D)	Environmental Manager
B18	– Herbicides will not be used within 50 m of any sensitive receptors unless authorised by TasNetworks. – Sensitive receptors for the purposes of this Subplan include but are not limited to; schools, childcare centres, waterways, drinking water intakes, organic farms, aged care homes, parks, sports ground, and any other 'no spray' areas.	TasNetworks Environmental Standard for Vegetation management and clearing (TasNetworks, 2025b)	Environmental Manager
B19	– Importing soils and fill materials to sites will be avoided as far as practicable. – Where this cannot be avoided, suppliers are required to provide Genus with, o A declaration that their product(s) are weed and disease free and/or o An independent biosecurity hygiene	CM023 Biosecurity Standard, R0002091338, TasNetworks, July 2025.	Construction Manager/ Environmental Manager

Item	Specific control	Reference	Responsibility
	assessment report of their operations and/or ○ Provide adequate evidence that their quarry operations maintain effective biosecurity hygiene measures – Should material be sourced from a borrow pit, this material can only be used on the same property that it was sourced from. No borrow pit material is to leave a single property boundary. – coarse aggregate is preferred for its drainage attributes. – Course aggregate is also preferred as it lowers the risk for spreading *Phytophthora cinnamomi*		
B20	– Working in weed infested sites or animal and plant pathogen infected sites will be avoided as far as practicable. – If unavoidable, weeds and/or pathogens will be treated and removed by a suitably qualified technician, prior to construction works commencing. – Where is it not possible to confirm the presence of (e.g., Potato Mop Top Virus) or treat weeds/pathogens that are present, workers must comply with vehicle, PPE and equipment washdown and hygiene protocols as detailed in this plan, See Appendix C – Biosecurity Washdown Checklist	CM023 CM058 WMP (Appendix D)	Environmental Manager All workers
WDH5	– PPE, including work boots, will be dry brushed and disinfected in between landholders' properties, and when moving between weed infested and non-infested properties – When working in sensitive areas or in the proximity of waterbodies or threatened vegetation, a portable wash bath will be used to wash footwear and any small tools	TasNetworks Work Practice: Biosecurity Hygiene (TasNetworks, 2025a) Keeping It Clean - A Tasmanian Field Hygiene Manual to Prevent the Spread of Freshwater Pests and Pathogens (Allan, K., and Gartenstein, G. 2010)	All workers

Item	Specific control	Reference	Responsibility
		Flora Technical Note No. 8: Management of Phytophthora cinnamomi in production forest (FPA, 2024)	
B21	– Movement of vehicles and machinery through native vegetation or crops and areas with livestock or waterbirds will be avoided where practicable.	CM042	All workers
B22	– Pest animals will be managed in accordance with Section 7 of TasNetworks Wildlife Interaction Standard. – Vermin at the switching station will be managed using appropriate measures (e.g. bait and trap stations). – Where bait is required, non-anticoagulant rodenticide baits will be used. – Bait stations and traps will be inspected weekly, and any dead vermin will be disposed of appropriately.	CM007 CM059	Environmental Manager
WDH7	– Any soil excavated from weed infested sites must be as close as practicable to where it was removed, and buried under >500mm of clean soil – Soil from weed infested sites must not be transported into weed free zones	Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania (NRE Tas, 2015) Flora Technical Note No. 8: Management of Phytophthora cinnamomi in production forest (FPA, 2024)	Environmental Manager Construction Manager
WDH8	– All soil stockpiles will be clearly labelled either clean or infested and will be spatially separated	Weed and Disease Planning and Hygiene	Environmental Manager Construction Manager

Item	Specific control	Reference	Responsibility
		Guidelines – Preventing the spread of weeds and diseases in Tasmania (NRE Tas, 2015) Flora Technical Note No. 8: Management of Phytophthora cinnamomi in production forest (FPA, 2024)	
WDH9	– Importing fill material will be avoided where practicable – Where this is not possible, material will only be sourced where documentation can be provided as to the weed/pathogen free status of the material	Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania (NRE Tas, 2015) Flora Technical Note No. 8: Management of Phytophthora cinnamomi in production forest (FPA, 2024)	Environmental Manager Construction Manager
WDH10	– Machinery and vehicles that have operated on agricultural land, in particular potato production areas will undergo a full washdown prior to movement into other zones	Biosecurity Tasmania - Potato Mop Top Virus (NRE, 2025)	All workers
WDH11	– Soils from potato cropping areas will not be transported or reused at other sites	Biosecurity Tasmania - Potato Mop Top Virus (NRE, 2025)	Environmental Manager
Post-construction			

Item	Specific control	Reference	Responsibility
B23	– Ongoing monitoring and follow up treatment of weed infestations will be undertaken as outlined in the WMP (Appendix D). – All monitoring and remediation treatments will be recorded.	CM023 WMP (Appendix D)	Environmental Manager

9. Monitoring requirements

Table 8 Summary of Biosecurity Management Subplan monitoring program

Location	Monitoring requirement	Frequency	Record	Responsibility
Project site	– Monitor for weeds establishing within the project boundary throughout construction – Identify new weeds, assess effectiveness of management measures and control activities	– Biannually (spring and summer)	Site inspection checklist	Environmental Manager
Project site	– Document the inspection of the plant and/or equipment washdowns must be completed	– Prior to arrival on sites – Prior to movement within the project site from known infested/infected areas to non-infested/ infected areas – Prior to movements where crews are required to cross property boundaries (i.e. from one property directly into another) – Prior to demobilisation from project site	Washdown checklist	Site Supervisor
Soil and quarry material	– Supplier to provide evidence of imported material being weed and	– Prior to use of soil, aggregate or other material	Declaration, audit report, or other	Environmental Manager

Location	Monitoring requirement	Frequency	Record	Responsibility
	disease free.		suitable evidence	
Washdown facilities	– Washdown facility inspection	– Weekly when in use	Site inspection checklist	Construction Manager
Locations at risk of containing P. cinnamomi	– Monitoring vegetation condition in locations at risk of containing P. cinnamomi	– As required	Site inspection checklist	Construction Manager

10. Adaptive management measures

Table 9 Biosecurity Management Subplan triggers and contingencies

Trigger	Adaptive management measure
Introduction of new pathogens, weed or pest species not currently identified within the project area	– Identify the species, likely origin, potential pathways for dispersal, and risk level – Where possible, restrict movement of soil, vehicles or equipment from affected area, isolate and flag the outbreak zone/s – Consult with a pest/weed management specialist to determine suitable control measures and undertake – Review and update Biosecurity Management Subplan (including WMP) as necessary
Spread of existing weeds/pathogens into the project area	– Identify the species, cause of spread, and risk level – Where possible, restrict movement of soil, vehicles or equipment from affected area, isolate and flag the outbreak zone/s – Consult with a pest/weed management specialist to determine suitable control measures and undertake – Review and update Biosecurity Management Subplan (including WMP) as necessary – Review and update washdown procedure
Identification of previously unrecorded weeds	– Survey to be completed by a SQP to formally identify and map weed – Results of survey to be uploaded to the Natural Values Atlas
Biosecurity event declared under the Tasmanian Biosecurity Act	– In the event of a declared biosecurity event, the environmental manager will review and seek advice from biosecurity Tasmania – All biosecurity measures adopted by the project will be reviewed and updated in accordance with any advice – All workers are to be re-inducted to ensure any new biosecurity protocols adopted by the project are understood and implemented

Trigger	Adaptive management measure
	– CEMP and subplans are to be reviewed and updated in accordance with any advice from Biosecurity Tasmania or TasNetworks

11. Reporting and documentation requirements

Table 10 Biosecurity Management Subplan reporting requirements

Reporting requirement	Type	Frequency	Responsibility	To who
Weed inspection report	Inspection	Biannually – Following each weed monitoring event	Environmental Manager	Executive Sterring Committee
Incident and non-conformance notification (in accordance with Section 7.1 of CEMP)	Report	Immediately	All workers	Construction Manager & Environmental Manager
Vehicle and PPE washdown checklist	Checklist	Daily – upon entry and exit of all sites	All workers	Environmental Manager
Washdown Facility/Location	Inspection	Weekly	Construction Manager	Environmental Manager
Washdown Facility (Drive through type)	Maintenance	TBC – will be in accordance with manufacturer guidelines and supplier advice – these will be known after purchase	Construction Manager	Environmental Manager
Washdown Facility (temporary/portable)	Inspection	As above	Construction Manager	Environmental Manager

12. Reviews and updates

If monitoring determines that the controls outlined in this management subplan are not effective, the process generating the adverse outcome will be paused. Alternative management controls will be determined in accordance with the CEMP and the above management measures. Once determined, works may resume.

This document is not static and will be updated during the approval process to reflect new information and changes to management measures, in accordance with the CEMP.

13. Document history

13.1 Current document authoriser

Title	Name
General Manager – Major Projects Transmission	Craig Gosney

13.2 Revision history

Rev	Date	Author	Authoriser	Details of Amendment
A	27/10/2025	GHD	Craig Gosney	Initial document – 70% Design Gate Draft
B	30/01/2026	GHD Genus	Craig Gosney	90% design gate submission addressing TasNetworks' comments from 70% design gate submission
C	24/03/2026	GHD & Eilah Cumming (GNI)	CG	90% TN comments addressed, Permit Conditions Addressed, IFC Submission
D	22/04/2026	GHD Genus	CG	Address 100% TN comments, updates based on provisional EPBC Approval conditions
E	15/06/2026	GHD Genus	CG	Address TPC comments

Appendices

Appendix A

TasNetworks Work Practice: Biosecurity Hygiene

Work Practice:

Biosecurity Hygiene

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Task

- Managing biosecurity risks and undertaking biosecurity hygiene

Scope

- All operational, maintenance and construction work

Risk and importance:

All work being performed by, or on behalf of TasNetworks, has the potential to spread weeds, pests and disease. Refer to TasNetworks biosecurity videos Biosecurity Video 1 **and** Biosecurity Video 2**.** Check that the level of biosecurity risk has been assessed for all work, and controls specified prior to work commencing. Additional controls must be specified for moderate and high-risk work – refer to Table 2 on page 3.

Table 1 - biosecurity risk definitions

Moderate risk work	High risk work
Construction or maintenance work on private farmland	Any work on a property with a biosecurity management plan in place
Work, or travel, in areas with no maintained roads or access tracks	Construction or maintenance work within 50m of Zone A weeds
Any vegetation management or vegetation clearing work	Maintenance or construction work in a public or private reserve
Any ground disturbing work including access track maintenance or construction	Construction or maintenance work in a phytophthora management zone (PMZ)
Construction or maintenance work within 50m of zone B weeds	Any work in a biosecurity emergency area
Any work within 50m of soil or water borne diseases (root rot and chytrid)	Any vegetation management or ground disturbing work where vehicles and machinery arrive dirty

Tools and Equipment:

- NetMaps environmental layers
- Vehicle wash-downs at depots
- Dry wash-down kit (scraper, brush and pan)
- Handheld blowers and vacuums
- Mobile wash-down trailers
- Disinfectant using all applicable PPE

Relevant documents and resources:

TasNetworks Biosecurity Standard

Accessing Rural Properties

The Environment and Sustainability (E&S) Team

TasNetworks Weed ID guide

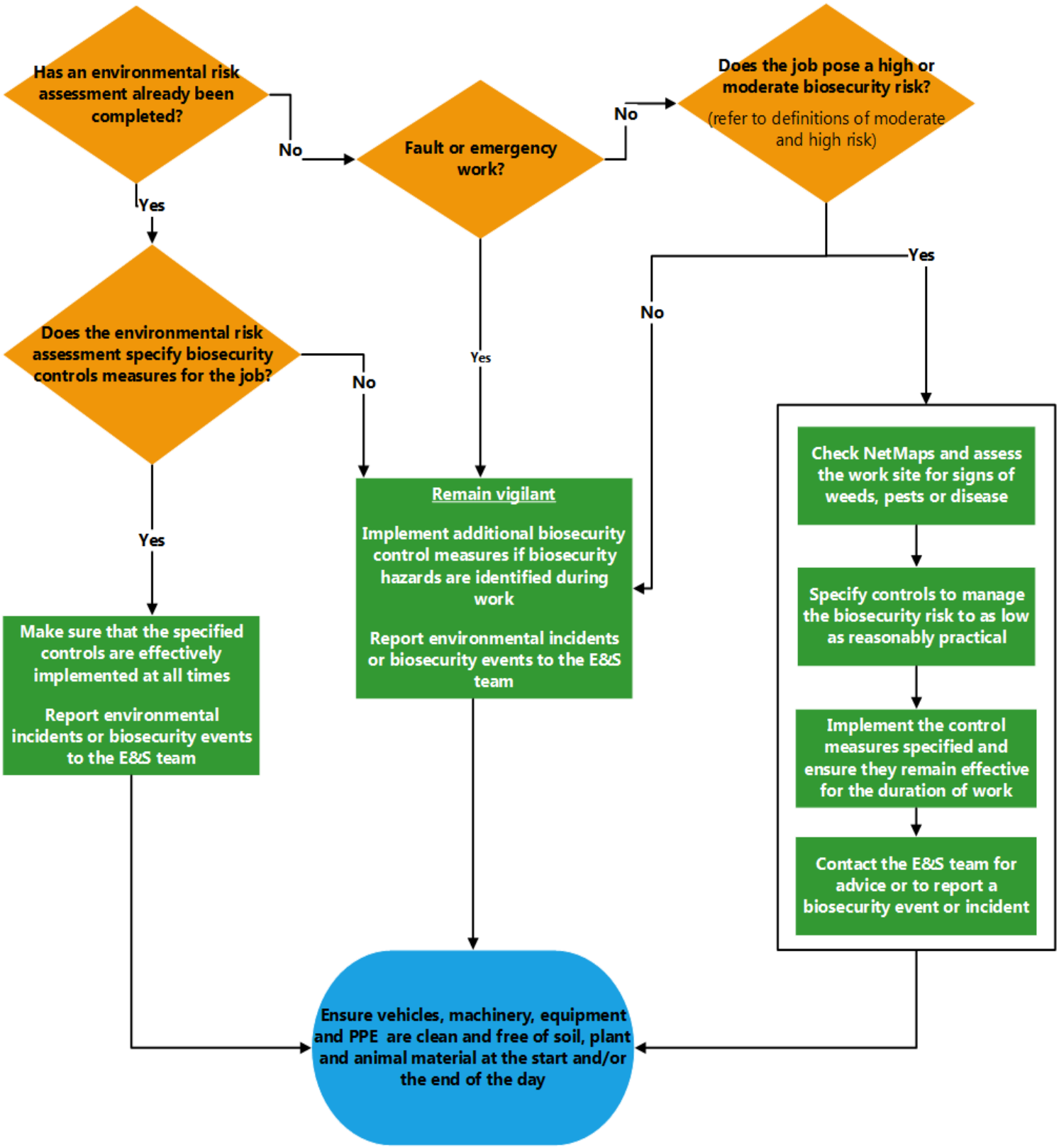
Biosecurity Tasmania website and the **Biosecurity Tasmania Advisory Service**

Work Practice:

Biosecurity Hygiene

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Biosecurity management and planning process



Biosecurity control measures

Once the level of biosecurity risk has been determined, select and implement controls from the biosecurity control guide (table 2) to reduce the level of risk to as low as reasonably practical. **Remember!**

Implementing multiple controls will reduce the overall level of control effectiveness.

	Table 2 - Biosecurity control measures	Level of biosecurity risk		
		Low risk	Moderate risk	High risk
Biosecurity controls	**Arrive Clean**. Arrive on-site with clean vehicles, tools, machinery and PPE	SHOULD	MUST	MUST
	Complete work near areas of weeds, pests or disease **last** on a given day of work	N/A	SHOULD	MUST
	Complete work in high values areas (e.g. National Parks, high-value agricultural areas) **first** on a given day of work	N/A	N/A	MUST
	Avoid disturbing any declared weeds while working on-site	N/A	MUST	MUST
	Use maintained roads and access tracks	SHOULD	SHOULD	SHOULD
	Avoid travelling directly through areas with livestock, crops, weeds, pests or disease	SHOULD	SHOULD	MUST
	Leave Clean. Remove excess soil, plant and animal material from vehicles, machinery, tools and PPE before leaving site	SHOULD	MUST	MUST
	Avoid working in wet or muddy conditions	N/A	CONSIDER	SHOULD
	Minimise soil and ground disturbance	MUST	MUST	MUST
	Work or travel from the least to the most weed infested areas	N/A	SHOULD	MUST
	Setup exclusion zones around biosecurity hazards	N/A	SHOULD	SHOULD
	Leave all declared weeds on site in manner that will minimise further spread	N/A	MUST	MUST
	Securely transport any declared weeds, or material contaminated with declared weeds, for disposal	N/A	MUST	MUST
	Dispose of weeds, or plant material contaminated with weeds, at a registered waste management facility	N/A	MUST	MUST
	Identify and use defined site entry and exit points in consultation with the landowner/manager	CONSIDER	SHOULD	MUST
	Use a mobile wash-down trailer to clean all mobile plant and equipment	N/A	SHOULD	MUST
	Disinfect and dry mobile plant and equipment before leaving site	N/A	CONSIDER	SHOULD

Work Practice:

Biosecurity Hygiene

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Before starting work

Step	Instruction
1.	**Contact the customer** • Notify the customer or land manager prior to heading on-site, particularly where they have biosecurity signage in place. • For construction work, provide the customer with at least one week notice prior to commencing work. For work in public or private reserves, two weeks' notice must be given. • For asset inspections, fault work and meter reading the customer can be notified on the day. • Team members must comply with all reasonable biosecurity directions given by the land owner/manager.
2.	**Check the job pack** • Check that an environmental risk assessment has been completed. Make arrangements to implement any controls that have been specified in the job pack.
3.	**Plan the day** • Make time for biosecurity hygiene. This includes wash-down of vehicles, machinery and equipment when leaving site or returning to the depot at end of day. • Be aware and plan for the order of work required. E.g. visit the most weed infested sites last.
4.	**Be ready to implement controls** • Arrange to have all the necessary tools and equipment to undertake biosecurity hygiene prior to heading to site (refer to Appendix G). • Contact the E&S Team for advice or support (environment@tasnetworks.com.au)
5.	**Arrive on-site clean** • **Ensure that all mobile plant, equipment and PPE arrives on-site clean and free of as much soil, plant and animal material as possible.**
6.	**Communicate with team members** • Make sure everyone is aware of any biosecurity risks and the controls specified before starting work. • Use a Weed ID Guide to help identify declared and environmental weeds on site. Document any additional biosecurity controls specified on the JRA.

During the completion of work

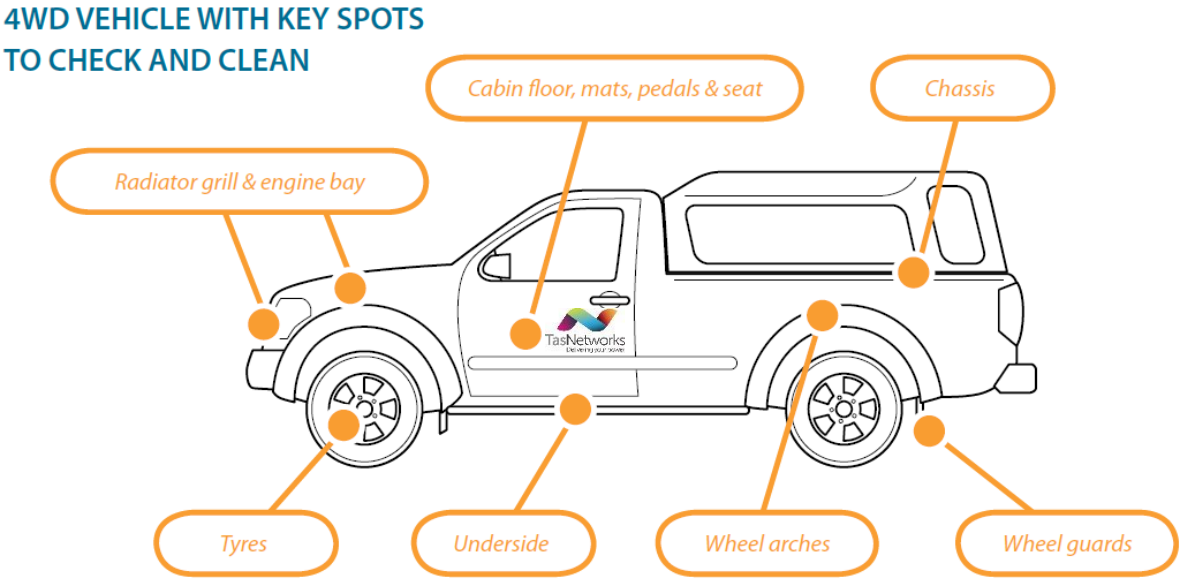
Step	Instruction
7.	**Implement controls** • Implement all the biosecurity hygiene controls measures which have been specified as part of the job (Appendix G).
8.	**Monitor control effectiveness** • Check that all biosecurity controls measures remain effective during construction work. Stop work if an environmental incident is likely to occur.

9.	**Report incidents** • Report significant biosecurity events or suspected biosecurity incidents to the E&S Team

Following the completion of work

Step	Instruction
10.	**Check** • Check vehicles, machinery, tools and PPE for soil, animal and plant material before leaving site in a safe location. • All Machinery and vehicles and tools must be made safe prior to checking.
11.	**Clean** • Clean all dirty vehicles, machinery, equipment and PPE (including footwear) before leaving site or, before using the items again (refer to Appendix A & B). • Aim to remove as much soil, plant and animal material as practical. • Thoroughly clean dirty vehicles, machinery, tools and PPE back at the depot, using vehicle wash-downs and vacuums, so they are clean and ready for the next day of work.
12.	**Wash-down** • Where specified, clean dirty vehicles, machinery or tools on site using a wash-down trailer. • Only use clean water and ensure on-site wash-downs are done at least 100m from any waterways. Refer to Appendix D.
13.	**Disinfect and dry** • Where specified, vehicles and equipment must be disinfected and dried before leaving site. Refer to the MSDS and use all applicable PPE when applying any disinfectants.
14.	**Record weed, pest and disease observations** • Notify the E&S team of any declared weeds under power lines in National Parks and the Wilderness World Heritage Area (WWHA). • Immediately report any suspected disease or pest outbreaks to the landowner or E&S Team.

Appendix A – Cleaning light vehicles - Biosecurity Video 3



1. Agree on a wash-down location prior to starting work with the landowner or land manager. Ideally, it should be near the site exit/entry point to prevent recontamination.



Cleaning the radiator grill with dry brush

2. Park the vehicle on a flat, secure location away from traffic and roadsides. Ensure the vehicle engine is off and that the handbrake is on.

3. Clean from the top down. Focus on the radiator grill, wheel guards and arches. Clean the tyres and accessible parts of the vehicle underside last.

4. Check and clean all toolboxes, storage compartments and foot wells and clean as needed. Vacuums are available at operational depots.

5. Always follow the manufacturer's instructions when checking and cleaning behind protective guards and plates. DO NOT use high-pressure water jets in compartments that contain electronic components or bearing seals.

6. Ensure all dirt, mud and plant material is left on-site (unless off-site disposal is required) in a manner that will prevent further spread.

7. Where required, dry (using a blower) and/or sanitise (using F10) the vehicle to prevent the spread of animal or plant diseases.

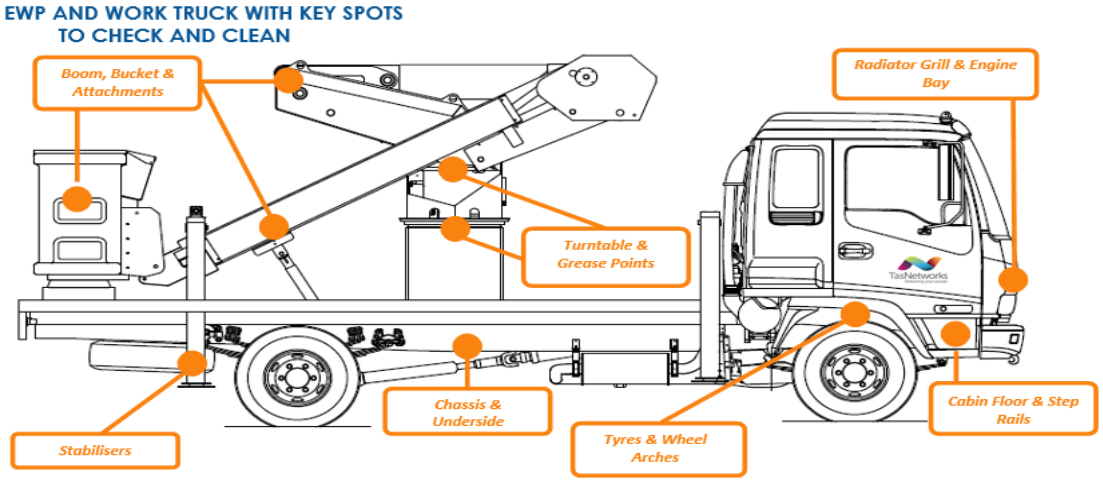
8. Once finished, move the clean vehicle carefully from the wash-down location, avoiding recontamination. If necessary, wash any remaining mud, soil or plant material from the tyres or boots.



Cleaning the wheel arches and

Appendix B – Cleaning large vehicles (EWPs and pro lines)

Biosecurity Video 3



1. Agree on a wash-down location prior to starting work with the applicable landowner or land manager. Ideally, it should be near the site exit/entry point to avoid recontamination.
2. Park the vehicle on a flat, secure location away from traffic and roadsides. Ensure the vehicle engine is off and that the handbrake is on.
3. Wear safety glasses if using a high-pressure cleaner.
4. Clean heavy vehicles from the top down. Focus on areas where mud and plant material are likely to attach such as the wheel guards, wheel arches and the radiator grill. Clean the tyres and accessible parts of the underside last.



Washing the tyres and wheel arches

5. Always follow the manufacturer's instructions when checking and cleaning behind protective guards and plates. DO NOT use high-pressure water jets in compartments that house electronic components or bearing seals.
6. Check and clean all toolboxes, storage compartments and foot wells as needed.
7. Where required, dry (blower) and/or sanitise (F10) the vehicle to prevent the spread of animal or plant disease.
8. On completion, move the clean vehicle carefully away from the wash-down site, avoiding recontamination. If necessary, clean any remaining mud, soil or plant material from the tyres or boots.



Washing the radiator grill and undercarriage

9. Ensure all dirt, mud and plant material is left on-site unless off-site disposal is required.

Appendix C – Cleaning tools and PPE

If team members are working near, or passing through, areas with livestock or declared or environmental weeds during work:

- Avoid these areas where practical, or where specified by the landowner.
- Consider wearing gaiters to avoid seeds and other plant or animal debris from attaching to footwear.
- Clean boots, clothing and other PPE using a stiff brush or scraper to remove any plant or animal material and mud and dirt before leaving site.

For other types of vehicles or tools not covered above see:

Wash-down Guidelines for Weed and Disease Control

Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania [NRE.tas.gov.au]

Appendix D – Using mobile wash-down trailers

A mobile wash down trailer may be required large construction jobs or where crews are moving between sites without returning to a depot. The following must be considered when using a mobile wash-down trailer:

- Only use water from a reticulated water system or tank.
- Remove as much plant and soil material from the vehicle before washing down.
- Select an appropriate wash-down down site when using a mobile wash down trailer. Consider the following:
    - Site run-off – Make sure the site is at least 100m from watercourses and drains—this will help prevent the spread of invasive plants and will avoid polluting waterways.
    - Pollution – Make sure oil spill kits are on hand to soak excess water if washing down vehicles that may have oil/grease/ hydraulic fluids on board.
    - Drainage – Choose a relatively flat site to help prevent run-off and to ensure safety. Choose a grassed or gravelled location to allow for drainage.
    - Location – Ensure the site can be easily identified, as it may need to be monitored. Record the location and notify the E&S Team

Appendix E – Disinfecting vehicles, machinery and equipment

Vehicles, equipment and machinery may need to be disinfected before, or after, working in a biosecurity management zone (i.e. in a Phytophthora Management Area) or in areas with water borne (chytrid) or soil borne diseases (root rot).

- Where required, disinfect and/or dry all vehicles, machinery, equipment and PPE to prevent the spread of animal or plant diseases.
- All surfaces that have potentially been exposed to soil, water or animal materials must be treated before leaving site.
- Where disinfectant or sanitising is specified, follow the manufacturer instructions on the safety data sheet (SDS) and use the required PPE.
- Ensure disinfectant does not enter waterways, especially where a mobile wash-down trailer is being used.
- When drying is required, use a blower to dry areas on vehicles and equipment that retain water.

Refer to NRE's Keeping It Clean: Field Hygiene Manual or Flora Technical Note No. 8: Management of Phytophthora cinnamomi in production forest

Appendix F – sourcing weed and disease-free fill/quarry material

All reasonably practical efforts should be made to ensure that the material sourced from a quarry for any job or project, is not contaminated with weeds or disease.

For work that will use >10m3 of quarry material:

- The supplier must have a recent assessment (or inspection) of biosecurity hygiene and weed and disease-free status. Request and review the supplier's biosecurity hygiene management documentation prior to purchase or;
- Request a statutory declaration from the quarry or supplier stating that their product is free of weeds and disease.

For work that will use <10m3 of quarry material:

- Suppliers with an assessment (or inspection) of biosecurity hygiene and weed and disease-free status preferred for all work.
- If not, visually inspect the quarry or site where the material is to be sourced. There should be no declared weeds on site and biosecurity hygiene measures should be in place (i.e. vehicle wash-downs).

Certification of weed and disease-free status must be captured as part of your environmental risk assessment. Refer to Flora Technical Note No. 8: Management of Phytophthora cinnamomi in production forest for more information.

If you suspect that any quarry material is contaminated with weeds or disease, immediately notify the supplier and the E&S team.

Appendix G – Tools for biosecurity hygiene

Tool	Relevant work	Details
Vehicle wash-downs	All work	• Available at all TasNetworks operational sites (except Huonville and New Norfolk). Commercial vehicle wash-down facilities may also be used in negotiation with the facility operator. • There are public truck washes at Powranna and Smithton. Request access here
Vehicle biosecurity kits	All work	• Available from materials management. Contains: Brush and pan, scraper, broom, stiff brush, plastic bags.
Handheld blowers	All work	• Available to order. Used for cleaning the inside and outside of vehicles, trays and tyres chassis before leaving site or for drying vehicles, tools and PPE where required.
Mobile wash-down trailers	Moderate or high-risk work	• Available for jobs that require thorough cleaning of mobile plant on-site to prevent the spread of weeds or diseases
Disinfectant	High-risk work	• Available on request. Use on vehicles, tools and PPE when working near sites with outbreaks of animal, soil or water borne diseases or; where required by the land owner or manager.
Exclusion zones/bunting	High-risk work	• Used to prevent inadvertent access to areas which contain high-risk weeds, or potential carriers of disease.

Appendix H - definitions

Term	Definition
Biosecurity matter	As defined under the *Biosecurity Act 2019*
Biosecurity event	As defined under the *Biosecurity Act 2019*
Biosecurity incident	The spreading of any weeds, pests and disease by TasNetworks operations
NRE	Department of Natural Resources and Environment Tasmania
EMP	Environmental Management Plan
General Biosecurity Duty	The GBD imposes a duty of care on all persons to take reasonable and practical measures to manage biosecurity risks as defined under the *Biosecurity Act 2019*
High-value areas	Includes, but is not limited to, all public and private reserves as defined under the Nature Conservation Act, private farmland and other areas with active biosecurity plans and other areas with significant community value.
Work site	The area in which work is to be undertaken
WWHA	The Wilderness World Heritage Area
Zone A weed	"Zone A" includes those Tasmanian municipalities for which eradication of a declared weed is the principal management objective. These municipalities are either free of the declared weed, host only small, isolated infestations, or host larger infestations which are deemed eradicable because a strategic management plan exists and the resources required to implement it have been or are likely to be secured
Zone B weed	"Zone B" includes those Tasmanian municipalities for which containment of the declared weed is the principal management objective. Such municipalities host large, widespread infestations of the declared weed that are not deemed eradicable because the feasibility of effective management is low at this time.

Appendix B

TasNetworks Weed Guide

weed warning

weeds of tasmania



A Guide to Environmental
and Agricultural Weeds
of Tasmania

This booklet was reprinted by TasNetworks with permission of NRM South and the Department of Primary Industries, Parks, Water and Environment.



agricultural & environmental weeds

What are environmental weeds?

Environmental weeds are non-local plants that invade and change our landscapes, threatening the survival of native plants and animals.

What are agricultural weeds?

Agricultural weeds are also non-local plants that invade our productive areas, including grazing and cropping lands, orchards and berry farms, dairy farms and vineyards. The impact of weeds on agriculture is over $60 million annually.

Where do they come from?

Weeds can come from all over the world. They can even be Australian native plants outside their natural range – these out-of-place natives can be just as devastating as foreign plants.

In the past 25 years, at least 65% of all plants that have become weeds in Australia were deliberately introduced as garden plants!

Weeds, spread by wind, birds or dumped garden waste, can take over natural and agricultural landscapes. Weeds can also be spread by boots, vehicles, contaminated soil, mud, gravel, agricultural produce, stock and feed.

What will happen if we don't do anything?

Tasmania is lucky to still have many areas of natural biodiversity that are worth protecting. If we do nothing, Tasmania's unique natural landscapes will be lost forever and agricultural land will become less productive.
Every moment we ignore weeds, the further they spread.



Gorse has invaded the landscape across much of Southern Tasmania.

Weeds of National Significance and Declared Weeds

Some weeds are so serious they are listed as Weeds of National Significance (WONS). Declared Weeds are those listed under the *Tasmanian Weed Management Act 1999*. Declared Weeds have a special legal status that requires landowners and managers to eradicate or control them.

Why weeds are a growing problem

Agricultural and environmental weeds need to be controlled because they:

- take over huge areas of natural coast and bushland (broom, boneseed)
- take over huge areas of agricultural land (gorse, blackberries)
- destroy animal habitat (sea spurge)
- impact on coastal processes (marram grass)
- change the shape & ecology of waterways (willows)
- hinder the regrowth of natives (Spanish heath, gorse, boneseed)
- restrict access (blackberries, African boxthorn, gorse)
- can be a danger to human health (arum lilies, ivy)

Using this booklet

Weeds in this booklet are colour-coded by the following plant types:

GRASSES

LILLIES

HERBS

CREEPERS & CLIMBERS

SHRUBS & TREES



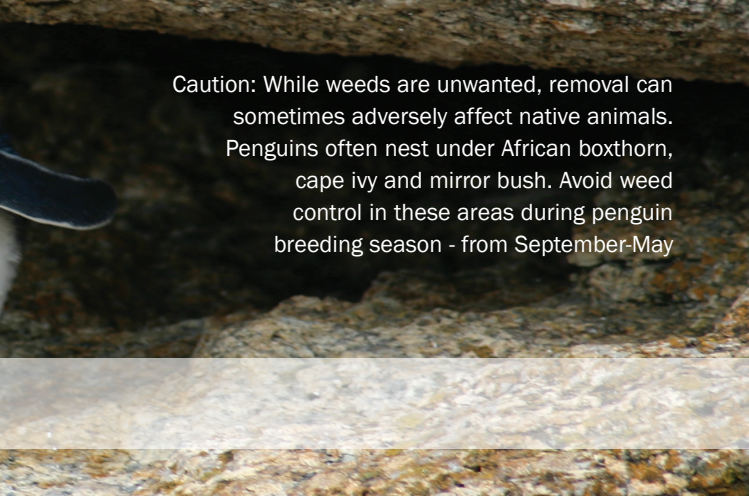
get involved

Things you can do to help

- If you want to plant exotic species, make sure they don't have the potential to become environmental weeds. Ask your nursery for guidance and avoid plants included in this booklet.
- Plants with berries are more likely to become a weed as birds may disperse them. Be cautious of plants closely related to known serious weed - e.g. all brooms.
- If you are buying water-plants get a positive identification on the species. Water-weeds can spread very rapidly. Dispose of unwanted pond or aquarium plants carefully in a sealed plastic bag, not into waterways.
- Wash your car on your lawn to prevent nutrients from entering our waterways and bushland – weeds thrive on nutrients!
- Join or form a Landcare, Coastcare or Friends group to tackle weeds in your area.
- Expert advice is available from local councils, DPIPWE and the Tasmanian Herbarium.

Don't spread them around

Weeds can easily spread to new locations on contaminated machinery and people. Check your clothes, shoes, vehicles and equipment for soil or plant matter that could be carrying plant material. Avoid driving through weedy areas so that your vehicle won't need so much cleaning when you're done. If contractors are slashing or mowing on your property, ask them how they are preventing weeds spreading across sites.



Caution: While weeds are unwanted, removal can sometimes adversely affect native animals. Penguins often nest under African boxthorn, cape ivy and mirror bush. Avoid weed control in these areas during penguin breeding season - from September-May

Tips on weed removal

- Check it is a weed and not a native. Get expert advice to make sure you are not removing a native by mistake.
- Make sure removal is the best option. Some areas with weeds such as beaches, dunes, rivers and creeks may be best left alone. These areas are prone to erosion, can be important animal habitats, and may contain Aboriginal heritage sites. Contact your local weeds officer (local council or DPIPWE) for advice.
- Get permission before removing weeds on bushland or coastal reserves or land you do not own. Check with landowners first; farmers, local council, Parks and Wildlife Service or Crown Land Services.
- Plan your weed removal. Gradual removal ensures native habitat is not lost (and allows native fauna species to adapt), new bare areas are not created for more weeds to colonise and erosion is avoided. Plan weed removal and revegetation simultaneously. In agricultural situations replant with desired species.
- Minimise disturbance. Remove isolated weeds in areas of good bush and agricultural land before tackling a dense infestation:
    1. Hand-pull seedlings from moist soil or after rain.
    2. Fill in holes with soil and pack down firmly.
    3. Cut and paint stems rather than pulling out large plants.
    4. Don't pull or rip down climbers from trees as damage can occur to native or non-invasive species.
- Replace with natives. Check that your local nursery you are dealing with stocks native plants that have been propagated from locally collected seed.

Recommended Weed Control Methods

Plan

Identify weed and native species. Identify the best control method for each weed species and treat accordingly.

Hand-pull or Dig-out

Hand-pulling is a relatively gentle control method for seedlings, herbs and grasses. Some larger plants such as boneseed may also be pulled out quite easily. It is easier to remove all the roots from moist soil.

Dig out plants with tougher root systems: insert a long knife or narrow trowel into the soil outside the root system. Gently loosen the soil, work around the roots and then work the plant out gently. You may need to also remove corms, bulbs or tubers.

Plants without seed that will not resprout can be left on-site to rot. Otherwise, bag weeds, take to your local waste transfer station and remember to cover your load.

Mechanical Removal

Mechanical removal can reduce the volume you need to treat, and may provide easier access. If using chainsaws, brushcutters or slashers be sure to minimise soil disturbance and clean machinery well afterwards. Always consider native plant and animal habitat, and seek advice first.

Biological Control

Find out if any biological control options are available in your area before using chemicals. If biological controls are used, there still needs to be management of seed stock during the biocontrol process.

Chemical Control

Get professional advice and follow herbicide instructions. By law, herbicide control may only be undertaken using chemicals registered for specific weeds and situations. If spraying near waterways, check that the appropriate chemical is used. In pastures, use selective herbicide that does not kill grass, whenever possible.

Cut and Paint

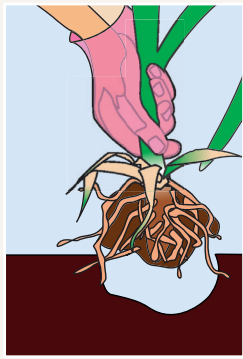
This is the best technique for large or woody weeds. Cut all stems as close to the ground as possible. A horizontal cut prevents runoff of poison. Apply herbicide to cut stems within 20 seconds. For creepers, climbers and some other woody plants it is possible to scrape the woody stem and paint with herbicide.

Cut and Fill and Frilling

Contact DPIPWE on 1300 368 550 for advice.

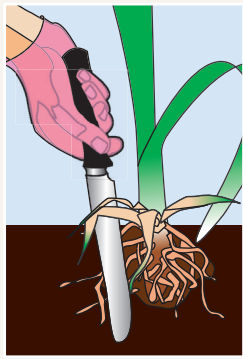
Safety first!

Always wear protective clothing: Long pants and sleeves, boots, gloves, mask and eye protection – especially when handling toxic weeds or using chemicals. Ensure you have the correct certification and training where applicable. Check this guide for toxic plants, marked with this “toxic” symbol.



Hand-pull

Hold at the base of the plant.



Dig Out

Make sure you get all the roots.



Cut and Paint

Take all safety precautions and wear protective clothing.

Responsible Disposal of Weeds

Correct disposal of weeds, or contaminated soil containing weed can be difficult. Some weeds (such as Declared weeds) have transport restrictions and will need to be dealt with on your property. Local green waste disposal sites are not able to accept Declared weeds. It is best to discuss disposal options with a weed officer first. Most councils have a weed officer or you can contact DPIPWE weed officers for advice. If you do need to dispose of weeds, following the guidelines below will help to minimise the spread.

- Research your weed, find out what species is it, when it flowers, the best time to control it and the best control methods.
- Avoid undertaking control when plants are in seed, this will reduce the risk of spreading the seed.
- Dispose of the weed correctly. This may include burning on site, composting, double bagging seed heads and possibly deep burial on site or at a waste disposal station.
- Monitor the disposal area and the area controlled. Weeds can take many years to eradicate, but with annual monitoring and control this task will get easier every year.

Follow up

Follow up is essential until the seedbank is exhausted (an average of seven years). For some species, such as gorse, this can be more than 25 years.

Pasture Management

To limit weed germination, maintain ground cover with grasses and clover. Do not overgraze.

Control Methods

All Declared weeds in Tasmania have a control guide prepared by DPIPWE. These are available online.

A limited number of non-Declared weeds also have control guides. These species are highlighted throughout this guide.

Alternative Plants

If you are removing weeds from bushland, it is generally best to leave the bush to regenerate naturally.

If you plan to remove plants from your garden consult the NRM South Native Plant Species List (available from the NRM South website or from your local council) for a list of suitable native plants.

For advice about native plants contact:

The Understorey Network
www.understorey-network.com.au

The Australian Plant Society Australia (Tasmania)
www.apstas.com

Visit your local nursery or ask one of the above organisations for details of nurseries specialising in Tasmanian native plants.

Further Information

This booklet has been developed as a guide for identification of significant weeds in Tasmania. If you are uncertain about weed identification or the most appropriate control method, seek advice from your local council or from DPIPWE.

There are a range of biosecurity resources on the NRM South website and the Washdown Guidelines for Weed and Disease Control can also be found on the DPIPWE website.

NRM South:
www.nrmsouth.org.au/biosecurity/

DPIPWE:
dpipwe.tas.gov.au

Definitions:

Declared Weed: Declared Weeds are listed under the Tasmanian Weed Management Act 1999. Declared Weeds have a special legal status that requires landowners and managers to eradicate or control them.

WONS: Weeds of National Significance are priority weeds that are considered to have a serious potential to negatively affect landscapes based on their invasiveness, potential for spread and environmental, social and economic impacts. WONS require coordination among all levels of government, organisations and individuals with weed management responsibilities.



African boxthorn

Lycium ferocissimum

WONS DECLARED

Native to Southern Africa

Description: Thorny, many-branched shrub growing to 5m.

Flowers: Mainly spring-summer – purplish-white, fragrant flowers.

Fruits/Seeds: Summer/autumn – bright orange-red fleshy berries with <70 dull yellow seeds.

Dispersal: Birds and animals, gravel, produce, garden waste. Suckers from root fragments if disturbed.

Control: May be important penguin habitat in coastal areas – check with PWS. Dig out small plants in moist soil or cut and paint. If penguin habitat, dead plants should be left in situ, and/or artificial burrows provided. Otherwise burn waste to facilitate follow-up.



African feathergrass

DECLARED

Cenchrus macrourus, syn. *Pennisetum macrourum*

Native to South Africa

Description: Upright tussock-forming grass to 2m. Stems cylindrical, hairless, leaves light green. Sturdy rhizomes and fibrous root mass.

Flowers: Late spring-summer – flower-heads pale brown to straw coloured, often with purplish tinge, in feathery spikes.

Fruit/Seeds: Seeds yellow-brown, 5-7mm long, drop in summer-autumn.

Dispersal: Mostly by rhizomes, but also long lived seeds in water or contaminated soil.

Control: Cultivation, pasture improvement and/or herbicides.

LIMITED DISTRIBUTION – REPORT TO DPIPWE IF FOUND.



African lovegrass

DECLARED

Eragrostis curvula

Native to South Africa

Description: Greyish-green tufted grass to 1.2m, leaf blades rough, tips often bleached or curved.

Flowers: Spring-summer – inflorescence branching, flowers in greenish-purple to greyish spikelets to 1cm long.

Fruit/Seeds: Seeds tiny, oval to round, maturing late summer-autumn.

Dispersal: Seeds spread by water. Also easily spread on clothing, machinery, in produce or soil or by livestock – can survive ingestion.

Control: Dig out smaller plants. Spot spray larger infestations.

LIMITED DISTRIBUTION – REPORT TO DPIPWE IF FOUND.



Agapanthus

Agapanthus praecox ssp. orientalis

Native to Southern Africa

Description: Hardy lily with thick, glossy, strap-like leaves to 50cm.

Flowers: During summer – blue or white in large heads on thick stem approximately 1.2m tall.

Fruit/Seeds: Three-sided capsule with many small, shiny black seeds.

Dispersal: Spread by rhizomes. Also seed and fragments in water, garden waste and soil.

Control: Dispose of flower-heads before they set seed. Dig out clumps and all roots.



Amsinckia

DECLARED

Amsinckia spp.

Native to North and South America

Description: Annual herb mostly 20-70cm tall.

Flowers: Distinctive coiled green clusters with yellow-orange trumpet-shaped flowers up to 6mm unfurling in fiddle-heads.

Fruit/Seeds: Burrs holding four seeds each, with hundreds of seeds per plant.

Dispersal: Burrs hook onto animals and clothing. Also easily spread on dirty machinery, in produce or soil.

Control: Mechanical removal, cultivation, grazing and/or herbicides.



Arum lily

Zantedeschia aethiopica

Native to Southern Africa

Description: Large plant with thick, arrow-head shaped leaves.

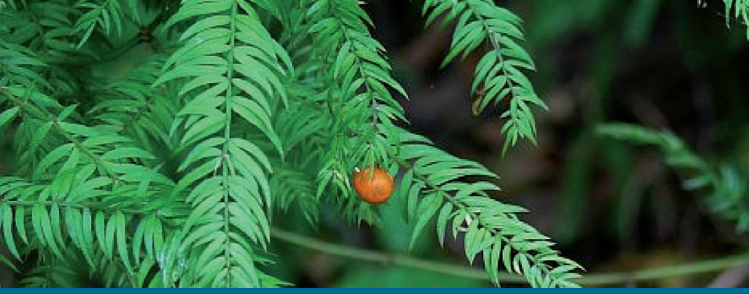
Flowers: Mainly August-February – false flower is a large, white funnel containing the true flowers on a yellow rod.

Fruit/Seeds: Green-yellow-orange berry 5-10mm with four yellow-brown seeds.

Dispersal: By rhizomes and seed spread by water, birds, animals, machinery, dumped garden waste and soil.

Control: Dig out, bag and dispose of bulbs and roots.
Spot spray.

ALL PARTS OF ARUM LILY ARE VERY POISONOUS.



Asparagus fern

Asparagus scandens

WONS DECLARED

Native to Southern Africa

Description: Forms dense nets. Narrow leaves to 15mm long in threes at intervals along stem.

Flowers: August-October – small, white-pinkish flowers with six petals.

Fruit/Seeds: Round, orange-red berry with one shiny black seed.

Dispersal: Spreads from tuber. Seed spread by birds and animals, dumped garden waste and soil.

Control: Contact DPIPWE for advice.



Banana passionfruit

Passiflora tarminiana

Native to South America

Description: Vigorous climber to 20m long. Large leaves with three lobes and serrated edges.

Flowers: January-March – large, pink, hanging from long fleshy stalks.

Fruit/Seeds: Green, oblong, fleshy fruit, turning yellow when ripe, containing 50-200 black seeds in a sweet pulp.

Dispersal: spread by seed internally (by birds, animals, humans), dumped garden waste and soil.

Control: Bag and remove fruit, dig out, cut and paint or stem-scrape larger infestations (treat all stems). The ripe fruit can be eaten.



Blackberry

Rubus fruticosus aggregate

WONS DECLARED

Native to Europe

Description: Scrambling plant with hooked prickles, forming dense thickets.

Flowers: November-February – white/pink flowers with five petals, forming in clusters.

Fruit/Seeds: Dark purplish fruits with up to 80 segments from late summer-autumn.

Dispersal: Fruits eaten and dispersed by animals and birds.

Control: Dig out small plants and remove all roots and stems. Cut and paint scraped stems. Use herbicide, fire or grazing for large infestations.

CAUTION – it is illegal to spray fruiting plants.



Blue butterfly-bush

Psoralea pinnata

Native to Southern Africa

Description: Erect shrub or small tree to 5m with groups of three needle-like leaflets.

Flowers: Spring/summer – white/lilac-blue 'pea-flowers'.

Fruit/Seeds: Elliptical pods 3-4mm long with one dark brown seed.

Dispersal: Seed spread by water, garden waste, contaminated soil and birds.

Control: Hand-pull small plants. Cut and paint large plants.



Blue periwinkle

Vinca major

Native to Mediterranean region

Description: Ground-cover with dark or variegated, shiny oval leaves.

Flowers: During spring – flat, mauve, 6cm across with five petals.

Fruit/Seeds: Rarely sets viable seed.

Dispersal: Stem fragments will root in contact with the ground. Water, wind, garden waste and soil.

Control: Cover with mulch, black plastic or old carpet for six months to reduce vigour, then dig out, or cut-back and spray regrowth repeatedly. Bag and dispose through deep burial at tip.

POISONOUS TO SHEEP, CATTLE AND HORSES.



Bluebell creeper

Sollya heterophylla

Native to Western Australia

Description: Twisting and arching climber to 3m, with narrow, shiny leaves. Found in dry forest, especially in Kingborough and Clarence municipalities.

Flowers: Spring – small clusters of bright blue, bell-shaped flowers.

Fruit/Seeds: Green cylindrical fruit turning black in summer/autumn.

Dispersal: Seeds spread by birds. Also stem and root fragments.

Control: Hand-pull seedlings. Cut off and paint, bag and dispose of stem and root material.



Boneseed

WONS DECLARED

Chrysanthemoides monilifera

Native to Southern Africa

Description: Shrub to 3m with fleshy, oval leaves. Forms dense infestations.

Flowers: Yellow daisy-flowers from winter to summer.

Fruit/Seeds: Green berries turn purple-black, with one seed.

Dispersal: Birds, animals and water. Regenerates prolifically after fire from soil-stored seed.

Control: Hand-pull small plants in moist soil or cut and paint larger plants. Bag and dispose of fruit responsibly.



Bridal creeper

WONS DECLARED

Asparagus asparagoides

Native to Southern Africa

Description: Smothering climber with thin, zig-zagging stems and shiny leaves with parallel veins.

Flowers: Spring – solitary, greenish-white with six petals.

Fruit/Seeds: Numerous green, pea-sized berries turning pink-dark red in November, each with 1–9 black seeds.

Dispersal: Seeds spread by birds, rabbits, water, garden waste and soil. May spread by rhizome/tuber.

Control: Contact DPIPWE for advice.

LIMITED DISTRIBUTION IN SOUTHERN TASMANIA – REPORT TO DPIPWE IF FOUND.



Californian thistle

DECLARED

Cirsium arvense

Native to Europe, Asia and North Africa

Description: Perennial prickly herb to 1.5m tall, leaves with irregular spiny edges. Extensive rhizomatous (creeping) root system. Dies down in winter and resprouts in spring.

Flowers: In groups of 1-5 at stem tips, up to 2.5cm long and wide Flower-heads pinkish-purple.

Fruit/Seeds: Seeds small and brown attached to white pappus (feathery structure).

Dispersal: Via root system – also in root fragments in soil on machinery. A little by seed (if male and female plants are located together).

Control: Contact DPIPWE for advice.



Canary/Montpellier broom

WONS
DECLARED

Genista monspessulana

Native to Europe

Description: Dense, upright shrubs to 3m with oval leaflets in threes.

Flowers: Late winter-spring – groups of five bright yellow pea-flowers at ends of stems.

Fruit/Seeds: Silky seed pods with up to eight black seeds.

Dispersal: Water, contaminated machinery, dumped garden waste and soil.

Control: Dig out small plants in moist soil or cut and paint.



Capeweed

Arctotheca calendula

Native to Southern Africa

Description: Usually a flat rosette but may be more upright. Deeply dissected leaves. Abundant in overgrazed paddocks

Flowers: Spring – yellow daisy-flowers with black centres.

Fruit/Seeds: Seeds produced in summer.

Dispersal: Wind, mowing and dumped garden waste and soil.

Control: Refer to DPIPWE website for control guide.



Cape ivy

Delairea odorata

Native to Southern Africa

Description: Dense ground cover and climber with ivy-shaped leaves and stems to 10m. Largely coastal distribution.

Flowers: Spring – masses of fragrant yellow, seemingly 'petal-less' daisy-flowers.

Fruit/Seeds: Pale brown seeds with a crown of silky white hairs.

Dispersal: Wind, birds and dumped garden waste/soil. Also spreads from rooting stem fragments.

Control: Cut off stems and leave draped over native vegetation to die. Dig out and remove all roots and stems in contact with the soil. Spray regrowth.



Cape wattle

Paraserianthes lophantha

Native to Western Australia

Description: Spreading tall shrub or small tree with dark-green, feathery leaves.

Flowers: May-September – greenish-yellow bottlebrush-like heads.

Fruit/Seeds: Long, flat green pods turning brown in summer, with 6-12 hard, black long-lived seeds.

Dispersal: Seeds spread by water, wind, ants, dumped garden waste and soil. Planting of this species is incorrectly recommended by some permaculture advocates.

Control: Hand-pull (even large specimens) or cut and paint.



Chilean needlegrass

WONS DECLARED

Nassella neesiana

Native to South America

Description: Tussock grass to 1.5m when seeding, leaves strongly ribbed with fine hairs.

Flowers: Mostly spring-summer – many flowers held on branching stalks taller than leaves.

Fruit/Seeds: Seeds on branches have a sharp point and long bent awns. Seeds also form within stems and at leaf bases.

Dispersal: Seeds attach to animals, clothing, also easily spread on dirty machinery, in produce or soil.

Control: Do not control – contact DPIPWE for advice.

VERY LIMITED DISTRIBUTION – REPORT TO DPIPWE IF FOUND.



Climbing groundsel

Senecio angulatus

Native to Southern Africa

Description: Climber or large, spreading shrub. Often confused with Cape ivy but has thicker, diamond-shaped leaves.

Flowers: Many yellow daisy-flowers with larger ‘petals’ than Cape ivy.

Fruit/Seeds: Pale brown seeds to 2.5mm with a tuft of hairs.

Dispersal: Seeds and stem fragments spread by wind, dumped garden waste and soil.

Control: Cut off stems and leave draped over native vegetation to die. Dig out and remove all roots and stems in contact with the soil.



Cotoneaster

Cotoneaster spp.

Native to East Asia

Description: Small tree to 5m with many stems and green-red oval leaves.

Flowers: Spring-summer – small and white in large clusters.

Fruit/Seeds: February-August – heavy clusters of red ‘berries’ each with two seeds.

Dispersal: Birds, dumped garden waste. Will sucker from base if cut down.

Control: Hand-pull small plants. Cut and paint.



Crow garlic

DECLARED

Allium vineale

Native to the Mediterranean

Description: May be either vegetative (with 2-3 leaves) or flowering with up to six hollow cylindrical leaves to 60 cm.

Flowers: Spring - summer, pink or greenish bell shaped in inflorescences up to 1m tall.

Fruit/Seeds: Rarely sets seed in Tasmania.

Dispersal: Via germination of bulbs. Bulbs can be spread via cultivation, movement of topsoil, on equipment or stock movement.

Control: In crop situations, control via spring-sown cereal cropping. Spot spray where it occurs in native habitat. Bulbs can remain dormant for up to six years, bag and dispose of all bulbs.



Cumbungi/Bullrush

Typha latifolia

Native to Eurasia and North America

Description: Rigid reed to 3m with flat leaves and thick, round stem.

Flowers: During summer – minute, densely packed in a velvety, black-brown brush.

Fruits/Seeds: Tiny nutlet with minute seeds.

Dispersal: Spread by rhizomes. Also seed in wind and water.

Control: Cut stems >15cm below water level in spring. Hand-pull and remove all the rhizome. Seek professional advice as *T. latifolia* and native *T. orientalis* are hard to distinguish. DPIPWE control guide available.



Cutleaf nightshade

Solanum triflorum

DECLARED

Native to North and South America

Description: Low or sprawling herb to 1m, green alternate leaves with deeply lobed segments and pointed tips.

Flowers: Late spring-summer – small with white petals, in clusters of 1-3 on stems.

Fruit/Seeds: Round, 8-12 mm across, green or greenish-white streaked fruit with pale yellow seeds.

Dispersal: Seeds spread as contaminants of legume or vegetable seed, in contaminated sand, or by animals.

Control: Individual plants can be dug out. Ensure fruit is bagged for deep burial, or burned.

LIMITED DISTRIBUTION – REPORT TO DPIPWE IF FOUND.



Darwin's barberry

Berberis darwinii

DECLARED

Native to Southern South America (Chile, Argentina)

Description: Spiny evergreen shrub generally 1-2m tall, with holly-like leaves.

Flowers: In clusters up to 5cm long of 8-20 narrow, cup shaped flowers. Each flower up to 5mm long, with nine yellow petals.

Fruit/Seeds: Dark purple/nearly black berries 6-9mm long, with pale waxy bloom, each containing two seeds.

Dispersal: Thought to be eaten and spread by birds.

Control: Hand pull small plants. Cut and paint larger plants.



Datura

Datura species

DECLARED

Native to China, Europe and Asia

Description: Stout upright annual or short-lived perennial herbs to 1.5m with alternate leaves.

Flowers: Summer-autumn – erect trumpet-shaped flowers with pointed lobes, generally white.

Fruit/Seeds: Fruit a distinctive spiny capsule, opens by valves, summer-autumn.

Dispersal: Contaminated crop seed, in water, or on dirty equipment and machinery.

Control: Hand pull or dig out smaller plants. Bag seed capsules. Contact DPIPWE for larger infestations.



Elisha's tears

Leycesteria formosa

DECLARED

Native to the Himalayas

Description: Hollow-stemmed deciduous shrub to 4m, found in wet forest and riparian areas.

Flowers: November-February – drooping bunches of white-purple funnel-shaped flowers in purple floral leaves.

Fruit/Seeds: Broadbean-sized, dark purple berries with around 100 seeds.

Dispersal: Seeds spread by birds, water and dumped waste/soil. Also root fragments and suckers.

Control: Dig out or cut and paint before berries form. Spray dense infestations.



English broom

Cytisus scoparius

DECLARED

Native to Europe

Description: Deciduous, erect shrub with twiggy, five-angled stems and small dark green leaves, though leafless through most of the year.

Flowers: Spring-summer – masses of bright yellow pea-flowers.

Fruit/Seeds: January-March – green to black seed pods with 5-22 yellow/brown seeds.

Dispersal: Exploding pods, ants, vehicles, animals, footwear, water, dumped garden waste and soil.

Control: Hand-pull small plants, remove all roots. Cut and paint with woody weed herbicide.



English ivy

Hedera helix



Native to Europe

Description: Dense, woody climber with tough, dark, glossy green lobed or egg-shaped leaves.

Flowers: March-July – inconspicuous, greenish flowers in clusters.

Fruit/Seeds: Summer – small, blue-black berries in spherical heads with 2-5 whitish seeds.

Dispersal: Seeds and rooting stem fragments. Spread by birds and garden waste.

Control: Hand-pull or dig out, bag and dispose of. Cut and paint larger plants (cut all stem-roots).

ALL PARTS OF IVY ARE POISONOUS.



Feathertop

DECLARED

Cenchrus longisetus, syn. *Pennisetum villosum*

Native to North Africa

Description: Perennial tussock grass to 70cm with underground stems (rhizomes).

Flowers: Spring-summer – inflorescence a fluffy-looking, plume-like spike to 12cm with numerous long, soft pale-green to white bristles.

Fruit/Seeds: Seeds yellow-brown, oblong 3mm long and 1-1.5mm wide, maturing in autumn.

Dispersal: Seeds spread by water. Also easily spread on clothing, machinery, in produce or soil.

Control: Dig out smaller plants. Spot spray larger infestations.

LIMITED DISTRIBUTION – REPORT TO DPIPWE IF FOUND.



Fennel

DECLARED

Foeniculum vulgare

Native to Europe and Western Asia

Description: Feathery, highly-divided leaved herb to 2.5m. Aniseed scented. Usually found along road and rail verges and in unmanaged urban areas.

Flowers: Summer-autumn – tiny and yellow on star-shaped heads.

Fruit/Seeds: Numerous, long and thin, around 5x1mm.

Dispersal: Seeds spread on animals, in water, vehicles and garden waste.

Control: Dig out small plants – ensure all of tap-root is removed. Cut and paint close to ground.



Firethorns

Pyracantha spp.

Native to South West China

Description: Spiny shrubs/small trees 1-5m tall, with alternate leaves, often planted in gardens or along highways.

Flowers: White flowers in branched clusters.

Fruit/Seeds: Fruits resemble tiny yellow/orange/red apples.

Dispersal: Fruit dispersed by birds and other animals. Also in water and in dumped garden cuttings.

Control: Hand-pull or dig out smaller plants. Cut and paint larger trees.



Foxglove

Digitalis purpurea

Native to Europe

Description: Upright herb with soft, densely haired, toothed leaves 15-25cm long.

Flowers: Spring-summer – tall spike of bell-shaped pink, white or yellow flowers with mottled patterns in throats.

Fruit/Seeds: Prolific tiny black seeds produced in summer, germinating autumn/winter. Seed longevity is decades.

Dispersal: Seeds spread on water, wind, animals, dumped garden waste, in contaminated soil and dirty machinery.

Control: Hand-pull plants when soil is moist or spot spray. Minimise soil disturbance as this stimulates germination.

POISONOUS IF EATEN.



Fuchsia

Fuchsia magellanica

Native to Chile

Description: Dense or sprawling, multi-stemmed shrub. Primarily a problem of creeklines or moist environments.

Flowers: Spring to summer – deep red or pink, drooping and lantern-shaped.

Fruit/Seeds: Pale or translucent, cylindrical-shaped fruit in summer/autumn.

Dispersal: Mainly by seeds from birds and water. Also spread by broken stems.

Control: Dig out or cut and paint. Seek advice on large infestations or infestations on riverbanks. Bag and dispose.



Gazania

Gazania spp.

Native to Southern Africa

Description: Herb to 30cm with long, narrow leaves, green on the upper surface and whitish below.

Flowers: Spring-autumn – petals typically bright yellow-orange, black in the centre.

Fruit/Seeds: Seeds produced in summer and autumn.

Dispersal: Wind, water and dumped garden waste.

Control: Hand-pull, mattock or herbicides.



Gorse

Ulex europaeus

WONS DECLARED

Native to Western Europe

Description: Dense, spiny shrub with grooved stems and spines.

Flowers: July-October – golden, fragrant pea-flowers in bunches.

Fruit/Seeds: Dark brown hairy pods with up to six shiny, green-brown seeds.

Dispersal: Exploding pods, ants, vehicles, gravel, animals, footwear, water, dumped garden waste and soil.

Control: Dig out small plants. Cut and paint. Foliar spray large infestations with a woody weed herbicide.



Hawthorn

Crataegus monogyna

Native to Europe

Description: Deciduous, thorny shrub to 10m with small, lobed leaves. A common hedge plant.

Flowers: October-December – fragrant, white/pink in dense clusters.

Fruit/Seeds: Red berries with yellow flesh and one hard seed in summer.

Dispersal: Seeds spread by birds, animals, machinery, garden waste and mud. Also suckers.

Control: Hand-pull or dig out small plants in moist soil or cut and paint. Treat all stems.



Heather

Calluna vulgaris

DECLARED

Native to Europe, Asia and North Africa

Description: Evergreen shrub to 70cm, small dark green leaves, fine hairs on stems.

Flowers: Any time of year – purplish-pink to white bell shaped flowers with four petals.

Fruit/Seeds: Each plant produces thousands of tiny reddish-brown seeds. Seeds remain viable for decades and require heat for germination - avoid burning.

Dispersal: Tiny seeds easily spread in water, contaminated soil and on dirty clothing, machinery and equipment.

Control: Refer to DPIPWE control guide.

LIMITED DISTRIBUTION – REPORT TO DPIPWE IF FOUND.



Holly

Ilex aquifolium

DECLARED

Native to Europe

Description: Many-branched, conical shrub/small tree to 15m with some leaves wavy and with sharp spines.

Flowers: Small, white-pinkish, fragrant flowers in threes.

Fruit/Seeds: Bright red berries in autumn, with 4-5 white, hard seeds.

Dispersal: Seed (male and female plants required), spread by birds and animals. May sucker.

Control: Dig out small plants. Cut and paint.



Horehound

Marrubrium vulgare

DECLARED

Native to Europe, Asia and North Africa

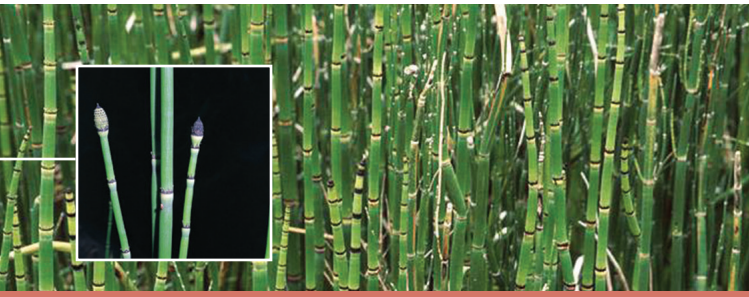
Description: Semi-woody, mint-like herb to 60cm. Stems densely covered in white hairs, leaves opposite.

Flowers: Densely clustered at leaf bases, each flower white, tubular 6-12mm long, surrounded by hooked spines.

Fruit/Seeds: Fruit surrounded by spiny burr-like structure, each containing up to four spear-shaped seeds.

Dispersal: Burrs stick to sheep or other animals. Also spread on dirty machinery or in soil.

Control: Manual removal, ploughing and/or herbicides (use a selective woody weed herbicide in pastures).



Horsetail

Equisetum spp.

DECLARED

Native to Europe, Asia, North America

Description: Aggressive weed of moist areas, with vigorous underground stems (rhizomes) that grow hollow, finely-ribbed, tightly packed shoots.

Flowers: Non-flowering – produces millions of spores in fruiting cones on fertile fronds in spring.

Fruit/Seeds: Spores microscopic, poisonous to some animals.

Dispersal: Spores spread by wind and water, and in contaminated soil.

Control: Do not control – contact DPIPWE for advice.

VERY LIMITED DISTRIBUTION – REPORT TO DPIPWE IF FOUND.



Japanese honeysuckle

Lonicera japonica

Native to China and Japan

Description: Fast-growing, twining, woody climber.

Flowers: Summer-autumn – white or yellow, thin, tubular and strongly scented.

Fruit/Seeds: Shiny black 6-10mm berry with 2mm seeds.

Dispersal: Mainly by stolons and rooting stems. Seeds spread by birds, water, garden waste and soil.

Control: Dig out (remove as much root as possible) or cut back to crowns and spray regrowth.



Karamu

DECLARED

Coprosma robusta

Native to New Zealand

Description: Large shrub/small tree to 6m with oval leaves with pointed tip. Primarily found in riparian areas.

Flowers: Separate male and female flowers – small, greenish, in clusters at leaf bases.

Fruit/Seeds: Orange/red fruits fleshy outside and hard inside – oval, 8-9mm long and 4-5mm wide.

Dispersal: Seeds spread in water, eaten and spread by birds and possibly other animals.

Control: Bag and remove fruit. Hand pull or dig out small plants. Cut and paint larger infestations.

LIMITED DISTRIBUTION – REPORT TO DPIPWE IF FOUND.



Mallow

Malva spp.

Native to Europe, West Asia and North Africa

Description: Hairy-leaved herbs, leaves alternate and usually roundish.

Flowers: Mostly spring-summer – five petals varying from white to pinkish-purple with notched ends.

Fruit/Seeds: Fruits dry, disc-shaped, splitting into segments at maturity.

Dispersal: Seeds spread in contaminated soil, on dirty equipment and in dumped garden waste.

Control: Hand pull or dig out smaller plants, cut and paint large infestations.

NOTE: THERE ARE NATIVE MALVA SPECIES IN COASTAL AREAS, VERIFY SPECIES PRIOR TO CONTROL.



Marram grass

Ammophila arenaria

Native to Western Europe coasts

Description: Tall, dense, sand-binding grass to 1.2m

Flowers: During spring and summer – in a dense, pale green to straw coloured cylindrical brush.

Fruit/Seeds: Seed often sterile.

Dispersal: Mostly by rhizomes, wind, water, on animals or in contaminated sand. Was previously planted to stabilise dunes.

Control: Contact PWS or DPIPWE.



Mediterranean daisy

DECLARED

Urospermum dalechampii

Native to Europe and West Asia

Description: Daisy growing to 50cm with basal leaf rosette and milky sap. Prefers grassy woodlands and grasslands.

Flowers: Spring – flower-heads in ones or twos, to 6cm in diameter, lemon to sulphur yellow, sometimes with red streaks underneath.

Fruit/Seeds: Small black seeds with pappus (tuft of feathery bristles) forming late spring to summer.

Dispersal: Seeds spread on wind and in contaminated soil. Plants can also shoot from lateral roots.

Control: Hand pull or dig out smaller plants. Spot spray larger plants.



Milkwort

Polygala myrtifolia

Native to Southern Africa

Description: Erect or spreading shrub to 3m with oval leaves. New stems purplish and slightly hairy. Coastal/subcoastal distribution.

Flowers: Mostly August-December but can be year-round clusters of purple pea like flowers.

Fruit/Seeds: Flattened pod with two seeds in autumn.

Dispersal: Ants, water, birds and contaminated soil.

Control: Hand-pull or dig out. Cut and paint larger shrubs at base.



Mirror bush

Coprosma repens

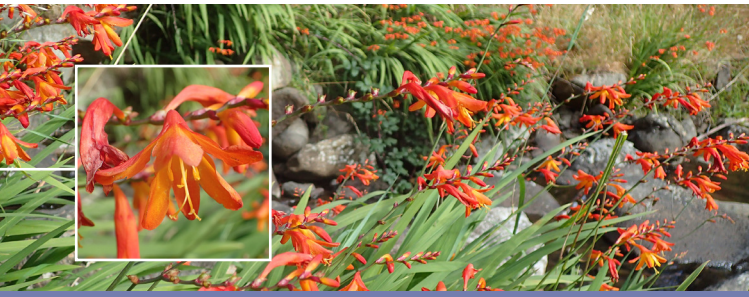
Native to New Zealand

Description: Shrub to 8m with glossy green, roundish leaves. Coastal/subcoastal distribution.

Flowers: Summer – inconspicuous. Male are in dense greenish clusters, female are tubular and whitish in threes.

Fruit/Seeds: Fleshy orange berries in dense clusters each with 1-2 seeds in summer-autumn.

Dispersal: Birds and animals and dumped garden waste.
Control: Hand-pull or cut and paint.



Montbretia

Crocosmia x crocosmiiflora

Native to Southern Africa

Description: Lily with flat, soft leaves to 90cm.

Flowers: Fine, trumpet-shaped orange flowers in an open arrangement.

Fruit/Seeds: Three-lobed shrivelled capsules, seeds not usually produced.

Dispersal: By rhizomes and corms in water, garden waste and contaminated soil and on machinery.

Control: Dig deeply in moist soil to remove all corms or spray/wipe plants in spring. Bag and dispose of material.



New Zealand flax

Phormium tenax

Native to New Zealand

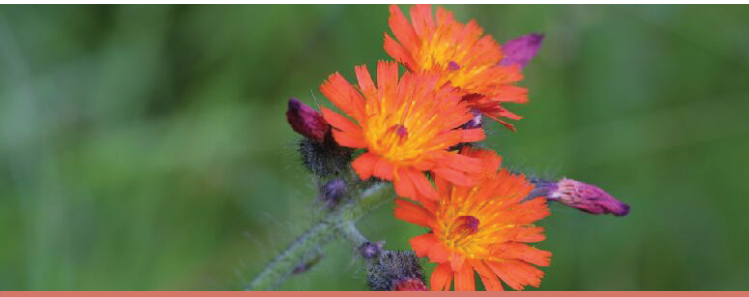
Description: Clump-forming, strap-like leaves in shades of green, bronze and maroon to 2m tall and wide.

Flowers: Orange-red, upright in sprays on a tall stalk above the leaves.

Fruit/Seeds: Woody, bean-like capsule held upright with glossy-black, flat, 1cm winged seeds.

Dispersal: Rhizomes, seeds spread by wind, water, dumped garden waste and soil.

Control: Hand-pull or dig out. Remove all roots. For large clumps cut off foliage at the base and spray.



Orange hawkweed

DECLARED

Pilosella aurantiaca subsp. *aurantiaca* syn. *Hieracium auranticum*

Native to Europe

Description: Hairy-leaved daisy with milky sap, leaves at base in rosettes.

Flowers: Late summer – bright reddish-orange flower-heads 1.5-3cm across.

Fruit/Seeds: Many dandelion-type seeds with white pappus (feathery structure) in summer-autumn.

Dispersal: Spreads by runners and wind-borne seeds.

Control: Spot-spray or dig out and remove all roots.

VERY LIMITED DISTRIBUTION – REPORT TO DPIPWE IF FOUND.



Ox-eye daisy

Leucanthemum vulgare

Native to Europe and Asia

Description: To 1m with basal leaves spoon-shaped with rounded teeth and marginal lobes, stem leaves oblong and toothed-lobed. Most common on road verges and in undergrazed pastures.

Flowers: Spring-autumn – white daisy-flowers with yellow centres.

Fruit/Seeds: Ribbed seeds in summer.

Dispersal: Stem fragments and seeds in dumped garden waste and contaminated soil.

Control: Hand-pull, dig out or spot spray. In pastures, use a selective herbicide.



Pampas grass

DECLARED

Cortaderia spp.

Native to South America and New Zealand

Description: Tall grass to 6m with rasping leaves.

Flowers: Three different species have large, silky flowers appearing in late summer (pink), autumn (yellow), and spring (white). Unlike native cutting grasses flower-heads don't turn dark brown.

Fruits/Seeds: Prolific seeds from winter-spring.

Dispersal: Wind, water, machinery, dumped garden waste (rhizomes, seeds and crowns), gravel and contaminated soil.

Control: Spot-spray small plants. Slash, burn or dig out larger plants and spray regrowth.



Paterson's curse

Echium plantagineum

DECLARED

Native to Western Europe and Mediterranean

Description: Annual herb 30-60cm tall (may reach 2m), leaves light- to mid-green, stalked, covered in bristly hairs.

Flowers: Late winter-early spring – flowers trumpet shaped, blue-purple, 2-3 cm long.

Fruit/Seeds: Seeds in nutlets, rough-coated – helping dispersal.

Dispersal: On coats of animals. Also in contaminated produce and soil, machinery and clothes.

Control: Hand-pull small plants. Spot-spray larger plants.

POISONOUS TO LIVESTOCK. Similar to Vipers Bugloss (*Echium vulgare*)



Pride of Madeira

Echium candicans

Native to Madeira Islands, Portugal

Description: Thick-stemmed, soft-wooded shrub 1-2m tall. Leaves to 25cm long, stems covered with fine, bristly hairs.

Flowers: Spring-early summer – blue to violet spikes.

Fruit/Seeds: Four-segmented fruits which split into nutlets when ripe

Dispersal: Often deliberately planted in gardens. Spreads largely by seed on clothing or equipment, in contaminated soil, or in dumped garden waste.

Control: Hand pull or dig out smaller plants; cut and paint large infestations.



Radiata pine

Pinus radiata

Native to North America

Description: Conical pine-tree to 50m with whorled branches. Aromatic.

Flowers: None.

Fruit/Seeds: Large green female pine-cones, turning brown and releasing seed with two papery wings.

Dispersal: Wind, water and birds.

Control: Hand-pull seedlings. Cut off trees at the base, painting with herbicide not necessary.



Ragwort (yellow)

Senecio jacobaea

DECLARED

Native to Europe

Description: Erect herb to 1.5m, has deeply dissected leaves with wavy, rounded lobes.

Flowers: December-March – large heads of bright yellow daisy-flowers with 10-15 petals.

Fruit/Seeds: Hundreds of seeds in late summer-autumn.

Dispersal: seed spread by wind, water, animals, machinery, contaminated hay; also rhizomes and roots.

Control: Hand-pull or dig out. Remove all larger roots. Selective grazing, pasture management and/or herbicide.

POISONOUS TO LIVESTOCK - BOTH FRESH AND DRIED.



Red valerian

Centranthus ruber

Native to Western Europe and the Mediterranean

Description: Upright or sprawling herb to 80cm with narrow to broadly ovate, blue-green leaves. Uppermost leaves may be toothed. Most common on road and rail verges.

Flowers: Tiny red or white flowers in conical spikes.

Fruit/Seeds: Dry, oval fruit with a ring of hairs and one seed.

Dispersal: Wind, dumped garden waste and contaminated soil.

Control: Hand-pull or herbicides.



Ricegrass

Spartina anglica

Native to Europe

Description: Intertidal grass with tapering leaves which become yellowish in winter.

Flowers: Stiff, stout flowering stems to 1.5m, with 2-6 25cm long flowering spikes.

Fruit/Seeds: Seed present.

Dispersal: By rhizomes in water, mud and during removal. Seeds spread in water and mud.

Control: Eradication zones have been established.
Report to PWS or DPIPWE.



St. John's wort

Hypericum perforatum

DECLARED

Native to Europe, West Asia and North Africa

Description: Upright perennial shrub to 1m, stems green to red-brown. Opposite leaves to 3cm with translucent glands.

Flowers: Spring-summer, 1-2cm yellow five petaled flowers.

Fruit/Seeds: Fruit sticky three-celled capsules containing many small brown seeds.

Dispersal: Fruit may stick to livestock, animals, clothes and machinery. Spreads by lateral roots and seeds by wind, water and contaminated soil.

Control: Selective grazing, pasture management and/or herbicides.

POISONOUS TO LIVESTOCK, PARTICULARLY HORSES AND GOATS.



Sea spurge

Euphorbia paralias

Native to Western Europe and the Mediterranean

Description: Small, multi-stemmed herb with small, closely-packed leaves and toxic, milky sap.

Flowers: September-May – tiny, cupped in yellow-green bracts at tops of stems.

Fruit/Seeds: Grooved capsules with three long seeds.

Dispersal: Wind, water (including ocean currents), beach equipment. Also regrows from root fragments.

Control: Start with small infestations. Hand pull (with gloves and safety glasses). Double bag flowering plants and dispose of responsibly.



Sea wheatgrass

Thinopyrum junceiforme

Native to Europe

Description: Grass to 40cm, often blue-green, leaves flat or convolute and often sharply pointed.

Flowers: December – in a branching arrangement.

Fruit/Seeds: Very brittle, soon falling from plant.

Dispersal: By seed and rhizomes.

Control: Eradication zones have been established. Report to PWS or DPIPWE.



Serrated tussock

WONS DECLARED

Nassella trichotoma

Native to South America

Description: Hardy tussock grass, remaining mostly bright green in summer when native tussock grasses have browned off. Flower-heads droop to the ground in summer. Leaf bases underground are whitish.

Flowers: Purple-ish in an open arrangement with flower-heads drooping.

Fruit/Seeds: Copious long-lived seed.

Dispersal: Wind, soil, animals and machinery.

Control: Eradication and containment zones have been established. Contact DPIPWE for advice.



Slender thistles

DECLARED

Carduus pycnocephalus & Carduus tenuiflorus

Native to Western and Southern Europe

Description: Upright herbs to 1m with spiny, winged stems. Leaves alternate with spine-tipped teeth or lobes, may appear woolly, 5-20cm long.

Flowers: Flower-heads pink or purple, in clusters of 2-4 (*C. pycnocephalus*) or 3-8 (*C. tenuiflorus*).

Fruit/Seeds: Typical thistle fruits with shiny seeds attached to feathery ring of bristles (pappus).

Dispersal: Wind, water, animals, contaminated soil and produce, dirty equipment and machinery.

Control: Dig out smaller areas. Mechanical removal, cultivation, pasture management and/or herbicides for larger infestations.



Spanish heath

DECLARED

Erica lusitanica

Native to Spain, Portugal and France

Description: Woody shrub with small, needle leaves.

Flowers: June-September – copious small, tubular white-pink flowers in twos or threes.

Fruit/Seeds: Capsule around 3mm long with 80-100 dust-like seeds in summer.

Dispersal: Wind, water, animals, roadside equipment and garden waste. Numerous soil-stored seeds are viable for four years.

Control: Hand-pull small plants in moist soil and follow-up well. Cut and paint or drill and fill larger plants before seed is produced.



Sweet briar/Rosehip

Rosa rubiginosa

Native to Europe, West Asia

Description: Erect or scrambling deciduous shrub to 3m with thorny stems, prickly leaves and fragrant flowers and leaves. Problem weed of pasture and native grasslands.

Flowers: Late winter to spring – large, pink with five petals.

Fruit/Seeds: Red, egg-shaped hip contains numerous seeds.

Dispersal: Seeds and root/crown fragments spread by water, birds, animals, dumped garden waste and soil. Also suckers.

Control: Hand-pull small plants. Cut and paint larger plants. Treat and bag the rosehips. Burning waste in-situ may be an option. DPIPWE control guide available.



Sweet pittosporum

Pittosporum undulatum

Native to Eastern Australia

Description: Dense, spreading tree to 25m with shiny, wavy leaves to 15cm long.

Flowers: Spring – creamy-white, scented and bell-shaped in clusters of 4-5.

Fruit/Seeds: Autumn-winter – hard, round, orange berries with 20-30 sticky, orange-red seeds.

Dispersal: Seeds and root/crown fragments spread by water, birds, animals, dumped garden waste and soil. Also suckers.

Control: Hand-pull or dig out (remove all roots) or cut and paint/drill and fill larger plants/trees.



Tree lucerne

Chamaecytisus palmensis

Native to Canary Islands

Description: Dense, weeping shrub to 6m with leaflets in threes.

Flowers: June-October – masses of creamy-white pea flowers.

Fruit/Seeds: Downy-hairy pods to 6cm long with up to 10 black-brown seeds.

Dispersal: Water, ants, planting, dumped garden waste and soil

Control: Cut and paint, then hand-pull new seedlings. Stock will eat leaves and small branches.



Tree lupin

Lupinus arboreus

Native to California

Description: Woody shrub to 2.5m with leaflets resembling the spread of a hand. Mostly coastal, particularly in sand dunes.

Flowers: Spring – many fragrant yellow pea flowers.

Fruit/Seeds: Hairy pods with 10 poisonous, hard, black seeds.

Dispersal: Water, ants, planting, dumped garden waste and soil.

Control: Hand-pull small seedlings or cut and paint.



Wandering creeper

Tradescantia fluminensis

Native to South America

Description: Creeper forming dense mats to 50cm deep with stems to 4m long.

Flowers: September-February – in clusters at ends of branches, with three white, spreading petals.

Fruit/Seeds: Three-chambered capsule with six seeds, usually not viable.

Dispersal: Spreads by rooting stem fragments in water, dumped garden waste and soil. Also roots at the nodes.

Control: Hand-pull or dig out. Bag and dispose.



Watsonia

Watsonia meriana

Native to Southern Africa

Description: Vigorous herb to 2m, with sword-like, rigid leaves. Forms dense ground-layers.

Flowers: December-April – tubular, orange-pink-red with 10-15 in a spike.

Fruit/Seeds: Rarely – green capsules with 5mm black seeds in summer.

Dispersal: Mainly stem bulbils and corms spread by water, slashing, ants, mud, garden waste and soil.

Control: Dig out in moist soil to ensure all corms are removed. Bag all material and dispose.



White weed

Lepidium draba

DECLARED

Native to Mediterranean region and Western Asia

Description: Long-lived herb to 90cm, stems and leaves covered in soft, minute hairs greyish-green to bluish-green.

Flowers: Late spring-early summer in dense clusters, each flower has four small white petals.

Fruit/Seeds: Fruit heart shaped with two inflated chambers, each containing 1-2 seeds. Mature in summer.

Dispersal: Often spread as root fragments in contaminated soil and on machinery. Also by seed - especially when slashed while seed is still on plant.

Control: Intensive cultivation, selective grazing and herbicides.



Willows

Salix spp.

WONS
DECLARED

Native to Europe

Description: Deciduous trees with one to many trunks to 30m with various leaves, on or near river-banks.

Flowers: Spring – in thin, drooping caterpillar-like brushes.

Fruit/Seeds: Seeds viable only a few days in November.

Dispersal: Mainly by stem fragments in water, garden waste and machinery.

Control: Contact DPIPWE about removing and replacing willows on waterlines. Dig out small plants in moist soil or cut and paint. Mulch heavily.



Wild pussy willow

Salix cinerea

WONS DECLARED

Native to Europe

Description: Shrub/small multi-stemmed tree, wide rounded crown. Leaves broad, hairy, and deciduous.

Flowers: Late autumn-spring – male flowers grey and yellow furry buds, female flowers pale green, cone-shaped buds.

Fruit/Seeds: Small with silky hairs on one end, ripening in summer.

Dispersal: Mostly by seed on wind or in water. Also sprouts from broken stems.

Control: Hand pull or dig out smaller plants. Cut and paint or stem inject larger trees with herbicide – remove all cut material.

LIMITED DISTRIBUTION – REPORT TO DPIPWE IF FOUND.



Winter euryops

Euryops abrotanifolius

Native to Southern Africa

Description: Shrub growing to 1m with dark-green, alternate, finely-divided leaves.

Flowers: Winter-spring – flower heads to 5cm across, bright yellow daisy-type flowers.

Fruit/Seeds: Small ribbed seeds topped by pappus (tuft of feathery bristles).

Dispersal: Seeds spread on wind and in contaminated soil.

Control: Hand pull or dig out smaller plants. Cut and paint larger infestations.

OTHER DECLARED WEEDS

Declared weeds are governed under the Tasmanian Weed Management Act 1999. The following pages are to be used as an index for declared weeds not already listed in this booklet. This list is informative and does not contain detailed instructions to identify, report and manage these weeds.

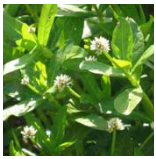
For up to date information on the requirments please visit the invasive species section of the Department of Primary Industries, Parks, Water and Environment website:

dpipwe.tas.gov.au/invasive-species/weeds

Some of the following declared weeds have not been found yet in Tasmania, and are identifed by the red border.



African Thistle
Berkheya rigida



Alligator Weed
Alternanthera Philoxeroides
WONS



Amsinckia species
Amsinckia species



Angled Heath
Erica quadrangularis



Apple-of-Sodom
Solanum sodomaeum



Arrowhead
Sagittaria montevidensis
WONS



Artichoke Thistle
Cynara cardunculus



Athel Pine
Tamarix aphylla
WONS



Bathurst Burr
Xanthium



Bear-skin Fescue
Festuca gautieri



Bell Heather
Erica cinerea



Bellyache Bush
Jatropha gossypiifolia
WONS



Berry Heath
Erica baccans



Besom Heath
Erica scoparia



Bicolored Heath
Erica discolor



Bifora
Bifora testiculata



Bridal Veil
Asparagus declinatus
WONS



Broomrape
Orobanche species (except O. minor and O. cernua var australiana)



Cabomba
Cabomba caroliniana
WONS



Caltrop
Tribulus terrestris



Canadian Pondweed, Elodea
Elodea canadensis



Cane Needle Grass
Nassella hyalina



Cape Tulips
Moraea species



Cat's Claw Creeper WONS
Dolichandra unguis-cati



Climbing Asparagus
Asparagus africanus
WONS



Climbing Asparagus Fern
Asparagus plumosus
WONS



Common Crupina
Crupina vulgaris



Common Heliotrope
Heliotropium europaeum



Cornish Heath
Erica vagans



Corsican Heath
Erica terminalis



Cotton Thistles
Onopordum species



Creeping Knapweed
Acroptilon repens



Creeping Yellowcress
Rorippa sylvestris



Cross-leaved Heath
Erica tetralix



Cut-Leaf Nightshade
Solanum triflorum



Dodder *Cuscuta* species (excluding *Cuscuta tasmanica)*



Dorset Heath
Erica ciliaris



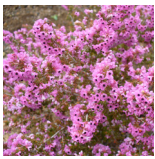
Elisha's Tears
Leycesteria formosa



Erica species
Erica glandulosa



Erica species
Erica holosericea



Erica species
Erica melanthera



Espartillo
Amelichloa caudata (syn. Achnatherum caudatum)



False Cleavers
Galium spurium



False Yellowhead
Dittrichia viscosa



Fireweed
Senecio madagascariensis
WONS



Flax-leaf Broom
Genista linifolia



Floating Water Chestnut
Trapa species



Gamba Grass
Andropogon gayanus
WONS



Giant Hogweed
Heracleum mantegazzianum



Ground Asparagus
Asparagus aethiopicus



Holly-leaved Senecio
Senecio glastifolius



Hornwort
Ceratophyllum demersum



Hydrilla
Hydrilla verticillata



Hymenachne
Hymenachne amplexicaulis and Hymenachne x calamitosa
WONS



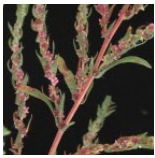
Innocent Weed (Spiny Burrgrass)
Cenchrus longispinus



Irish Heath
Erica erigena



Japanese Knotweed
Fallopia japonica



Kochia
Bassia scoparia (syn. Kochia scoparia)



Lagarosiphon (Oxygen Weed)
Lagarosiphon major



Lantana
Lantana camara
WONS



Lobed Needle Grass
Nassella charruana



Madeira Vine
Anredera cordifolia
WONS



Mallee Cockspur
Centaurea eriophora



Meadow Parsley
Oenanthe pimpinelloides



Mesquite
Prosopis species
WONS



Mexican Feather Grass
Nassella tenuissima



Miconia
Miconia species



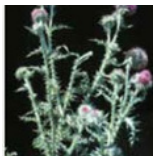
Mimosa
Mimosa pigra
WONS



Montpellier Broom
Genista monspessulana



New Zealand Sedges
Carex albula, C. buchananii, C. flagellifera and C. testacea



Nodding Thistle
Carduus nutans



Onion Weed
Asphodelus fistulosus



Opuntioid Cacti
Austrocylindropuntia species
WONS



Opuntioid Cacti
Cylindropuntia species
WONS



Opuntioid Cacti
Opuntia species (excluding Opuntia ficus-indica)
WONS



Pampas Lily-of-the-Valley
Salpichroa origanifolia



Parkinsonia
Parkinsonia aculeata
WONS



Parodi
Eleocharis parodii



Parrot's Feather
Myriophyllum aquaticum (syn. M. brasiliense)



Parthenium Weed WONS
Parthenium hysterophorus



Pond Apple
Annona glabra
WONS



Prickly Acacia
Acacia nilotica ssp. indica
WONS



Purple Nut Grass
Cyperus rotundus



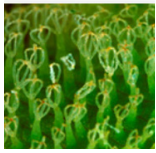
Rubber Vine
Cryptostegia grandiflo
WONS



Saffron Thistle
Carthamus lanatus L.



Sagittaria
Sagittaria platyphylla (syn. Sagittaria graminea)



Salvinia
Salvinia molesta
WONS



Senegal Tea Plant, Temple Plant
Gymnocoronis spilanthoides



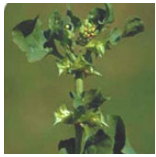
Silver-leaf Nightshade
Solanum elaeagnifolium
WONS



Skeleton Weed
Chondrilla juncea



Spiny Burrgrass, (Innocent Weed)
Cenchrus longispinus and Cenchrus incertus



Spiny Emex
Emex australis



Square Stemmed St John's Wort
Hypericum tetrapterum



Star Thistle
Centaurea calcitrapa



Stemless Thistle
Onopordum acaulon



Stinking Mayweed
Anthemis cotula



Texas Needle Grass
Nassella leucotricha



Three-horned Bedstraw
Galium tricornutum



Tree Heath
Erica arborea



Tumbleweed
Amaranthus albus



Viper's Bugloss
Echium vulgare L



Water Heath
Erica caffra



Water Hyacinth
Eichhornia crassipes
WONS



Western Cape Bridal Creeper
Asparagus asparagoides Western Cape form



White Spanish Broom
Cytisus multiflorus



Whiteweed (Hoary Cress)
Lepidium draba



White-edged Nightshade
Solanum marginatum



Wild Rice
Zizania species



Winter Heath
Erica carnea



Witchweed
Striga species (all non-indigenous species)



Yellow Nut Grass / Yellow Nut Sedge
Cyperus esculentus

All images and information on other declared weeds courtesy of the Department of Primary Industries, Parks, Water and Environment 2021.

This booklet is a resource to be used for information only. It does not constitute part of the TasNetworks Environmental Management System.

For more advice on weeds, refer to online control guides or contact:

Department of Primary Industries, Parks, Water and the Environment

1300 368 550

Biosecurity Tasmania

03 6165 3777

dpipwe.tas.gov.au/invasive-species/weeds

Australian Government

weeds.gov.au

Weeds Australia

weeds.ala.org.au

NRM South

nrmsouth.org.au

Tasmanian Herbarium

03 6165 5143

Your Local Council

This booklet was adapted from Coastal Weeds of Tasmania with the kind permission of the Australian Plant Society, North-West Tasmania Branch.

Published March 2010, by NRM South and the Southern Tasmanian Councils Authority

Revised and republished March 2017, through funding from the Australian Government's National Landcare Programme

Revised and reprinted June 2021, by TasNetworks with permission from NRM South

Appendix C

Onsite Vehicle, Plant and Equipment Hygiene Checklist

Vehicle/Plant Details	
Vehicle Type	
Registration	
Washdown Location	
Time of Washdown	
Name of person completing washdown	
Company	

Type of washdown (please tick)	
Automatic truck wash	
Portable trailer wash	
Biosecurity Bin	

Checklist - Indicates if items below are free of mud and organic debris (i.e. seeds, leaves, other plant or animal materials)		
Cabin	Floor/mats/under seats	
Engine	Grill protection (where fitted)	
	Engine bay	
Body	Body panels	
	Bull bars (front and rear)	
	Wheel guards	
	Underbody	
	Cabin steps	
Wheels/Tracks	Inside and outside of wheels/tracks	
	Spare wheels	
	Axle housings	
	Wheels/tracks have been treated with 70:30 methylated spirits - water mix	
Tray/Tubs	All crevices in trays/tubs/toolboxes	
Heavy Equipment	Drill rig augers	
	Excavator buckets	
	Manitou tines	
	Trailers and drawbars	

1. Weed Management Protocol

This Weed Management Protocol (WMP) has been prepared as a practical, site-specific appendix to the Biosecurity Management Subplan. It documents known weed species relevant to the Project and identifies specific control measures to supplement the Biosecurity Management Subplan.

The measures described in this WMP apply to all construction activities where there is potential for weed introduction or spread through soil disturbance, vehicle movement or material handling.

The objectives of this WMP are to:

- prevent the introduction of new weed species to the Project Site;
- minimise the spread of existing declared weeds during construction activities;
- implement consistent hygiene practices in accordance with the Biosecurity Management Subplan; and
- provide site-specific information to support weed monitoring and control.

2. Management and control of weeds and diseases

The following weed and hygiene control measures apply to Project activities and supplement the general biosecurity requirements outlined in the Biosecurity Management Subplan. These measures are to be implemented by all personnel undertaking works within the Project Site.

2.1 Weed management and control

Declared weeds recorded or considered likely to occur within the Project Site will be managed in accordance with the *Biosecurity Act 2019* and the requirements of the Biosecurity Management Subplan.

Primary weed control will focus on treatment of all plants/infestations within the Project Site. Treatment involves targeted spraying and mechanical removal. All declared weeds within the Project Site require an initial treatment and then a follow-up after 6 months.

Primary treatment will occur during early spring, and then again in late summer/autumn when plants are actively growing, in order to effectively control weed infestations.

Weed management controls will include the following:

- Areas known to contain declared weeds will be identified prior to works where practicable and communicated to site personnel.
- Vegetation clearing and ground disturbance in weed-infested areas will be minimised where practicable.
- Declared weeds will be treated or removed prior to disturbance where feasible, or managed progressively during construction.
- Weed treatment methods include mechanical removal, herbicide application or a combination of methods, undertaken by suitably qualified personnel.
- Herbicide use will be undertaken in accordance with product labels and relevant legislation.
- All Zone A species within the Project Site will be appropriately removed and disposed of, following the weed control recommendations in Table 3
- All Zone B species will be controlled as per the requirements of the Tasmanian *Biosecurity Act 2019*.
- Weed treatment requirements will be informed by recorded weed distribution data and ongoing site inspections.
- A suitably qualified weed specialist will be engaged to treat identified weed infestations within the Project Site.

2.2 Hygiene controls

Hygiene controls will be implemented to prevent the introduction and spread of weeds, diseases and pathogens via vehicles, plant, equipment, materials and personnel.

In addition to the general hygiene measures outlined in the Biosecurity Management Subplan, the following controls apply:

- All vehicles, plant and equipment arriving on site will be clean and free of soil, plant material and organic debris.
- Vehicle and equipment washdown will be undertaken prior to entering the Project Site where required, particularly when moving between weed-infested and weed-free areas.
- Washdown locations will be selected to avoid runoff to adjacent land or waterways, consistent with the Biosecurity Management Subplan.
- Internal vehicle movement will be managed to minimise tracking of soil between work areas.
- Stockpiles of soil or other materials will be located and managed to minimise weed establishment and spread.

2.3 Weed disposal

Plant material containing declared weeds will be disposed of in a manner that prevents further spread.

Disposal measures may include:

- removal to an approved waste facility;
- on-site containment and treatment; or
- other methods approved under the Biosecurity Management Subplan.

Declared weeds will not be stockpiled or reused unless appropriate treatment has been undertaken.

If required, all ground cover vegetation containing weed material, and woody material will be buried under clean soil at a suitable site where no soil disturbance will be undertaken, as per the Biosecurity Tasmania Deep Burial of Domestic Biosecurity Waste guidelines.[1]

If burial is not viable, alternative options include incineration, or removal to a waste centre. All removal of declared weed material requires a permit under the Tasmanian *Biosecurity Act 2019.*

2.4 Pathogen management

Pathogen management measures will be implemented where there is a risk of spread through soil, water or vegetation disturbance.

These measures include:

- implementation of hygiene controls consistent with the Biosecurity Management Subplan;
- avoiding unnecessary soil disturbance in areas considered susceptible to pathogen spread; and
- managing water movement and runoff in accordance with the Soil and Water Management Subplan.

2.5 Unexpected weed finds

If previously unrecorded declared weeds are identified during Project activities:

- the discovery will be reported to the Environmental Manager; and
- appropriate control or treatment measures will be implemented in accordance with the Biosecurity Management Subplan and relevant legislative requirements.

2.6 Specific Weed Control Recommendations

In Tasmania, only registered herbicides and those listed under a permit issued by the Australian Pesticide and Veterinary Medicines Authority (APVMA) for control of environmental weeds are allowed.

When controlling weeds in proximity to a waterbody or riparian vegetation, herbicides may only be used that are registered for aquatic use.

Table 1 below outlines recommended herbicides for each weed species, as well as treatment methods and timing schedules.

Table 1 Recommended treatment and timing by weed species

Declared Weed	Herbicide options	Treatment	Timing of treatment	Non-chemical alternatives
Blackberry (*Rubus fruticosus agg.*)	Glyphosate Triclopyr Metsulfuron methyl	Foliar spray Cut and paint	Treat late summer to autumn when plants are actively growing and prior to leaf senescence. Follow-up treatment approximately 6 months	Hand removal (small plants) Controlled grazing

[1] Biosecurity Tasmania (2023)

Declared Weed	Herbicide options	Treatment	Timing of treatment	Non-chemical alternatives
			after initial control to address regrowth.	
Broom species (*Genista* sp.)	Glyphosate Triclopyr Metsulfuron methyl	Foliar spray Cut and paint	Treat spring to early summer prior to seed set, or late summer to autumn during active growth. Follow-up treatment required within 6 months.	Hand removal Mechanical removal
Elisha's tears (*Leycesteria formosa*)	Glyphosate Triclopyr	Foliar spray Cut and paint	Treat spring to autumn while plants are actively growing. Follow-up treatment approximately 6 months after initial control.	Hand removal (small plants)
Fennel (*Foeniculum vulgare*)	MCPA Amitrole + Ammonium thiocyanate	Spot spray	Treat spring to early summer before flowering. Follow-up treatment during late summer or autumn if regrowth is observed.	Hand removal
Foxglove (*Digitalis* sp.)	Glyphosate Triclopyr MCPA	Spot spray	Treat in spring prior to flowering and seed set. Follow-up treatment within the same growing season if required.	Hand removal (before flowering)
Gorse (*Ulex europaeus*)	Glyphosate Triclopyr	Cut and paint Foliar spray	Cut-and-paint or spray during spring to summer prior to seed set, or late summer to autumn during active growth. Follow-up treatment within 6–12 months.	Hand removal (small plants) Controlled grazing
Holly (*Ilex aquifolium*)	Glyphosate Triclopyr Metsulfuron methyl	Cut and paint Spot spray	Treat during spring to autumn when actively growing. Follow-up treatment approximately 6 months after initial removal.	Hand removal
Horehound (*Marrubium vulgare*)	Glyphosate Triclopyr Metsulfuron methyl MCPA	Foliar spray Boom spray	Treat during spring prior to flowering, or late summer to autumn during active growth. Follow-up treatment within 6 months.	Hand removal
Pampas grass (*Cortaderia selloana*)	Glyphosate	Spot spraying	Treat during spring to early summer before flowering. Follow-up inspections and treatment within 6–12 months to manage regrowth or seedlings.	Manual removal (hand, mattock, machine)
Ragwort (*Senecio jacobeae*)	MCPA Metsulfuron methyl	Spot spray Boom spray	Treat during rosette stage in autumn or winter, or	Hand removal Controlled grazing

Declared Weed	Herbicide options	Treatment	Timing of treatment	Non-chemical alternatives
			early spring before flowering. Follow-up treatment within the same growing season if required.	
Serrated tussock (*Nassella trichotoma*)	Flupropanate Glyphosate	Spot spray Foliar spray Boom spray	Treat during spring to early summer prior to seed production. Follow-up treatment within 6–12 months to address seedlings or regrowth.	Clip with a mattock Burning Ploughing
Spanish heath (*Erica lusitanica*)	Glyphosate Triclopyr Metsulfuron methyl	Foliar spray Cut and paint	Treat during spring to autumn while actively growing. Follow-up treatment approximately 6 months after initial control.	Hand removal (small plants) Mechanical removal
St John's wort (*Hypericum perforatum*)	Glyphosate Triclopyr Metsulfuron methyl	Foliar spray Boom spray	Treat during spring to early summer prior to flowering, or late summer to autumn during active growth. Follow-up treatment within 6 months if required.	Hand removal
Thistles (*Carduus sp.*)[1]	MCPA Glyphosate	Foliar spray	Treat during rosette stage in autumn or winter, or early spring before flowering. Follow-up treatment within the same growing season.	Hand removal Controlled grazing
Willow (*Salix* sp.)[2]	Glyphosate Triclopyr	Spot spray Cut and paint	Treat during late summer to autumn when carbohydrate reserves are moving to roots. Follow-up treatment within 6–12 months if regrowth occurs.	Hand removal (small plants) Machine removal

3. Risk management and escalation

A Stop Work Authority (SWA) will be implemented if:

- Declared weeds not previously recorded are detected
- Suspected symptoms of *P. cinnamomi* or potato mop top virus are observed
- A non-compliance occurs (e.g., uncontrolled runoff)

The incident response procedure includes containment of the risk/issue and immediate notification to the Construction and Environmental Managers.

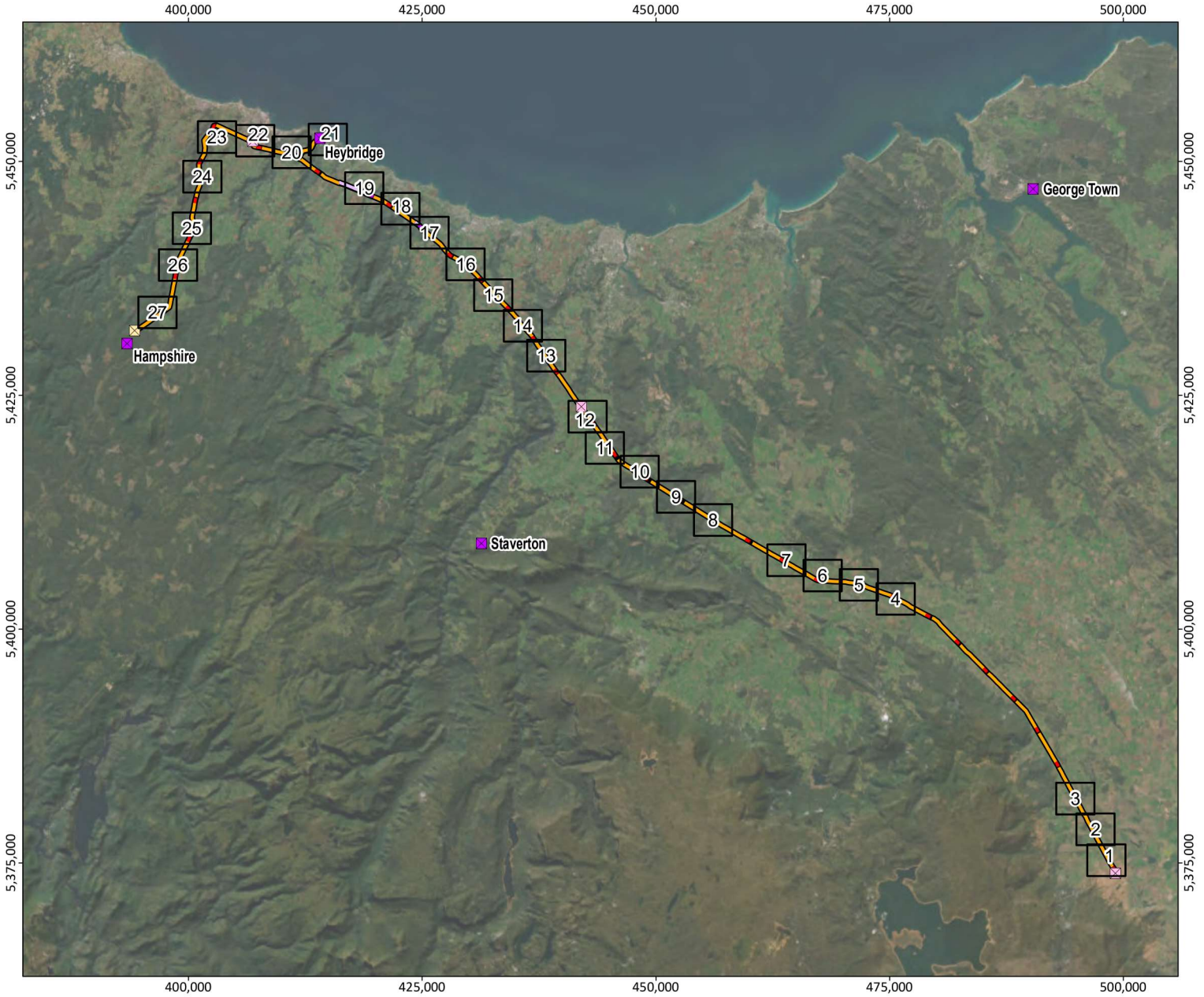
Appendix D

Weed Management Protocol

Appendix E

Weed Mapping (Figure 6.11 of Attachment 9 – DA/EIS)

Figure 6.11
Declared weed species recorded in the survey area (overview map)



Legend

- Existing substation to be modified
- Proposed new switching station
- Other switching station/substation*
- Proposed 220 kV OHTL
- Relocated 110 kV OHTL

NOTE: The complete map series is provided in Attachment 9, Map series

N

Scale (A4): 1:600,000

10 5 0 10 km

Coordinate System: GDA 1994 MGA Zone 55
Projection: Transverse Mercator
Datum: GDA 1994

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Prepared by: Tetra Tech Coffey

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*Heybridge and Staverton switching stations are new stations proposed under separate projects.

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Figure 6.11
Declared weed species recorded in the survey area (map 1 of 27)

Legend

- Existing substation to be modified
- Proposed tower
- Proposed 220 kV OHTL

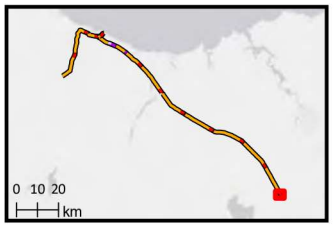
Proposed access tracks

- New track
- Existing upgrade required
- Existing

- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level



N

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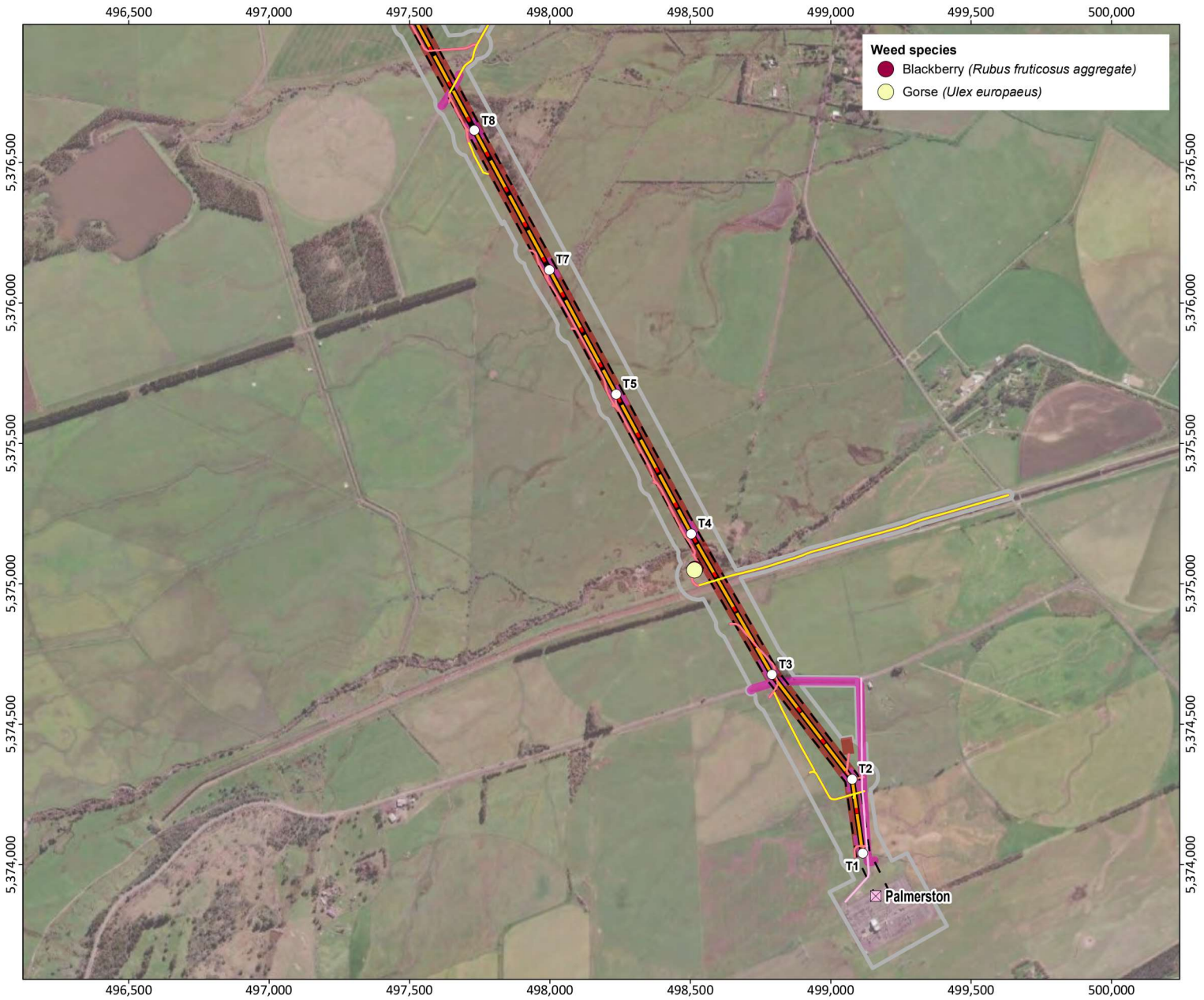
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Figure 6.11
Declared weed species recorded in the survey area (map 2 of 27)

Legend

- Proposed tower
- Proposed 220 kV OHTL

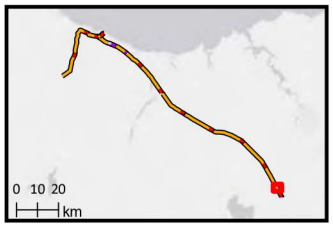
Proposed access tracks

- New track
- Existing upgrade required

- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level
- Partial clearing to mid-storey



N

Scale (A4): 1:20,000

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Projection: Transverse Mercator
Datum: GDA 1994

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Figure 6.11
Declared weed species recorded in the survey area (map 3 of 27)

Legend

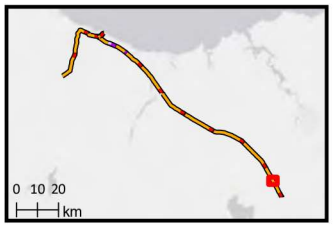
- Proposed tower
- Proposed 220 kV OHTL

Proposed access tracks

- New track
- Existing upgrade required
- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level



N

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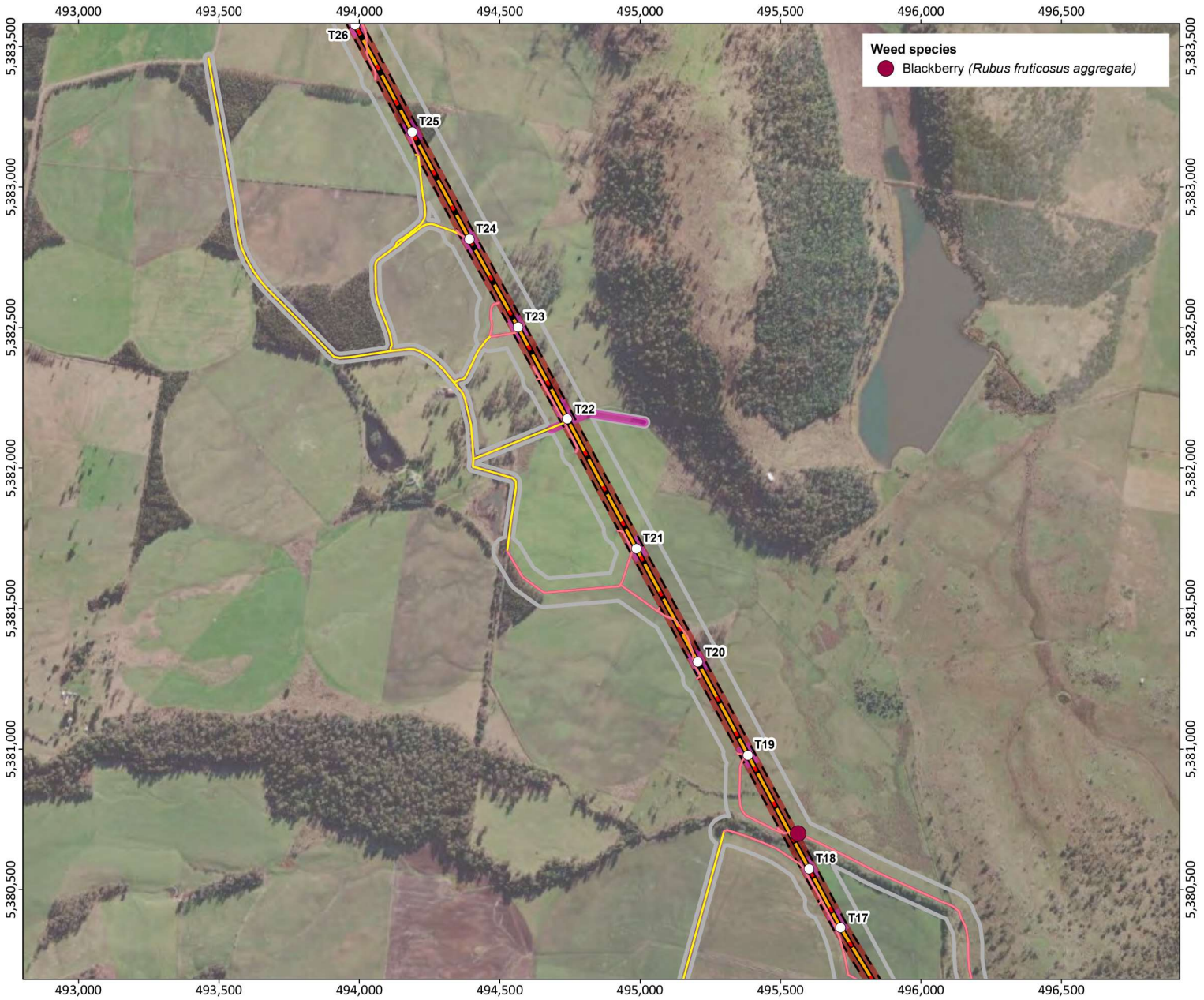
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Figure 6.11
Declared weed species recorded in the survey area (map 4 of 27)

Legend

- Proposed tower
- Proposed 220 kV OHTL

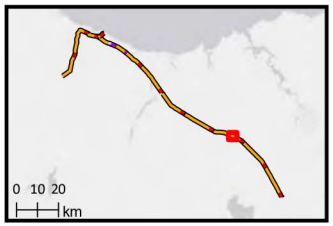
Proposed access tracks

- New track
- Existing upgrade required
- Existing

- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level



N

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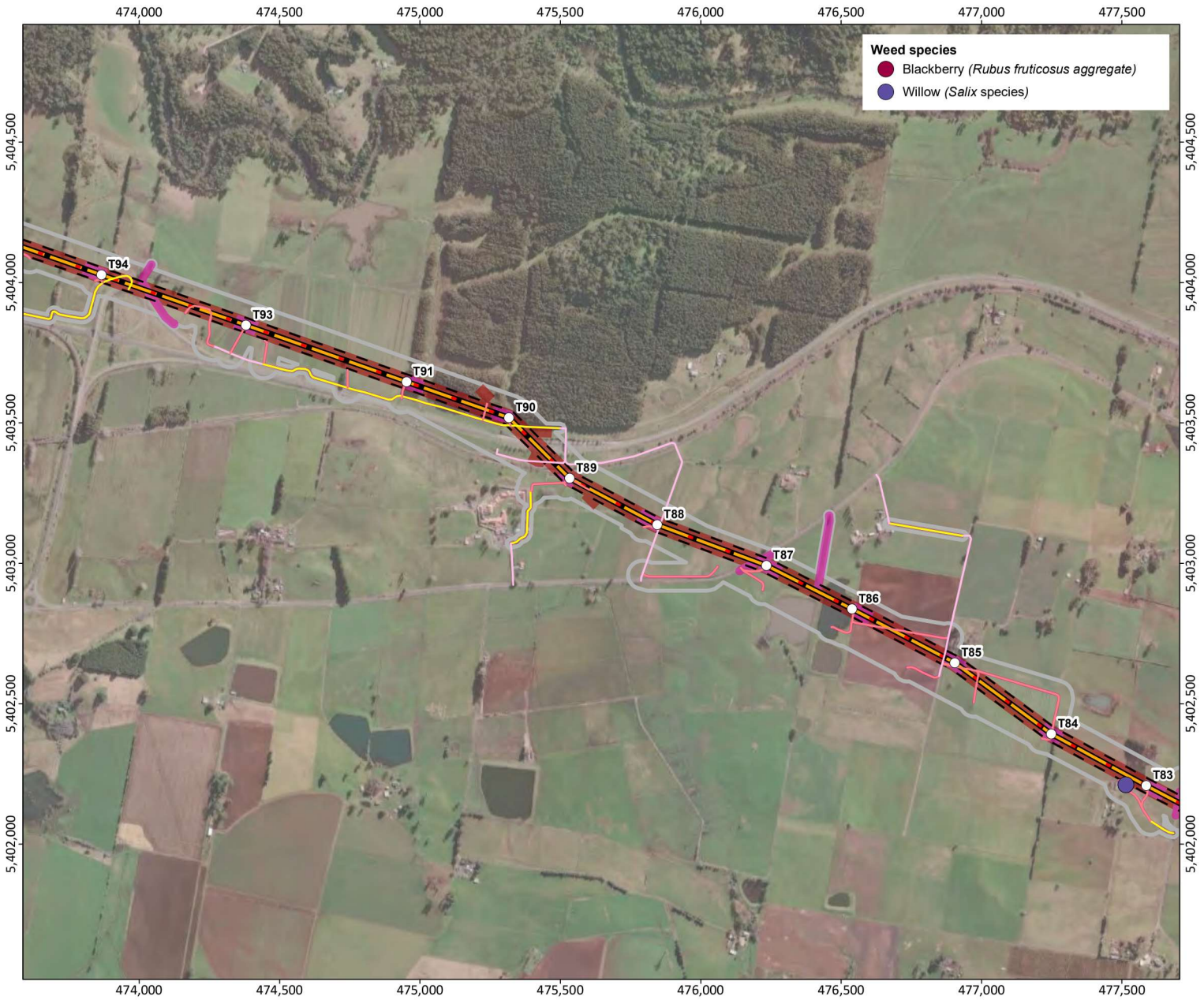
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Figure 6.11
Declared weed species recorded in the survey area (map 5 of 27)

Legend

- Proposed tower
- Proposed 220 kV OHTL

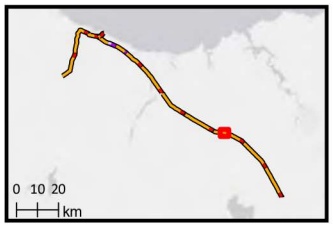
Proposed access tracks

- New track
- Existing upgrade required
- Existing

- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level
- Partial clearing to mid-storey



N

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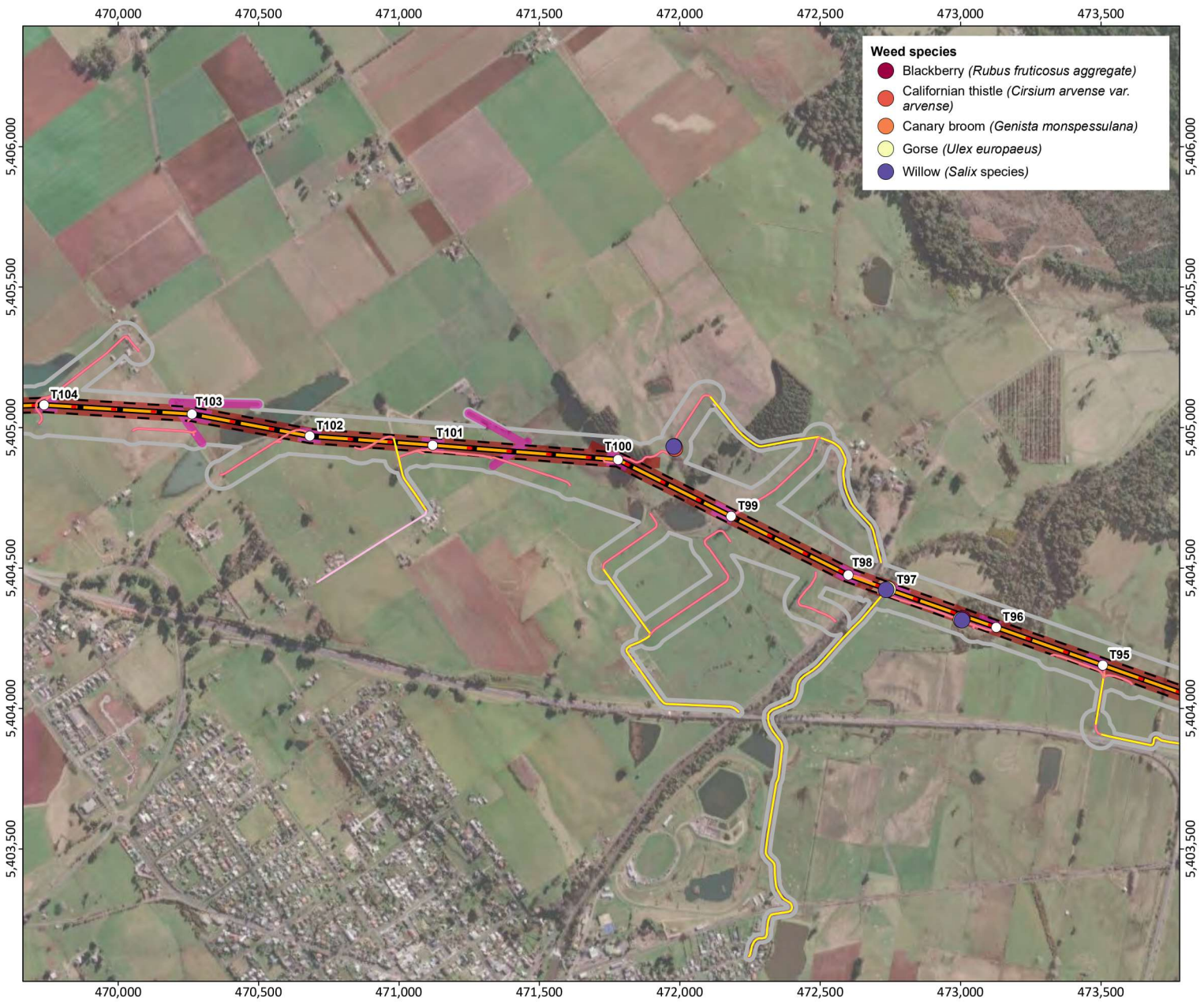
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Figure 6.11
Declared weed species recorded in the survey area (map 6 of 27)

Legend

- Proposed tower
- Proposed 220 kV OHTL

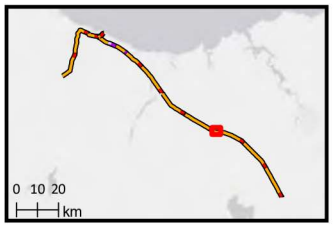
Proposed access tracks

- New track
- Existing upgrade required
- Existing

- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level



N

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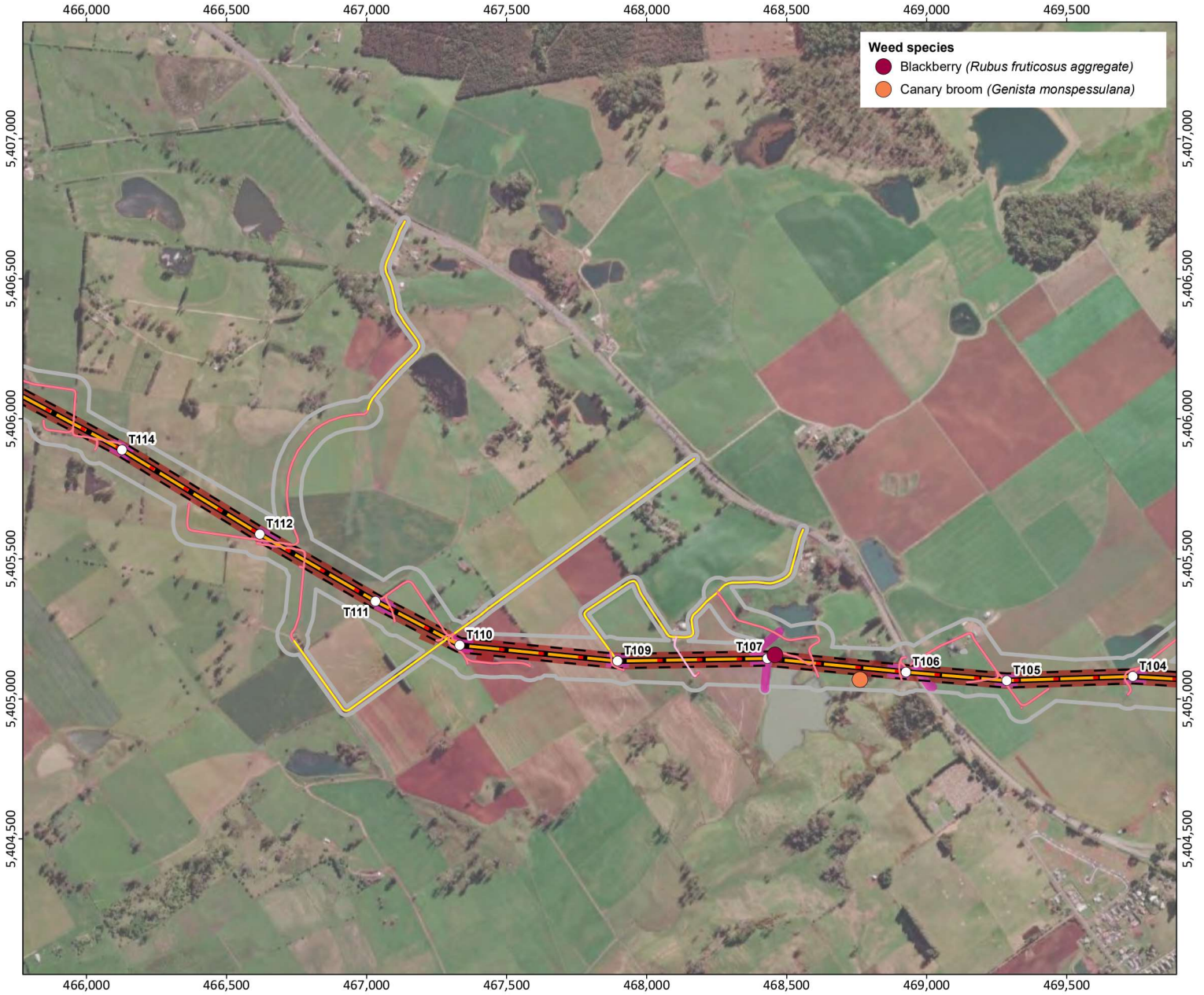
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Figure 6.11
Declared weed species recorded in the survey area (map 7 of 27)

Legend

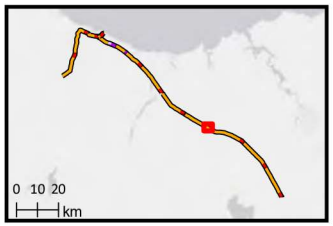
- Proposed tower
- Proposed 220 kV OHTL

Proposed access tracks

- New track
- Existing upgrade required
- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level



N

Scale (A4): 1:20,000

400 0 400 m

Coordinate System: GDA 1994 MGA Zone 55
Projection: Transverse Mercator
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Figure 6.11
Declared weed species recorded in the survey area (map 8 of 27)

Legend

- Proposed tower
- Proposed 220 kV OHTL

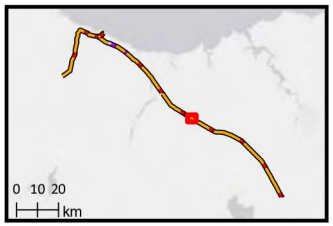
Proposed access tracks

- New track
- Existing upgrade required
- Existing

- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level
- Partial clearing to mid-storey



N

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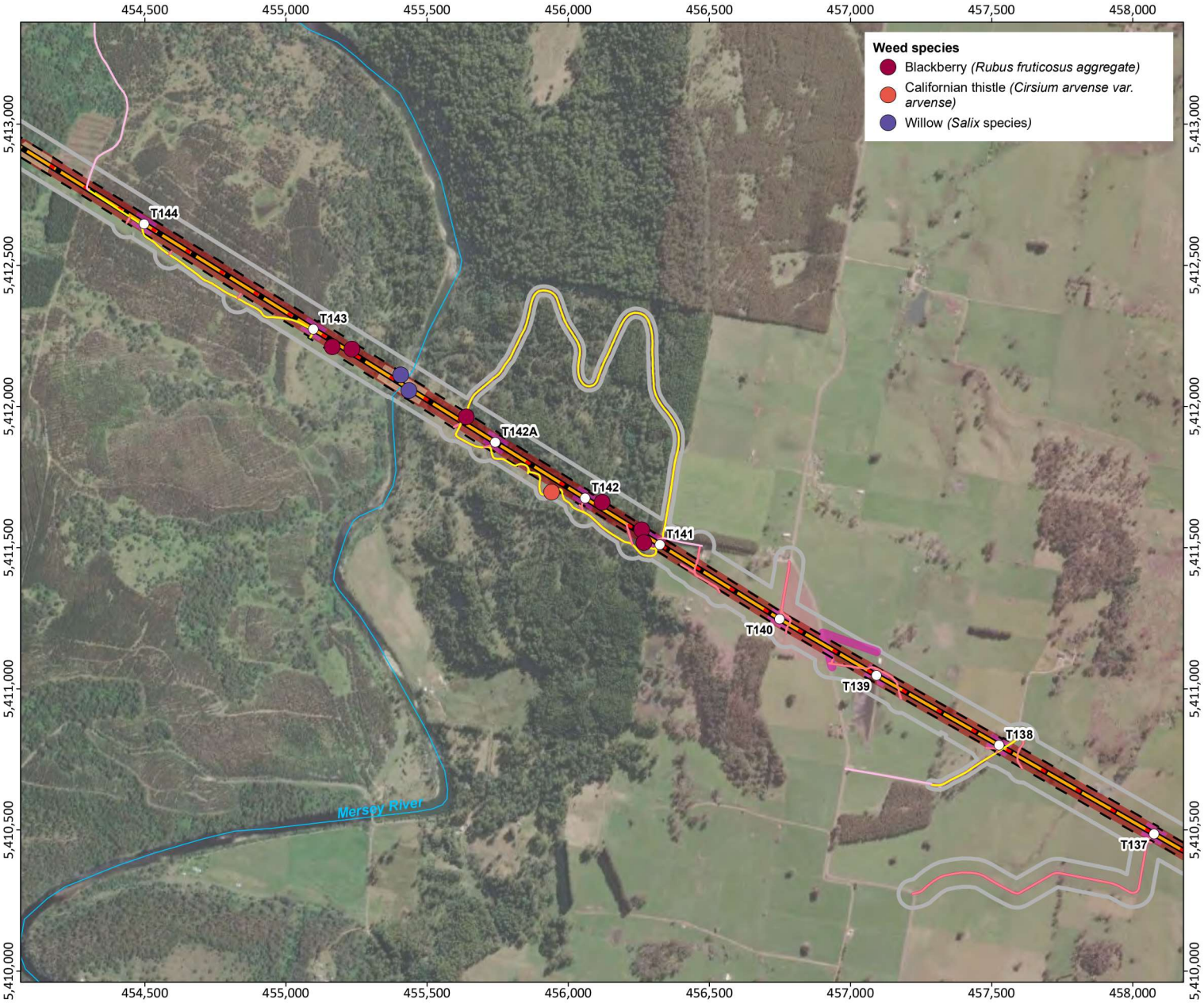
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Figure 6.11
Declared weed species recorded in the survey area (map 9 of 27)

Legend

- Proposed tower
- Proposed 220 kV OHTL

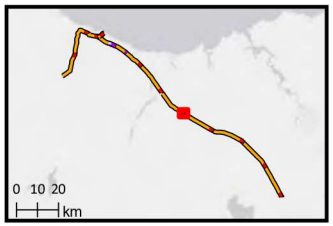
Proposed access tracks

- New track
- Existing upgrade required

- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level
- Partial clearing to mid-storey



N

Scale (A4): 1:20,000

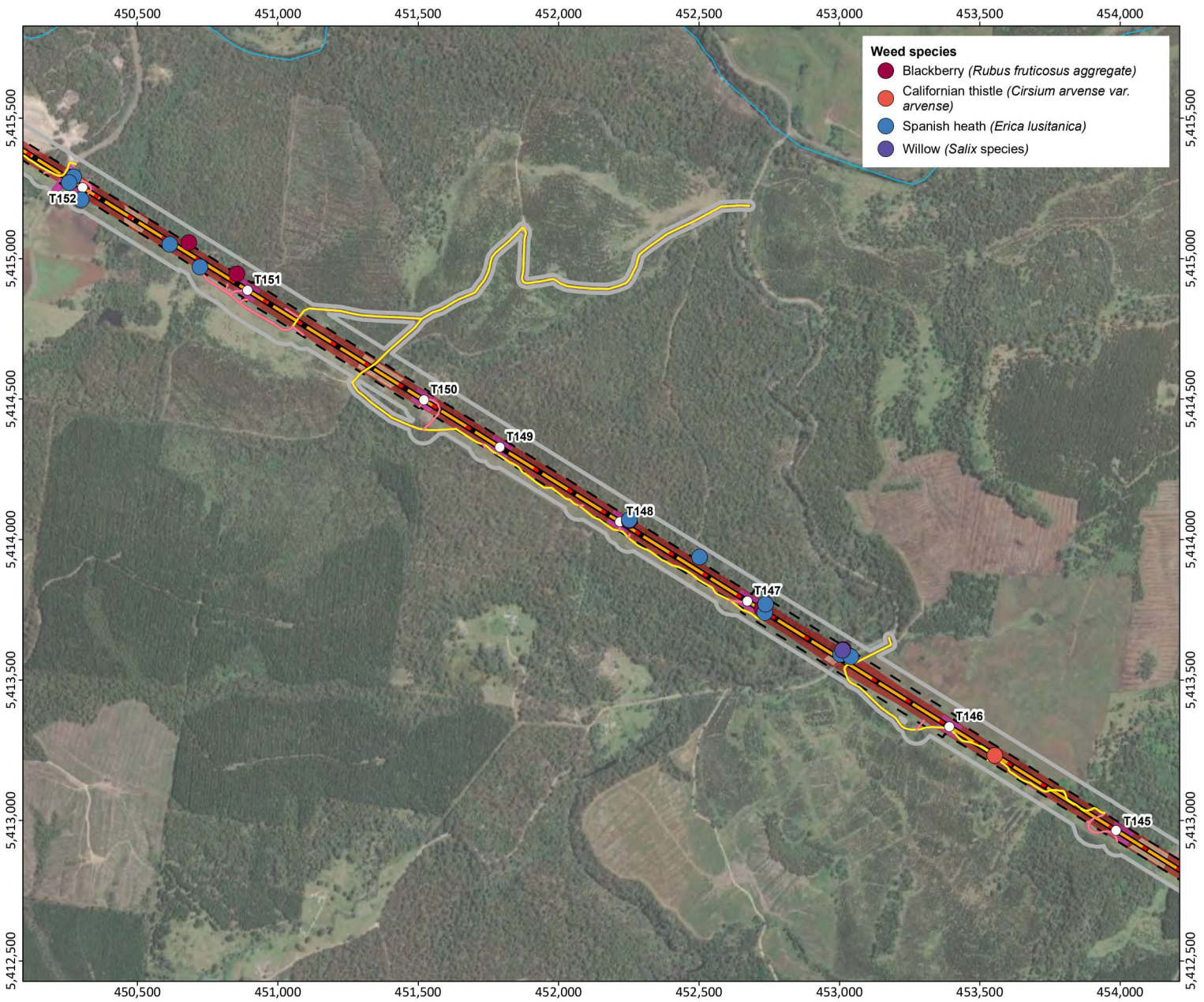
400 0 400 m

Coordinate System: GDA 1994 MGA Zone 55
Projection: Transverse Mercator
Datum: GDA 1994

Date: 8/07/2025 4:49 PM
Prepared by: Tetra Tech Coffey

TETRA TECH COFFEY

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Figure 6.11
Declared weed species recorded in the survey area (map 10 of 27)

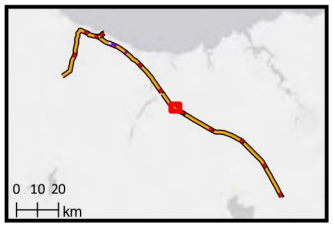
Legend

- Proposed tower
- Proposed 220 kV OHTL

Proposed access tracks
- New track
- Existing upgrade required
- Existing

- Proposed easement
- Ecology survey area

Proposed vegetation clearance
- Cleared to ground cover
- Cleared to ground level
- Partial clearing to mid-storey



N

Scale (A4): 1:20,000

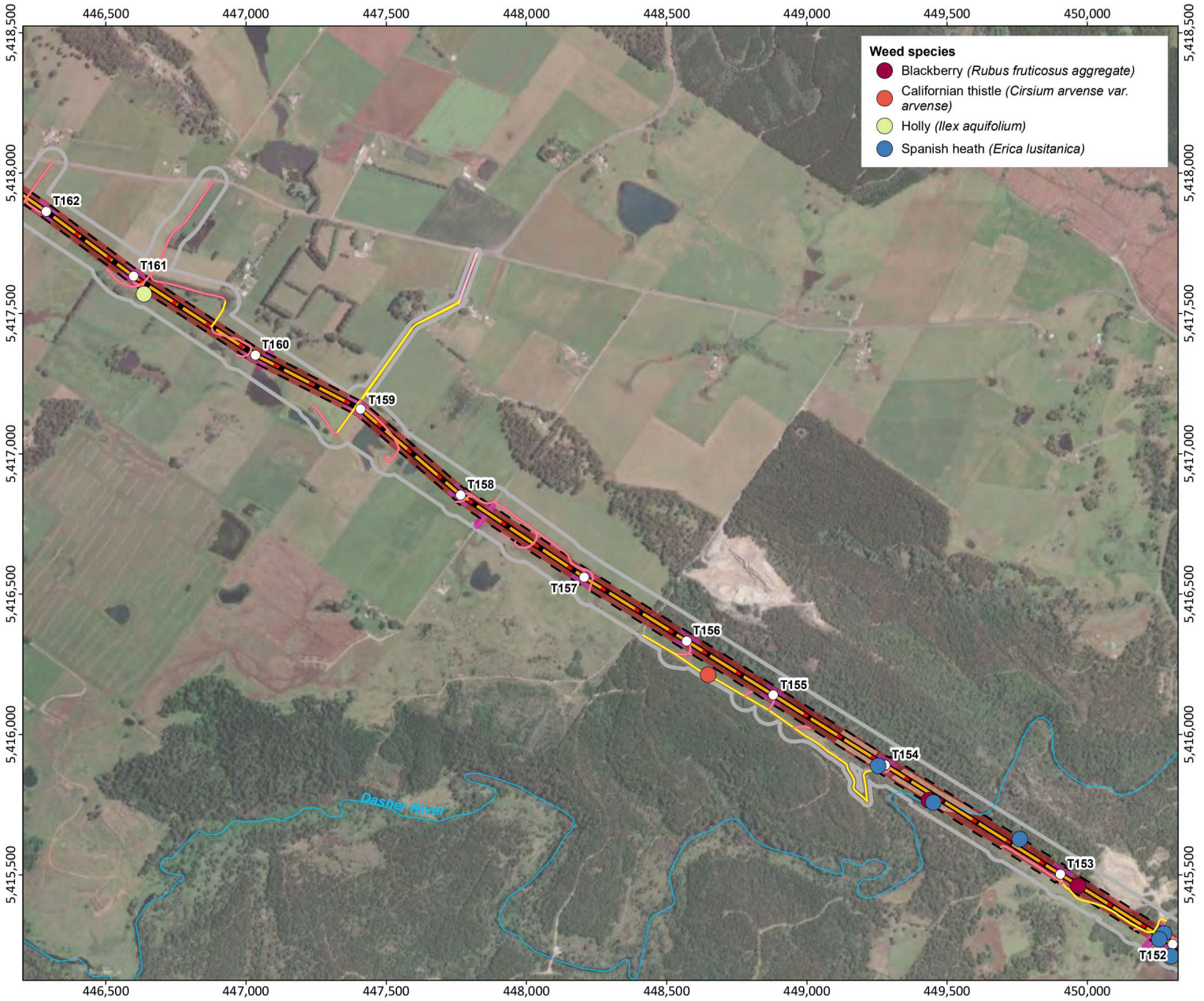
400 0 400 m

Coordinate System: GDA 1994 MGA Zone 55
Projection: Transverse Mercator
Datum: GDA 1994

Date: 8/07/2025 4:49 PM
Prepared by: Tetra Tech Coffey

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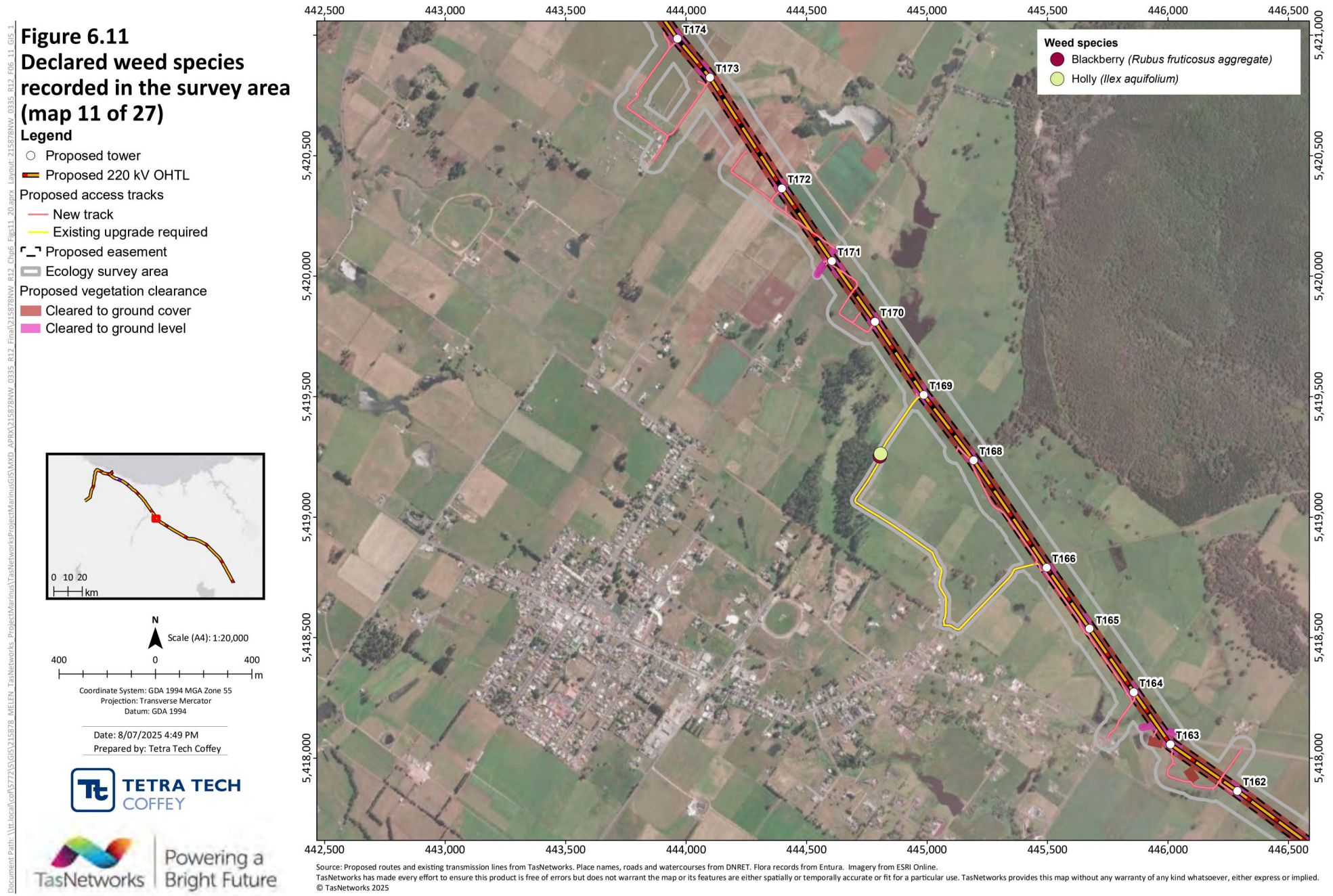


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Figure 6.11
Declared weed species recorded in the survey area (map 11 of 27)



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Figure 6.11
Declared weed species recorded in the survey area (map 12 of 27)

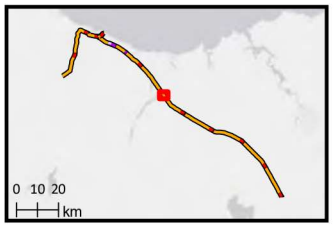
Legend

- Existing substation to be modified
- Proposed tower
- Proposed 220 kV OHTL

Proposed access tracks
- New track
- Existing upgrade required
- Existing

- Proposed easement
- Ecology survey area

Proposed vegetation clearance
- Cleared to ground cover
- Cleared to ground level



N

Scale (A4): 1:20,000

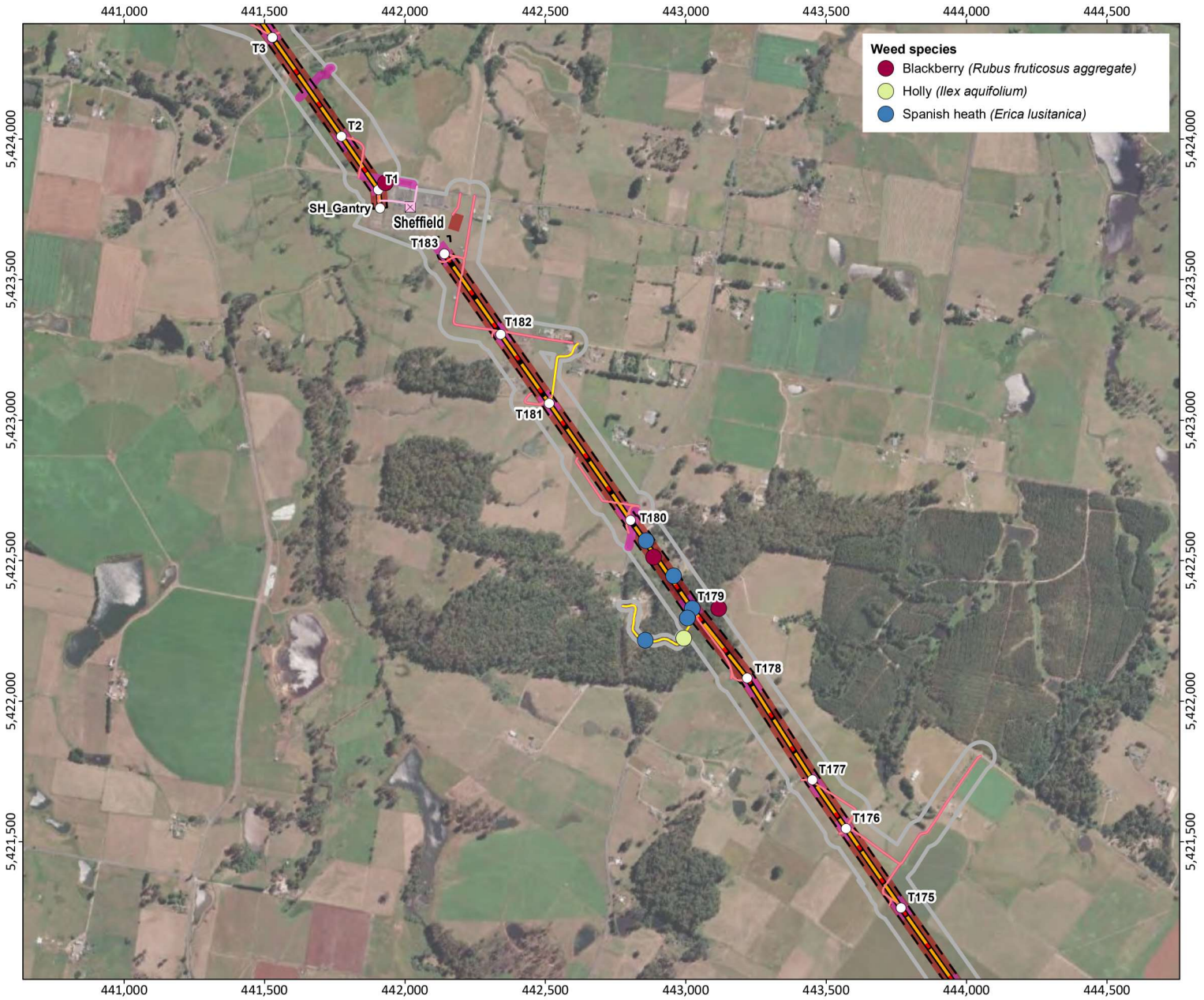
400 0 400 m

Coordinate System: GDA 1994 MGA Zone 55
Projection: Transverse Mercator
Datum: GDA 1994

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Figure 6.11
Declared weed species recorded in the survey area (map 13 of 27)

Legend

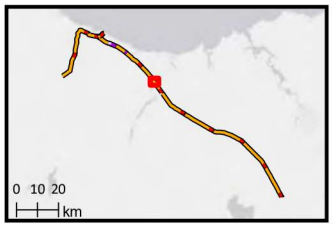
- Proposed tower
- Proposed 220 kV OHTL

Proposed access tracks

- New track
- Existing upgrade required
- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level
- Not cleared
- Partial clearing to mid-storey



N

Scale (A4): 1:20,000

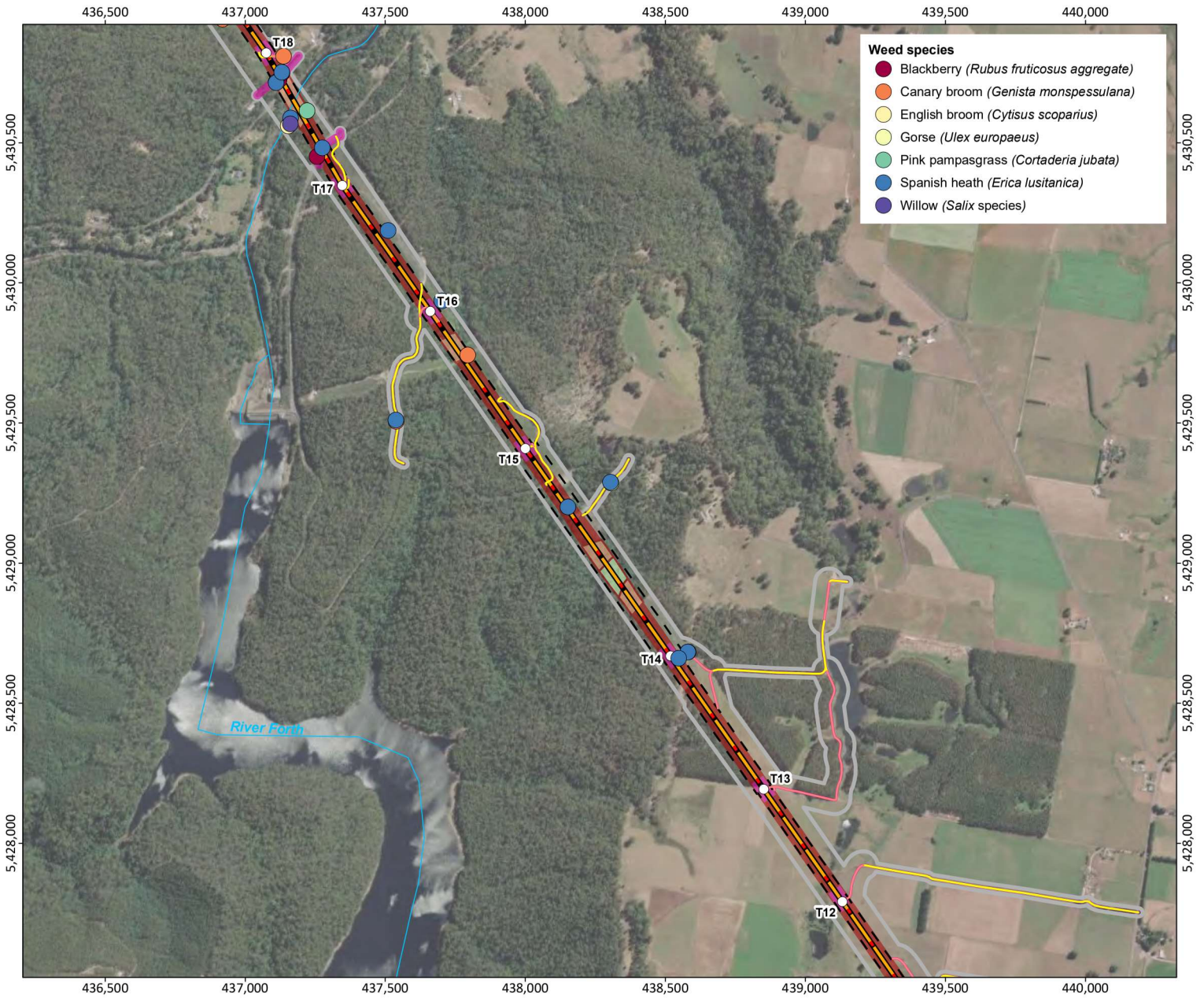
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Coordinate System: GDA 1994 MGA Zone 55
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Datum: GDA 1994

Date: 8/07/2025 4:49 PM
Prepared by: Tetra Tech Coffey

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Figure 6.11
Declared weed species recorded in the survey area (map 14 of 27)

Legend

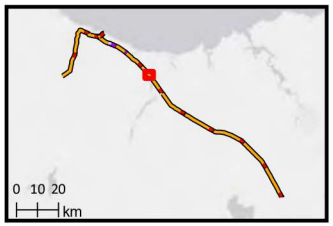
- Proposed tower
- Proposed 220 kV OHTL

Proposed access tracks

- New track
- Existing upgrade required
- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level
- Partial clearing to mid-storey



N

Scale (A4): 1:20,000

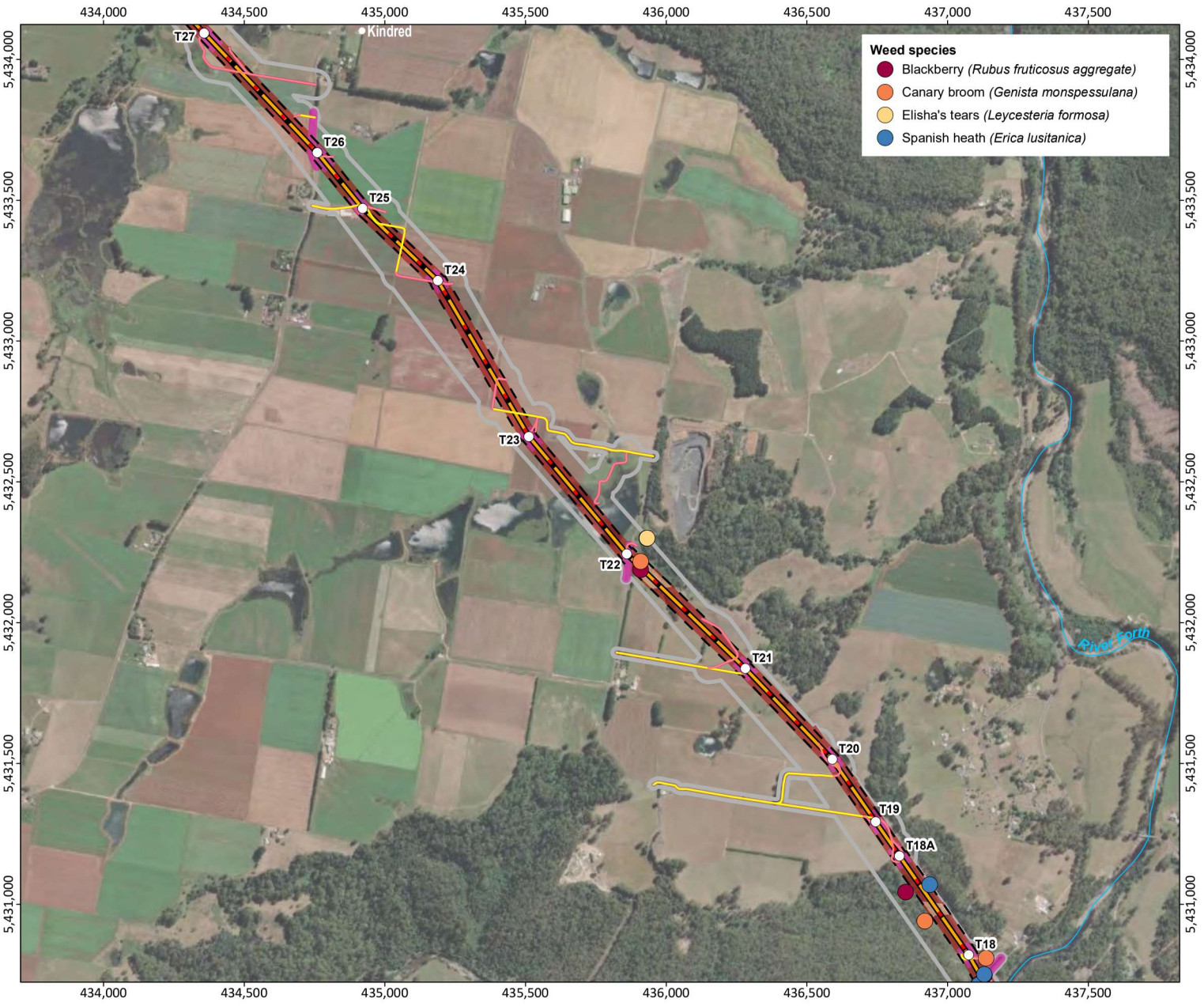
400 0 400 m

Coordinate System: GDA 1994 MGA Zone 55
Projection: Transverse Mercator
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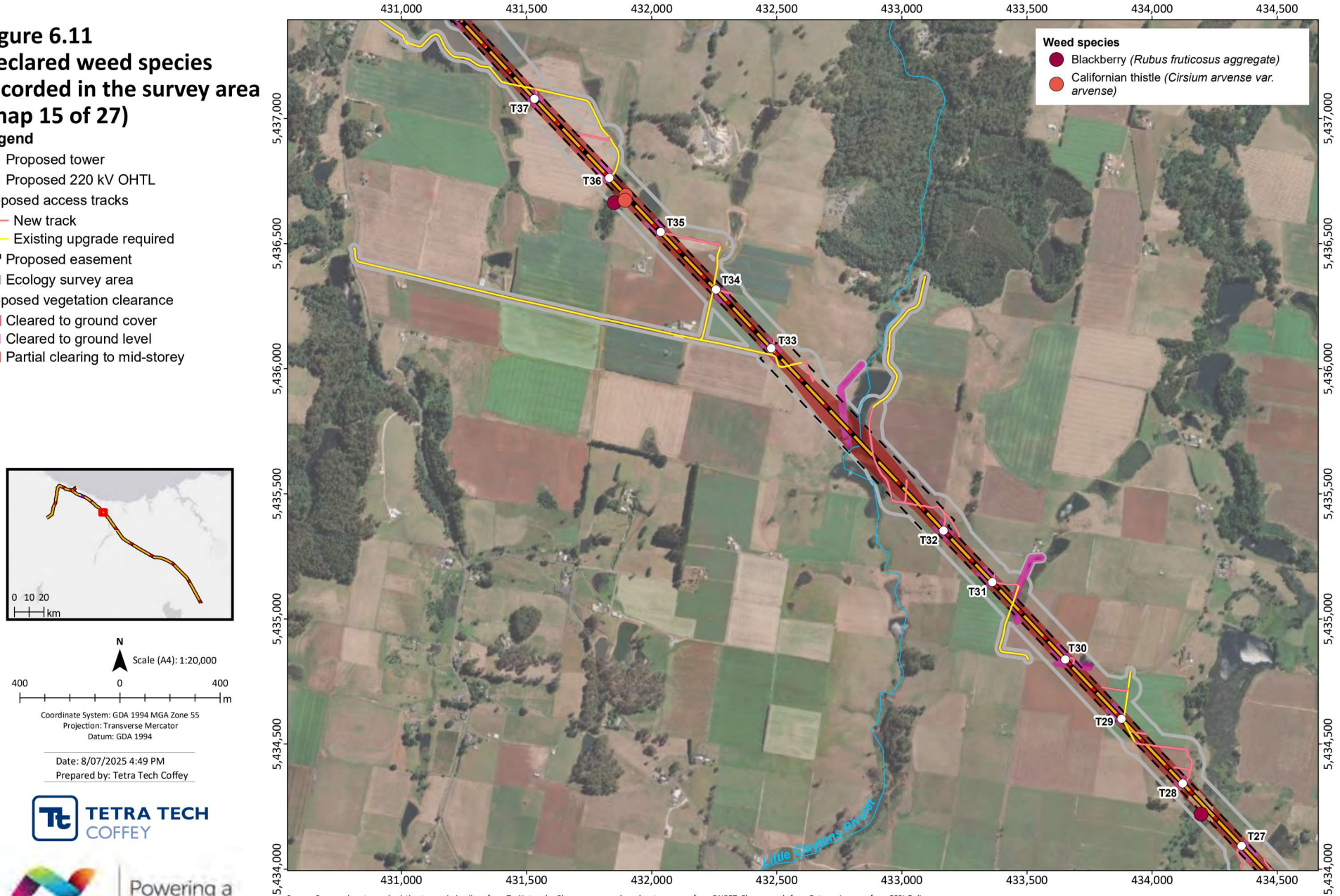


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Figure 6.11
Declared weed species recorded in the survey area (map 15 of 27)



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Figure 6.11
Declared weed species recorded in the survey area (map 16 of 27)

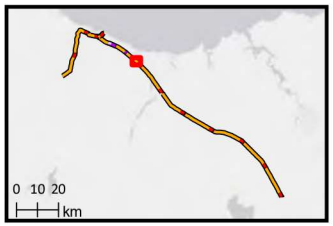
Legend

- Proposed tower
- Proposed 220 kV OHTL

Proposed access tracks
- New track
- Existing upgrade required

- Proposed easement
- Ecology survey area

Proposed vegetation clearance
- Cleared to ground cover
- Cleared to ground level
- Partial clearing to mid-storey



N

Scale (A4): 1:20,000

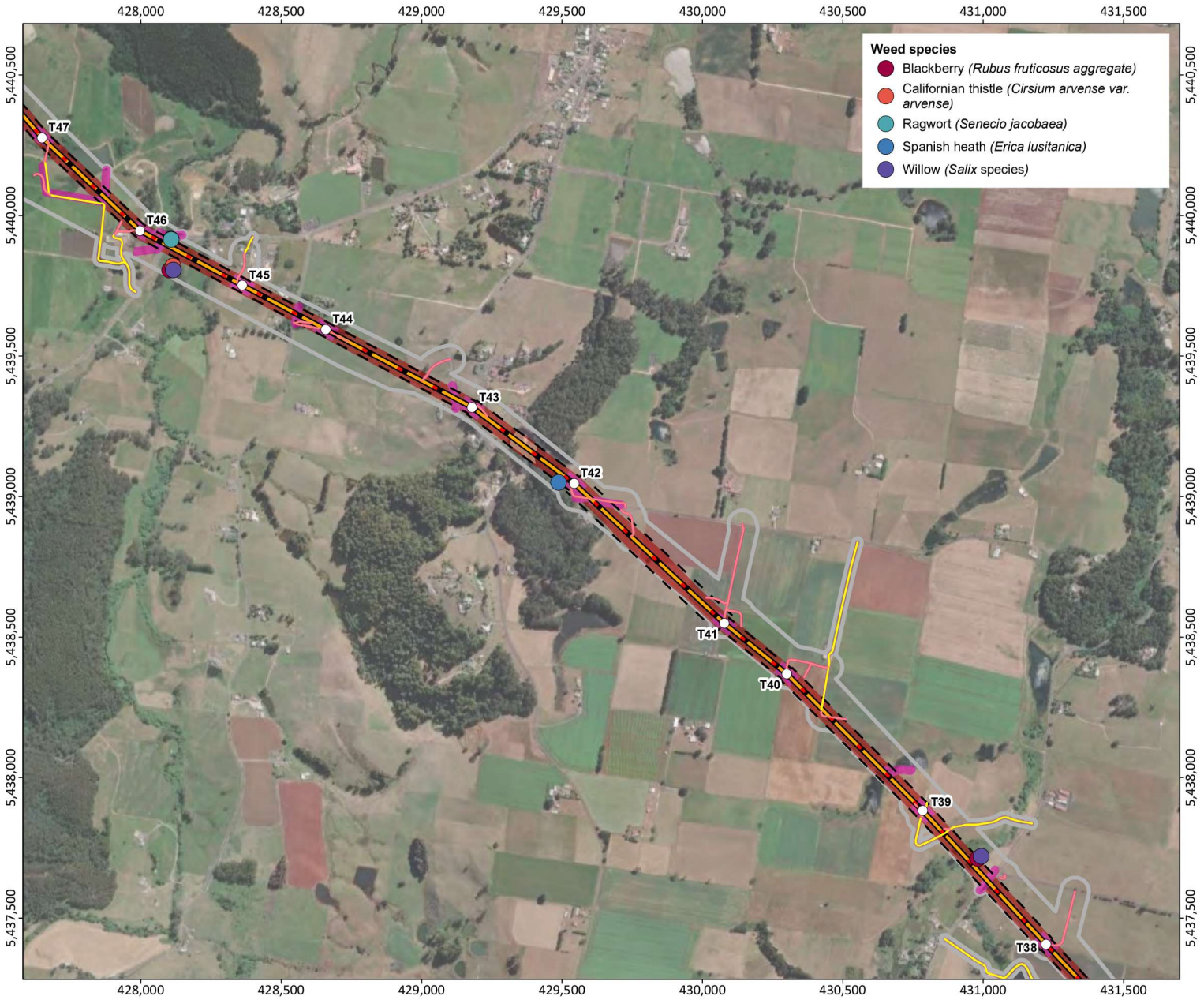
400 0 400 m

Coordinate System: GDA 1994 MGA Zone 55
Projection: Transverse Mercator
Datum: GDA 1994

Date: 8/07/2025 4:49 PM
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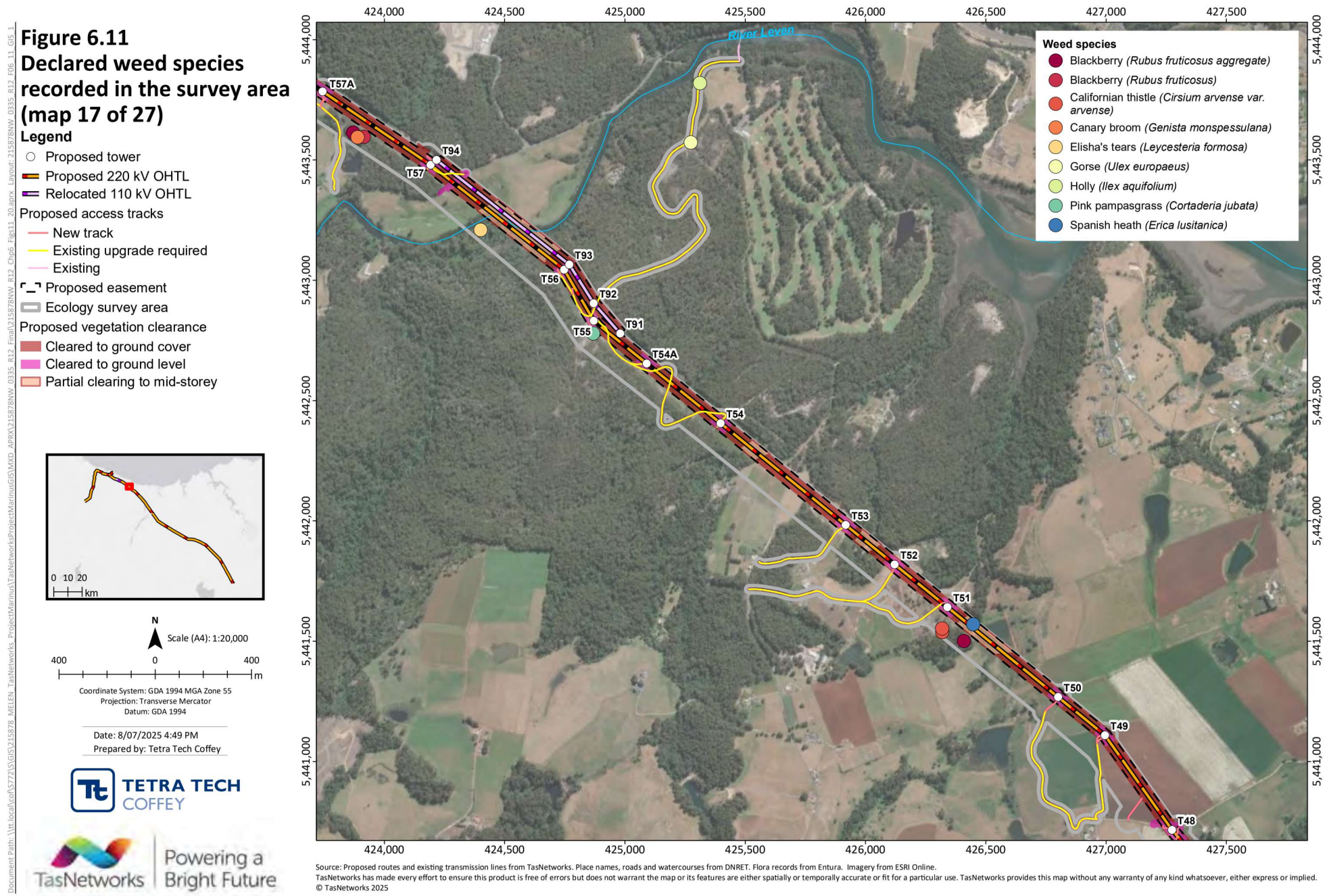


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Figure 6.11
Declared weed species recorded in the survey area (map 17 of 27)



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Figure 6.11
Declared weed species recorded in the survey area (map 18 of 27)

Legend

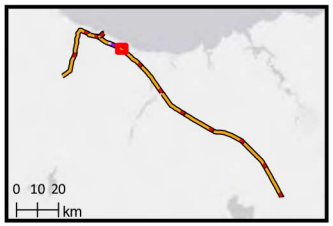
- Proposed tower
- Proposed 220 kV OHTL
- Relocated 110 kV OHTL

Proposed access tracks

- New track
- Existing upgrade required
- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level
- Not cleared
- Partial clearing to mid-storey



N

Scale (A4): 1:20,000

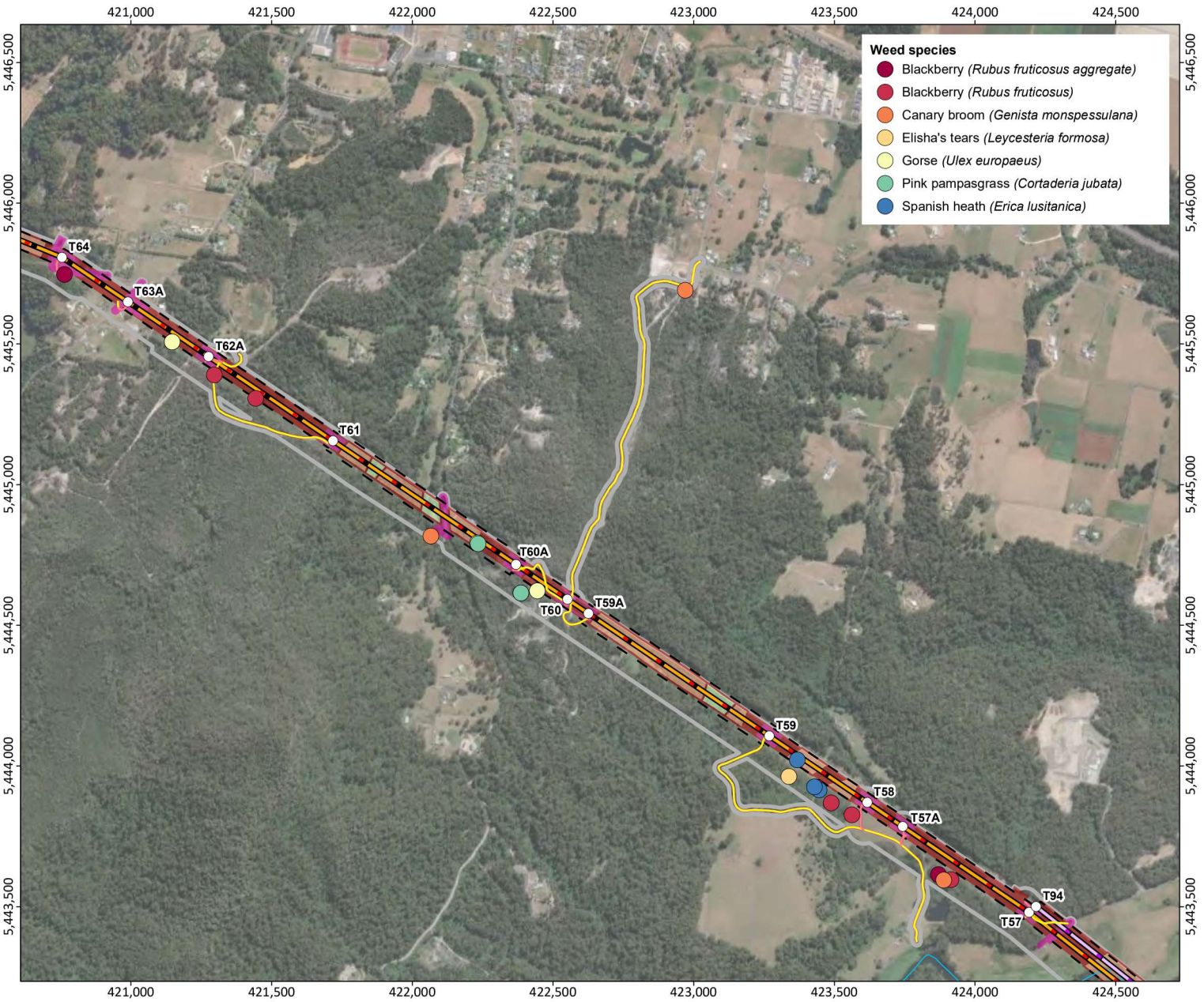
400 0 400 m

Coordinate System: GDA 1994 MGA Zone 55
Projection: Transverse Mercator
Datum: GDA 1994

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Figure 6.11
Declared weed species recorded in the survey area (map 19 of 27)

Legend

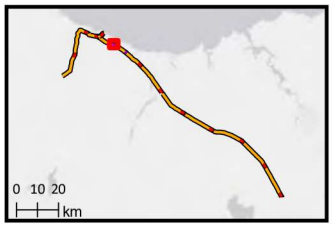
- Proposed tower
- Proposed 220 kV OHTL
- Relocated 110 kV OHTL

Proposed access tracks

- New track
- Existing upgrade required
- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level
- Partial clearing to mid-storey



N

Scale (A4): 1:20,000

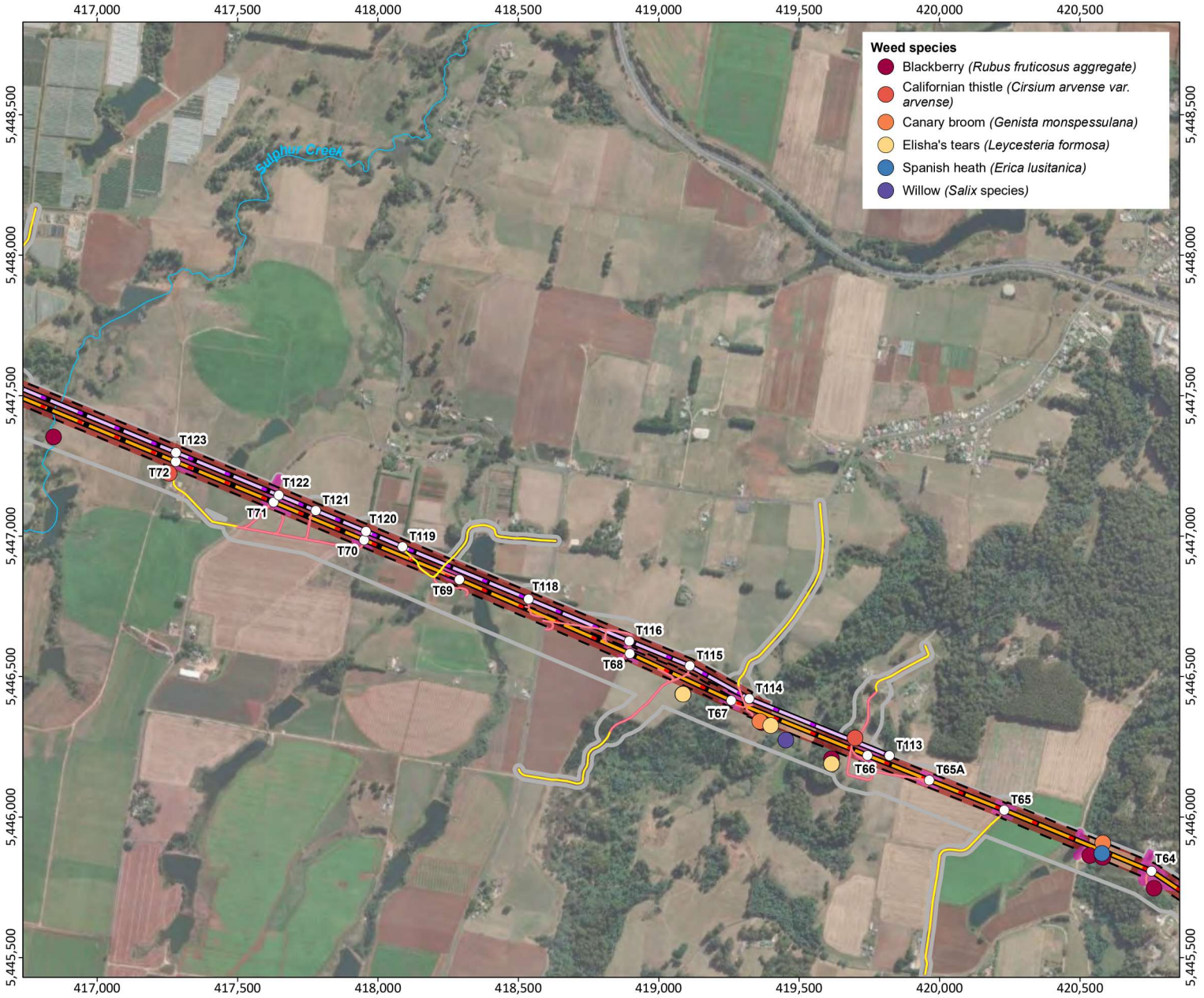
400 0 400 m

Coordinate System: GDA 1994 MGA Zone 55
Projection: Transverse Mercator
Datum: GDA 1994

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Figure 6.11
Declared weed species recorded in the survey area (map 20 of 27)

Legend

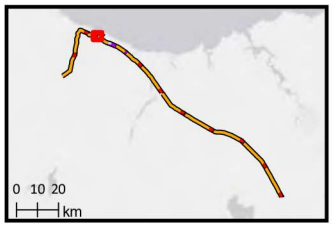
- Proposed tower
- Proposed 220 kV OHTL

Proposed access tracks

- New track
- Existing upgrade required
- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level
- Not cleared
- Partial clearing to mid-storey



N

Scale (A4): 1:20,000

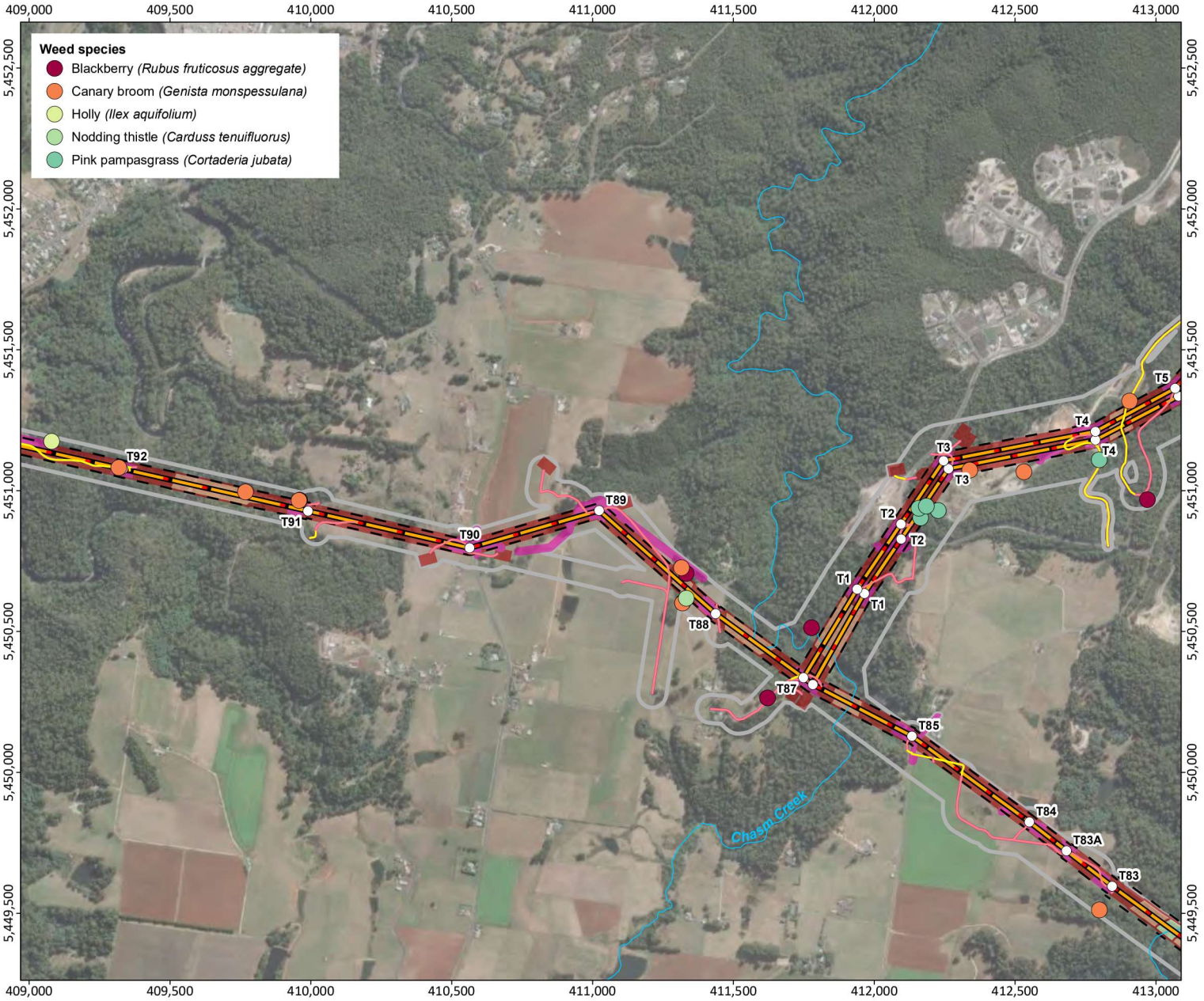
400 0 400 m

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Figure 6.11
Declared weed species recorded in the survey area (map 21 of 27)

Legend

- Other switching station/substation*
- Proposed tower
- Proposed 220 kV OHTL

Proposed access tracks

- New track
- Existing upgrade required

- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level
- Partial clearing to mid-storey



N

Scale (A4): 1:20,000

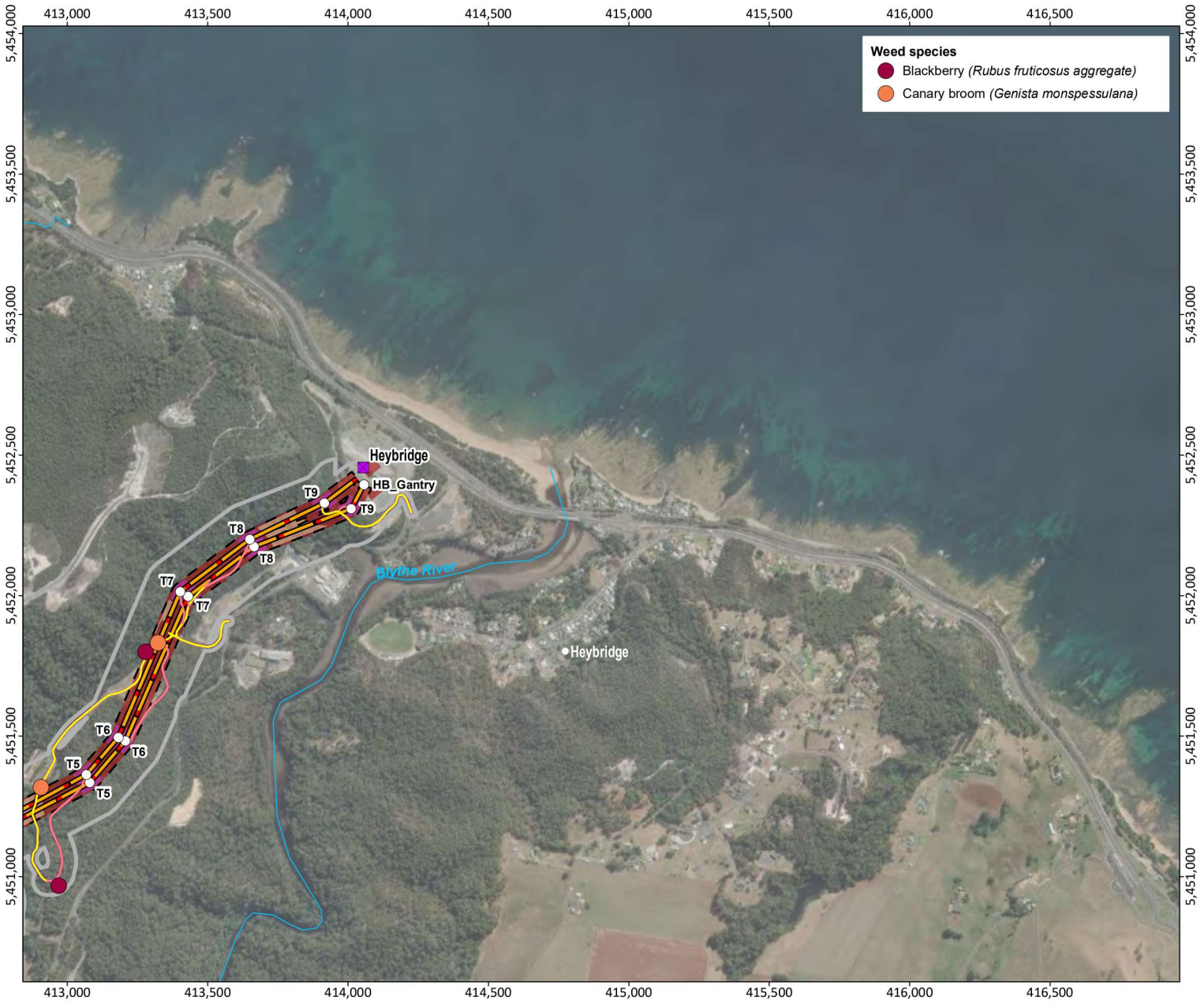
400 0 400 m

Coordinate System: GDA 1994 MGA Zone 55
Projection: Transverse Mercator
Datum: GDA 1994

Date: 8/07/2025 4:49 PM
Prepared by: Tetra Tech Coffey

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*Heybridge switching station is a new station proposed under a separate project.

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Figure 6.11
Declared weed species recorded in the survey area (map 22 of 27)

Legend

- Existing substation to be modified
- Proposed tower
- Proposed 220 kV OHTL

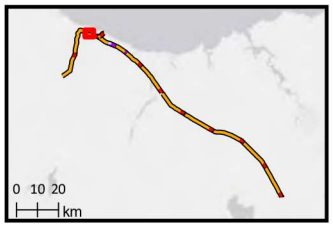
Proposed access tracks

- New track
- Existing upgrade required
- Existing

- Proposed easement
- Ecology survey area

Proposed vegetation clearance

- Cleared to ground cover
- Cleared to ground level
- Partial clearing to mid-storey



N

Scale (A4): 1:20,000

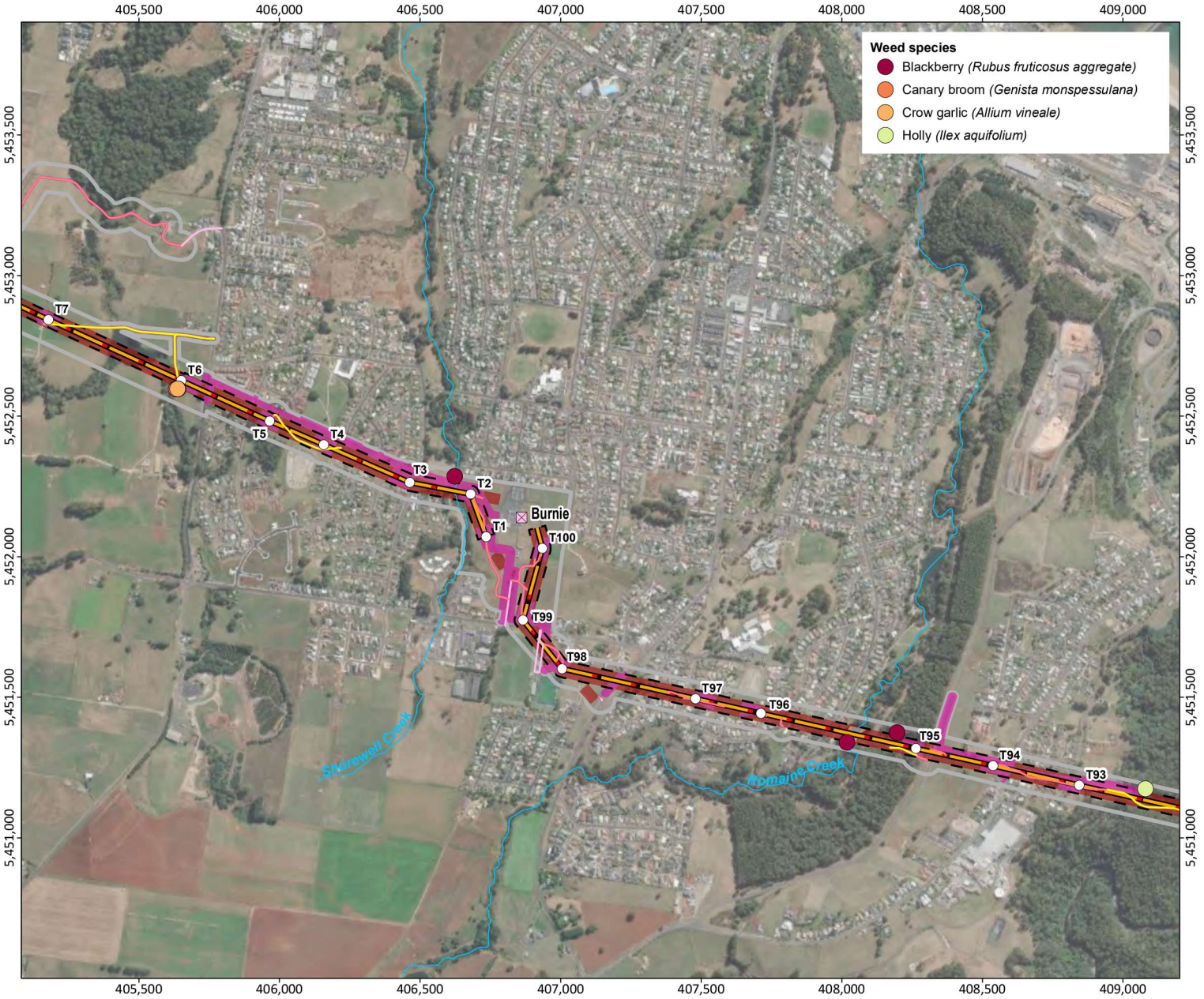
400 0 400 m

Coordinate System: GDA 1994 MGA Zone 55
Projection: Transverse Mercator
Datum: GDA 1994

Date: 8/07/2025 4:49 PM
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Source: Proposed routes and existing transmission lines from TasNetworks. Place names, roads and watercourses from DNRET. Flora records from Entura. Imagery from ESRI Online.

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