



Murray Regional Strategic Weed Management Plan 2023-2027

Acknowledgement of Country

The Murray Local Land Services region is situated in the traditional lands of the Wiradjuri, Wolgalu, Ngarigo, Bangarang, Yorta Yorta, Barapa Barapa, Wamba Wamba, Nari Nari, Wadi Wadi and Mari Mari nations. The Murray Local Board acknowledges and pays its respects to Elders, past and present and emerging of these nations.

Obligations to care for Country remain integral to Aboriginal and Torres Strait Islander lore, identity, culture and social and emotional well-being. The way in which traditional lands are being managed is of great interest to First Nations communities and Local Land Services understands that Aboriginal and Torres Strait Islander peoples have a significant contribution to make in relation to land management in the region.



This document is not a weed identification or control guide.
For this information please go to [WeedWise](#) or your local control authority.

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Murray Regional Strategic Weed Management Plan 2023-2027

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Acknowledgement of contributors

The Regional Strategic Weed Management Plan was developed by the Murray Regional Weed Committee on behalf of the Murray Local Land Services Board for endorsement by the board. The Murray Local Land Services Board wishes to acknowledge the work of the committee and regional support staff in developing the Murray Regional Strategic Weed Management Plan from Local Land Services and the NSW Department of Primary Industries.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing July 2022. However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of Local Land Services or the user's independent adviser.

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Murray Local Land Services Chair's foreword



Murray Local Land Services has been established to deliver efficient and effective integrated services associated with agricultural production, biosecurity, natural resource management and emergency management, with an emphasis on regional delivery and solutions.

Land managers and farmers know that effective weed control is only possible through regional cooperation and coordinated effort. The Murray region has a strong and proud history of cooperation with local government, state agencies, primary producers, the Aboriginal community, Landcare and producer groups all working together to manage and control weeds.

I would like to thank the members of the Murray Regional Weed Committee, council weed officers and other agency stakeholders who contributed to the development of this document with their expertise and time.

The Murray Local Land Services team, board members and I look forward to continuing to work with the Murray Regional Weed Committee, partnering organisations and stakeholders to implement the Murray Regional Strategic Weed Management Plan.

Derek Schoen

Chair

Murray Local Land Services

Murray Regional Weed Committee Chair's foreword



I am pleased to present the Murray Regional Strategic Weed Management Plan on behalf of Murray Local Land Services, member councils and stakeholders of the Murray Regional Weed Committee.

The Regional Strategic Weed Management Plan prioritises weeds into various landscapes and details action plans. It is a document to be used by a wide cross section of the community responsible for land management.

The Murray Regional Strategic Weed Management Plan has been developed through a strategic review of key national, state, regional operational plans and strategies, and NSW legislation including:

- Australian Weeds Strategy
- 20-Year Economic Vision for Regional NSW
- *Local Land Services Act 2013*
- NSW Biosecurity Strategy
- *NSW Biosecurity Act 2015*
- NSW Invasive Species Plan
- Local Land Services State Strategic Plan
- Murray Local Land Services Local Strategic Plan
- Draft Murray Regional NRM Strategy

The Murray Regional Strategic Weed Management Plan aims to provide all landholders and stakeholders with the knowledge and tools to make informed decisions in weed management and control, taking into account the limited resources and funds available.

Central to the success of this plan is the need to continue to build ownership by the whole community, taking a regional co-ordinated and co-operative approach with an appreciation by all stakeholders of their responsibilities and contributions to better manage weeds within the Murray Local Land Services region.

Much progress has been made over the past five years in achieving more effective, coordinated action to tackle priority weeds. The Murray Regional Weed Committee has supported and overseen a number of highly significant outcomes with early identification, control and in some instances eradication of new weeds to the Murray region. Increased coordination in efforts to effectively manage the many broadscale weeds has also occurred and will continue to be a priority over the life of this plan.

Rod Anderson

Chair

Murray Regional Weed Committee

Executive summary

Biosecurity protects the economy, environment, and community from the negative impacts of pests, diseases, and weeds. As such, it is vital for the health, wellbeing, and prosperity of the state.

The Murray Regional Strategic Weed Management Plan focuses on managing weeds to improve the region's biosecurity. This plan details priorities of weed management to protect the Murray region's environment, economy, and community from the negative impacts of weeds, strengthening the sustainability of the region's natural environment, primary industries, and local communities.

The NSW Biosecurity Strategy, the NSW *Biosecurity Act 2015*, state and regional strategies and plans are mutually supportive and inclusive of the Regional Strategic Weed Management Plan and are designed to work dynamically and effectively with Commonwealth biosecurity measures reforming weed, pest, and disease legislation for NSW in a consistent manner.

Together, these strategies and plans at all levels, provide a clear framework for safeguarding primary industries, natural environments, and communities from a vast range of pests, diseases and weeds in a manner that can be implemented more cooperatively, consistently across tenures supporting more effective management across the state.

Three crucial factors in realising the vision of a sustainable and prosperous future across NSW in the area of biosecurity weed management are:

- better understanding of the benefits of community-wide shared responsibility for biosecurity
- cooperative weed management with a tenure-neutral approach across jurisdictional boundaries
- effective and supportive legislation since the implementation of the NSW *Biosecurity Act in 2015*.

The Murray Regional Strategic Weed Management Plan was prepared by the Murray Regional Weed Committee on behalf of the Murray Local Land Services Board, in consultation with State Government and Local Land Services staff.

The plan outlines how government, industry and the community will share responsibility and work together to identify, minimise, respond to, and manage weeds.

The plan is applicable to all lands and waters in the Murray region and focuses on managing weeds that impact:

- animal and plant industries, including agriculture, horticulture, forestry, aquaculture, and recreational fishing in freshwater systems and eco-tourism
- ecological communities and biodiversity, including those in natural urban and peri-urban environments
- human health, livelihood, lifestyle, cultural values, recreation, and landscape amenity
- infrastructure and service industries, including energy, transport, and water supplies.

The plan sets the vision and goals for weed management in the Murray, and outlines strategies and actions to achieve outcomes based on the principles of shared responsibility, sustainable landscapes, collaborative leadership, cooperative management and resource sharing, and innovation.

1. Intent of Regional Strategic Weed Management Plan

1.1 Introduction and scope

Weeds are a major threat to Australia's natural environment. In 2018, the Centre for Invasive Species Solutions estimated that the total annual cost of weeds in NSW ranged from \$1.67 billion to \$1.9 billion per annum (McLeod, 2018). Impacts on biodiversity and natural environments are harder to quantify, but equally significant.

The Regional Strategic Weed Management Plan intends to prioritise the most important weeds in the region and guide management efforts.

Government, industry and the community can work together to protect the environment, community and economy from the negative impacts of weeds.

Regional Strategic Weed Management Plans play an important role in articulating the shared responsibility principle of the NSW *Biosecurity Act 2015* (the Act) and communicating weed control obligations.

As per [s.15 of the Act](#), the Plan prioritises weeds that:

- out-compete other organisms for resources
- cause harm to other organisms through toxicity
- otherwise reduce the productivity of agricultural systems or the value of agricultural products
- damage infrastructure
- reduce the amenity or aesthetic value of premises
- harm or reduce biodiversity.

Shared responsibility

The vision of shared responsibility is: “Government, industry and the people of NSW working together to protect the economy, environment and community from the negative impacts of animal and plant pests, diseases and weeds for the benefit of the people of NSW”.

(NSW Biosecurity Strategy 2013-2021).

The Murray Regional Strategic Weed Management Plan (the Plan):

- is a local strategic plan under the *Local Land Services Act 2013*.
- implements the NSW Biosecurity Strategy and NSW Invasive Species Plan in relation to weeds for the Murray region.
- has been prepared by the Murray Regional Weed Committee on behalf of Murray Local Land Services Board.
- explains how each region will work together to identify, minimise, respond to and manage priority weeds, supporting the idea of a shared responsibility under the biosecurity legislation.

The plan provides information to enable all landholders and stakeholders to effectively discharge their obligations under the Act.

For this reason, the Plan does not include prescriptive measures for landholders and stakeholders to discharge their biosecurity duties. The Plan focuses on the outcomes to be achieved, allowing for different measures to achieve the same outcome.

At the regional level, the Plan focuses on the management of weeds that have been assessed by the Murray Regional Weed Committee as posing a significant risk of doing these things at the regional scale and having a high feasibility of coordinated control.

To ensure responsibility is shared across government, community and industry, the Plan applies equally to all people and all land in NSW.

1.2 Vision and goals

The Plan's vision is:

Government, agricultural industries and the people of the Murray region working together to protect the environment, economy and community from the negative impacts of weeds for the benefit of all in the state.

The Regional Strategic Weed Management Plan provides the basis for a co-operative and co-ordinated approach to weed management.

The Plan identifies regional priorities for weed management and outlines how government agencies, community groups and individual landholders will share responsibility and work together across land tenures to prevent, eradicate, contain and manage the impacts of weeds.

The vision, goals and outcomes for this plan align with those of the NSW Invasive Species Plan and the Local Land Services State Strategic Plan.

This aligns with the Local Land Services State Strategic Plan vision of *Vibrant communities in productive healthy landscapes, which delivers on the state outcome of productive and sustainable landscapes.*

The Plan adopts the four goals outlined in the NSW Invasive Species Plan.

Goal 1:

Exclude – prevent the establishment of new invasive species.

Goal 2:

Eradicate or contain – eliminate, or prevent the spread of new invasive species.

Goal 3:

Effectively manage – reduce the impacts of widespread invasive species.

Goal 4:

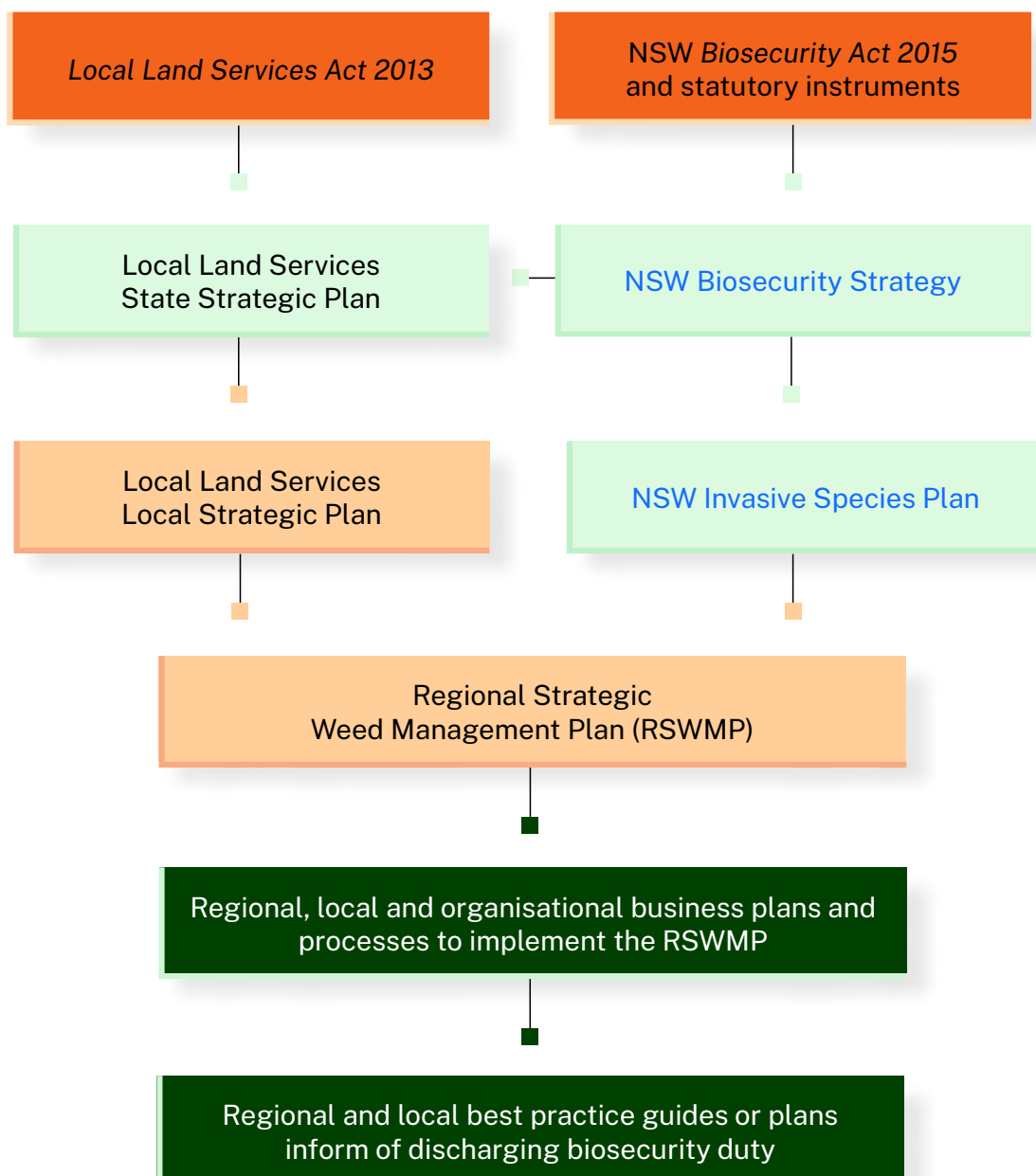
Capacity building – ensure NSW has the ability and commitment to manage invasive species.

2. Policy and planning framework

2.1 Overview of key plans and legislation

The regional weed committee has considered a range of plans and strategies directly relevant to development of this Plan, at national, state and local levels. These are shown in Figure 2.1.

Figure 2.1: Overall planning framework for the Regional Strategic Weed Management Plan.



2.2 NSW Biosecurity Act 2015

The NSW [Biosecurity Act 2015](#) (the Act) is the key legislation directing weed management and the implementation of this plan. This Act is administered by NSW Department of Primary Industries.

The Act provides a framework for the prevention, elimination and minimisation of biosecurity risks posed by:

- biosecurity matter such as weeds
- dealings with biosecurity matter such as weeds
- carriers of biosecurity matter.

It:

- promotes the principle of government, industry and the community sharing responsibility for biosecurity risks (including weeds)
- applies equally to all land in the state, regardless of tenure, and to all people
- is premised on the concept of risk, so that weed management investment and response is appropriate to the risk.

Local control authorities have weed control functions under s.371 of the Act, and must:

- prevent, eliminate, minimise and manage the biosecurity risk posed or likely to be posed by weeds on their lands
- develop, implement, coordinate and review weed control programs
- inspect land in connection with their functions under the Act
- keep records about the exercise of their functions under the Act
- report to the Secretary about the exercise of their functions under the Act.

Local control authorities appoint authorised officers who can exercise the powers available under the Act. This enables the local control authority to deliver these functions.

Local control authority

The council of a local government area is the local control authority for land within that local government area unless the weed control functions for that area have been conferred on a county council or joint organisation (within the meaning of the [Local Government Act 1993](#)) under any other Act. If the weed control functions for an area have been conferred on a county council or joint organisation, the county council or joint organisation is the local control authority for that area.

General biosecurity duty

In keeping with its premise that biosecurity is a shared community, industry and government responsibility, the Act introduces the legally enforceable concept of a **general biosecurity duty**.

Under the Act, **all** people who deal with plants through their commercial, professional, volunteer, recreational or lifestyle activities have a duty to be aware of the impacts the plants they deal with might cause, and must take action to remove or reduce the likelihood of those impacts occurring.

[Section 22 of the NSW Biosecurity Act 2015](#)

Dealings

The definition of “dealings” includes keep, have possession, care, custody or control of, produce, manufacture or supply, import, acquire, buy, sell, swap, dispose of, move, release, use, breed, propagate, grow, raise, feed or culture, experiment with, display, enter into an agreement or other arrangement which another person deals with, agree to deal with, cause or permit a dealing with or anything prescribed by the regulations as a dealing with, or engaging in a dealing with, biosecurity matter or a carrier.

[Section 12 of the NSW Biosecurity Act 2015](#)

Authorised officers are appointed under the NSW *Biosecurity Act 2015* by local control authorities. They carry out local control authority functions by exercising the powers and regulatory tools available to them under the Act, and implement compliance programs.

Biosecurity management tools

Table 2.1: Tools available to authorised officers under the NSW *Biosecurity Act 2015* and the NSW *Biosecurity Regulation 2017* to manage weed risk.

Prohibited matter

It is an offence to deal with any prohibited weed species listed in Schedule 2, Part 1 of the NSW *Biosecurity Act 2015*. People have a legally enforceable duty to prevent, eliminate, and minimise the biosecurity risk posed by prohibited matter. People must notify the local control authority about the presence of prohibited matter or suspected prohibited matter.

Control order

Control orders establish control zones and related measures to prevent, eliminate, minimise or manage a biosecurity risk or impact. Species regulated under a control order must be immediately destroyed and the land kept free of that species. Control orders are used to manage weeds under approved eradication programs and last for a maximum duration of five years (or can be renewed for longer-term eradication programs).

Biosecurity zone

Biosecurity zones specify the measures (eradication, destruction or suppression of spread) that must be taken in a defined area to manage the weed. Biosecurity zone regulation is used to manage weeds that pose a medium risk over an extended period where the focus is on eradication and containment and on minimising the risk of spread and impact in the affected area. It is used where different management actions are required in different parts of NSW or to protect a portion of the state from the introduction of a particular biosecurity risk.

Mandatory measures

Mandatory measures require people to take specific actions with respect to certain weeds or carriers of weeds. It is prohibited to sell or import weeds listed in Schedule 3 of the NSW *Biosecurity Regulation 2017*. It is prohibited to import farm equipment from Queensland into NSW including grain harvesters, comb trailers, bins used for holding grain during harvest operations, augers, vehicles used for transporting grain harvesters, support vehicles for grain harvesters and mineral exploration drilling rigs and vehicles used to transport those rigs. It is prohibited to import into the state new species of vascular plants not currently present in the state.

General biosecurity duty

Any person who deals with a plant that poses a risk of causing an adverse effect on the economy, the environment or the community and who knows, or ought to know about the risk the plant poses, has a legally enforceable duty to prevent, eliminate or minimise the risk of that impact occurring.

Biosecurity direction

An authorised officer may issue a biosecurity direction that directs a person or class of persons to do or to cease doing something, if the officer reasonably believes it is necessary to prevent, eliminate or minimise a biosecurity risk or to prevent, manage or control a biosecurity impact. It is an offence not to comply with a biosecurity direction.

Biosecurity undertaking

A biosecurity undertaking is a written undertaking by a person, that specifies the measures a person agrees to implement to remedy a contravention, likely contravention, or suspected contravention of the Act and a date by which those measures will be implemented by. It is an offence to contravene a biosecurity undertaking.

3. Weed risk assessment and prioritisation

Weeds are regulated under the NSW *Biosecurity Act 2015* according to the risk they pose to the environment, community and economy. Weeds that create the highest level of risk and have the feasibility of being controlled are called priority weeds.

Management action, investment and compliance effort should be directed toward priority weeds. Risk-based decision-making and weed prioritisation ensures that the weeds management response is:

- reasonably practicable
- matched to the degree of risk posed
- flexible and non-prescriptive.

The weed prioritisation process used in this Plan is guided by the principle that managing new weeds earlier rather than later is the most efficient and cost-effective way to protect local communities, environments and industries from the impacts of weeds in the long-term.

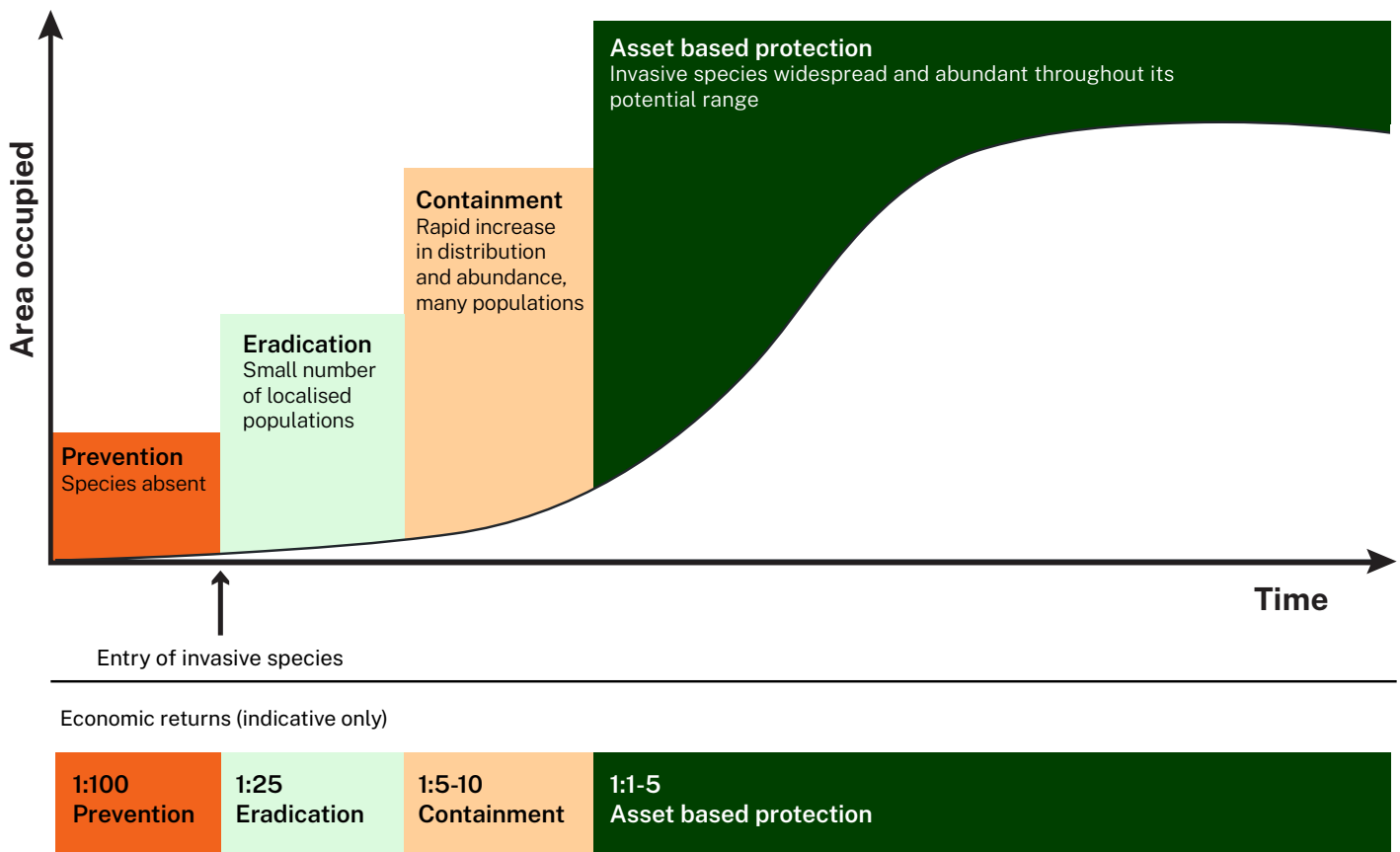
The generalised ‘weed invasion curve’ (Figure 3.1) illustrates the invasion process of weeds from arrival to widespread establishment after research showed that the effort and resources required to control a weed rises with time and area occupied.

The NSW Weed Risk Management system is the decision-support tool that is used to help determine which weeds should be prioritised. The system provides a standard, nationally accepted and transparent process that considers two components for prioritising weeds for management action:

1. weed risk (invasiveness, impacts, potential distribution)
2. feasibility of coordinated control (control costs, persistence, current distribution).

It is applied at different scales. Weeds that receive high scores for both components are prioritised at that scale. Further information on the NSW Weed Risk Management system is available at the [NSW Department of Primary Industries website](#).

Figure 3.1: Generalised weed invasion curve illustrating actions appropriate to each stage and indicative return on investment.



3.1 State priority weeds

State priority weeds have been assessed by NSW Department of Primary Industries as posing a high to medium biosecurity risk to the entire state of NSW and are identified in Table 3.1 below.

Further information on state priority weeds can be found in [Appendix 1.1](#) of this Plan. Specific legal requirements apply to state priority weeds.

State priority weeds are regulated through the following tools as listed in Table 2.1:

- prohibited matter
- control orders
- biosecurity zones
- mandatory measures.

Table 3.1: State priority weeds.

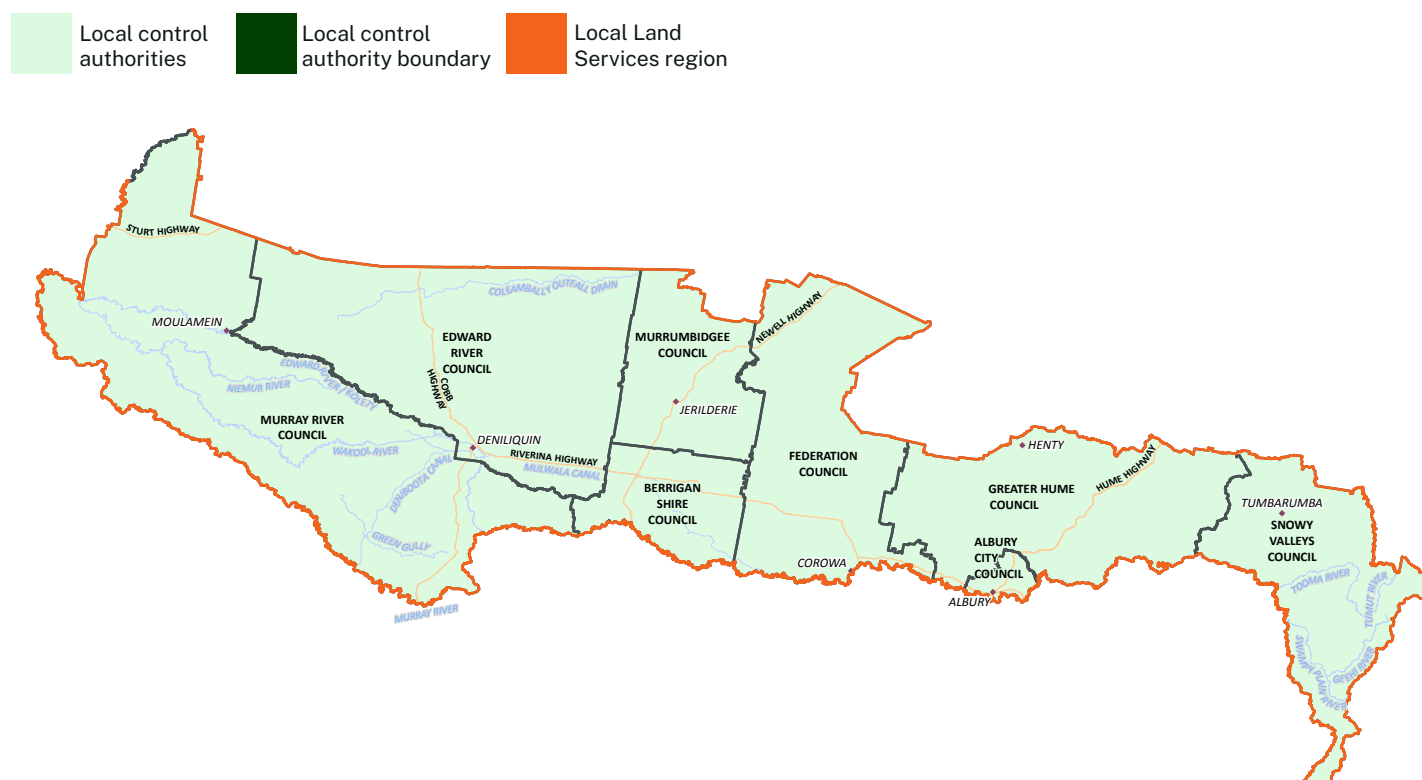
Common name	Scientific name	Regulatory tool
African boxthorn	<i>Lycium ferocissimum</i>	Mandatory Measure prohibits sale within or import into NSW
Alligator weed	<i>Alternanthera philoxeroides</i>	Alligator Weed Biosecurity Zone applies in some parts of NSW Mandatory Measure prohibits sale within or import into NSW
All species of vascular plant	<i>Tracheophyta</i>	Mandatory Measure prohibits import into NSW if the species is not already present in the State
Anchored water hyacinth	<i>Eichhornia azurea</i>	Prohibited Matter in NSW
Asparagus weeds	<i>Asparagus aethiopicus</i> , <i>A. africanus</i> , <i>A. asparagoides</i> including the western cape form *, <i>A. plumosus</i> , and <i>A. scandens</i>	Mandatory Measure prohibits sale within or import into NSW
Athel pine	<i>Tamarix aphylla</i>	Mandatory Measure prohibits sale within or import into NSW
Bellyache bush	<i>Jatropha gossypifolia</i>	Mandatory Measure prohibits sale within or import into NSW
Bitou bush	<i>Chrysanthemoides monilifera subsp. Rotundata</i>	Bitou Bush Biosecurity Zone applies in some parts of NSW Mandatory Measure prohibits sale within or import into NSW
Blackberry	<i>Rubus fruticosus</i> spp. agg. (except the varieties chester thornless, dirksen thornless, loch ness, silvan, black satin, murrindindi, smooth stem, thornfree and chehalem)	Mandatory Measure prohibits sale within or import into NSW
Black knapweed	<i>Centaurea x moncktonii</i>	Prohibited Matter in NSW
Boneseed	<i>Chrysanthemoides monilifera subsp. monilifera</i>	Biosecurity (Boneseed) Control Order 2022 applies in NSW Mandatory Measure prohibits sale within or import into NSW
Bridal veil creeper	<i>Asparagus declinatus</i>	Prohibited Matter in NSW
Broomrape	<i>Orobanche</i> spp. (all species except the native <i>O. cernua</i> var. <i>australiana</i> and <i>O. minor</i>)	Prohibited Matter in NSW
Brooms	<i>Genista monspessulana</i> , <i>G. linifolia</i> , <i>Cystisus scoparius</i>	Mandatory Measure prohibits sale within or import into NSW

Common name	Scientific name	Regulatory tool
Cabomba	<i>Cabomba caroliniana</i>	Mandatory Measure prohibits sale within or import into NSW
Cat's claw creeper	<i>Dolichandra unguis-cati</i>	Mandatory Measure prohibits sale within or import into NSW
Chilean needle grass	<i>Nassella neesiana</i>	Mandatory Measure prohibits sale within or import into NSW
Chinese violet	<i>Asystasia gangetica subsp. micrantha</i>	Biosecurity (Chinese Violet) Control Order 2019 applies in NSW
Eurasian water milfoil	<i>Myriophyllum spicatum</i>	Prohibited Matter in NSW
Fireweed	<i>Senecio madagascariensis</i>	Mandatory Measure prohibits sale within or import into NSW
Frogbit / Spongeplant	<i>Limnobium spp.</i> (all species)	Prohibited Matter in NSW
Gamba grass	<i>Andropogon gayanus</i>	Prohibited Matter in NSW
Gorse	<i>Ulex europaeus</i>	Mandatory Measure prohibits sale within or import into NSW
Hawkweed	<i>Pilosella spp</i> (all species) in addition to <i>Hieracium spp</i> (all species except <i>Hieracium murorum</i>)	Prohibited Matter in NSW
Hydrocotyl/Water pennywort	<i>Hydrocotyle ranunculoides</i>	Prohibited Matter in NSW
Hymenachne	<i>Hymenachne amplexicaulis</i>	Mandatory Measure prohibits sale within or import into NSW
Karoo acacia	<i>Vachellia karroo</i> (syn. <i>Acacia karroo</i>)	Prohibited Matter in NSW
Kochia	<i>Bassia scoparia</i> (excluding subsp. <i>trichophylla</i>)	Prohibited Matter in NSW
Koster's curse	<i>Clidemia hirta</i>	Prohibited Matter in NSW
Lagarosiphon	<i>Lagarosiphon major</i>	Prohibited Matter in NSW
Lantana	<i>Lantana camara</i>	Mandatory Measure prohibits sale within or import into NSW
Madeira vine	<i>Anredera cordifolia</i>	Mandatory Measure prohibits sale within or import into NSW
Mesquite	<i>Prosopis spp</i>	Mandatory Measure prohibits sale within or import into NSW
Mexican feather grass	<i>Nassella tenuissima</i> (syn. <i>Stipa tenuissima</i>)	Prohibited Matter in NSW
Miconia	<i>Miconia spp.</i> (all species)	Prohibited Matter in NSW
Mikania vine	<i>Mikania micrantha</i>	Prohibited Matter in NSW
Mimosa	<i>Mimosa pigra</i>	Prohibited Matter in NSW
Parkinsonia	<i>Parkinsonia aculeata</i>	Biosecurity (Parkinsonia) Control Order 2022 applies in NSW Mandatory Measure prohibits sale within or import into NSW

Common name	Scientific name	Regulatory tool
Parthenium weed	<i>Parthenium hysterophorus</i>	Prohibited Matter in NSW Mandatory Measure prohibits parthenium weed carriers from entering NSW from QLD
Pond apple	<i>Annona glabra</i>	Prohibited Matter in NSW
Prickly acacia	<i>Vachellia nilotica</i> (syn. <i>Acacia nilotica</i>)	Prohibited Matter in NSW
Prickly pears	<i>Opuntia</i> spp. (excluding <i>O. ficus-indica</i>), <i>Cylindropuntia</i> spp. and <i>Austrocylindropuntia</i> spp.	Mandatory Measure prohibits sale within or import into NSW
Rubber vine	<i>Cryptostegia grandiflora</i>	Prohibited Matter in NSW
Sagittaria	<i>Sagittaria platyphylla</i>	Mandatory Measure prohibits sale within or import into NSW
Salvinia	<i>Salvinia molesta</i>	Mandatory Measure prohibits sale within or import into NSW
Serrated tussock	<i>Nassella trichotoma</i>	Mandatory Measure prohibits sale within or import into NSW
Siam weed	<i>Chromolaena odorata</i>	Prohibited Matter in NSW
Silver-leaf nightshade	<i>Solanum elaeagnifolium</i>	Mandatory Measure prohibits sale within or import into NSW
Spotted knapweed	<i>Centaurea stoebe</i> subsp. <i>australis</i>	Prohibited Matter in NSW
Tropical soda apple	<i>Solanum viarum</i>	Biosecurity (Tropical Soda Apple) Control Order 2022 applies in NSW Mandatory Measure prohibits sale within or import into NSW
Water caltrop	<i>Trapa</i> spp. (all species)	Prohibited Matter in NSW
Water hyacinth	<i>Eichhornia crassipes</i>	Water Hyacinth Biosecurity Zone applies in some parts of NSW Mandatory Measure prohibits sale within or import into NSW
Water soldier	<i>Stratiotes aloides</i>	Prohibited Matter in NSW
Willows	<i>Salix</i> species except <i>S. babylonica</i> , <i>S. X calodendron</i> and <i>S. X reichardtiji</i> (willows except weeping willows, pussy willow and sterile pussy willow)	Mandatory Measure prohibits sale within or import into NSW
Witchweed	<i>Striga</i> spp. (except the native <i>S. parviflora</i>)	Prohibited Matter in NSW
Yellow burrhead	<i>Limnocharis flava</i>	Prohibited Matter in NSW

4. Weed management in the region

Figure 4.1: Murray Local Land Services regional map.



4.1 Introduction to region

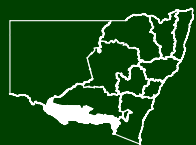
The Murray Local Land Services region spans more than 4.2 million ha of public and private land bounded to the south by the Murray River and ranging from steep alpine slopes in the east to vast native grasslands, rangelands and riverine floodplains in the west.

The region includes approximately 350,000 ha of national parks and reserves, 140,000 ha of state forests and 55,000 ha of travelling stock reserves (managed by Murray Local Land Services). Around 75% of land in the region is privately owned and one-third of our residents are directly involved in agricultural production. The Murray Local Land Services region extends over the local government areas of Albury City, Berrigan, Edward River, Federation, Greater Hume, Murray River, lower Murrumbidgee and Snowy Valleys. The Murray region borders Riverina, Western and South Eastern Local Land Services regions as well as Victoria.

Nationally significant areas include Kosciuszko National Park, the Murray River, and the Central Murray Red Gum forests that are internationally recognised as important wetlands.

The region's population of around 107,000 people is concentrated along the Murray, Edward and Billabong-Yanco river systems in towns such as Corowa, Moama, Jerilderie, Deniliquin, Tocumwal, Holbrook, and our only major city, Albury. Many of these population centres are closely linked to nearby Victorian communities and services, and the urban/rural interface is a growing sector across the region.

Agricultural industries are diverse, including irrigated and dryland cropping, livestock grazing, and dairy production, with an estimated one-third of the region's community involved directly in agricultural enterprises. Extensive irrigation networks and the Snowy Hydro-Electric Scheme supply water to low rainfall areas. The region contains significant environmental assets such as the Central Murray state forests Ramsar sites.



4.2m ha

The Murray Local Land Services region spans more than 4.2 million ha of approximately 75% private and 25% public land.



81.7%

The Murray Local Land Services region is made up of 81.7% agricultural and 18.2% non-agricultural land.



42.3%

The agricultural land is made up of 42.98% livestock production, 38.65% cropping and 0.14% horticulture.



9.4%

The non-agricultural land is made up of nature conservation 9.46%, forests and plantations 4.03%, water 3.25% and intensive uses 1.49%.

The Murray region is steeped in Aboriginal history, culture and spiritual significance. It encompasses many important cultural locations of national and international significance, and there are strong local efforts to maintain cultural knowledge and traditional practices. The Murray Local Land Services region extends over six Local Aboriginal Land Council areas being Moama, Cummeragunja, Brungle-Tumut, Albury, Deniliquin and Wamba Wamba.

Factors that currently influence weed management within the Murray region include restricted resources available for weed management, changes in farming practices (grazing to cropping), absentee land managers and small-scale farms, urban areas and public places with limited control options.

Weeds that are widely distributed across the Murray region are unlikely to be eradicated, however they may still pose a significant threat to specific sites, landscapes or places of importance known as high value social, economic and environmental assets.

The following are examples (but not a comprehensive list) of high value social, economic and environmental assets.

- [Cultural and Natural Assets of Intergenerational Significance](#) (AIS) declared under the *National Parks and Wildlife Act 1974*.
- RAMSAR listed wetlands.
- Threatened species and endangered ecological communities and their habitats.
- Areas listed under the [Biodiversity values map](#).
- Heritage objects, items and places listed under the *Heritage Act 1977* and the *National Parks and Wildlife Act 1974*.
- High Ecological Value Aquatic Ecosystems (HEVAE).

4.2 Key risks to the region

Weeds pose a significant threat to primary production, ecosystem biodiversity, conservation efforts and many other important lifestyle and cultural values of the Murray region, by:

- Invading crops and pasture, reducing crop yields and the carrying capacity of agricultural land.
- Impacting the survival and evolutionary development of native species, populations and ecological communities and therefore reducing biodiversity.
- Reducing the quantity and quality of agricultural, horticultural and forestry products.
- Changing the structure and function of terrestrial and aquatic ecosystems and degrading the ecosystem services that they provide.
- Impacting human health by exacerbating respiratory issues, allergies and other medical conditions.
- Poisoning livestock and domesticated animals.
- Reducing the natural beauty and aesthetic value of the region.
- Degrading soil stability, particularly in agricultural and riparian areas.
- Reducing the quality of water and waterways, affecting natural flows and aquatic habitats.
- Impacting recreational activities such as fishing, boating and camping.
- Changing natural bushfire patterns, and the frequency and intensity of fires.
- Increasing the cost of managing natural areas, cultural assets and public infrastructure.
- Degrading natural areas that they are not suitable for nature conservation and/or eco-tourism.
- Impacting important infrastructure such as water supply dams, railway corridors and roadways.

The physical characteristics of weeds allows them to be easily introduced to the Murray, be spread throughout the region, and invade natural, agricultural and urban areas, by a range of mechanisms such as:

- The movement of contaminated items such as grain, fodder and machinery.
- The movement of weed propagules by livestock, native fauna and feral animals.
- Dumping of plants, garden waste and grass clippings into natural areas.
- Movement along utility easements and transport corridors.
- Contaminated soil, sand, gravel and other landscaping materials.
- Releasing unwanted aquatic plants into local waterways.
- Natural disturbances such as flood, drought and bushfires.
- Bushwalkers, camping equipment, 4WD vehicles, boating and other recreational activities.
- Sale of prohibited and high-risk plants via online platforms, markets, roadside stalls, nurseries, pet stores and aquariums.

4.3 Priority weeds in the Murray region

Regional weed assessment and prioritisation process

Application of the NSW weed risk management system provides the management categories and objectives, and the outcomes to demonstrate compliance with the general biosecurity duty developed for the region. The management categories used in the assessment are summarised in Table 4.1.

Table 4.1: Defining regional weed management categories.

Management category	Objective	Characteristics of weeds in this category
Prevention	To prevent the weed species arriving and establishing in the region.	Weeds currently not found in the region, that pose a significant biosecurity risk and prevention of the biosecurity risk posed by these weeds is a reasonably practicable objective.
Eradication	To permanently remove the species and its propagules from the region OR to destroy infestations to reduce the extent of the weed in the region with the aim of local eradication.	Weeds are present in limited abundance in the region. Elimination of the biosecurity risk posed by these weeds is a reasonably practicable objective.
Containment	To prevent the ongoing spread of the species in all or part of the region.	These weeds are widely distributed in parts of the region. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed by these weeds is reasonably practicable.
Asset protection	To prevent the spread of weeds to key sites/assets of high economic, environmental and social value, or to reduce their impact on these sites if spread has already occurred.	These weeds are widely distributed in some areas of the region. Their spread should be minimised to protect priority regional assets.

Regional priority weeds have been assessed by regional weed committees as posing a high risk to specific regions of NSW. Murray regional priority weeds are identified in Table 4.2 with additional further information available in [Appendix 1.2](#) of the Plan.

Species that have been assessed as a “species of concern” are noted in [Appendix 2](#).

Regional priority weeds are regulated through the general biosecurity duty and each weed has a management category. Regional recommended measures are listed for each weed and communicate how landholders and stakeholders in the region should discharge their general biosecurity duty for that weed. Weeds are grouped by regional management category (see Table 4.1).

Table 4.2: Murray region priority weeds.

Common name	Scientific name	Regional management priority
African boxthorn *	<i>Lycium ferocissimum</i>	Asset protection
Athel pine *	<i>Tamarix aphylla</i>	Prevention
Blackberry *	<i>Rubus fruticosus species aggregate</i>	Asset Protection
Black willow	<i>Salix nigra</i>	Eradication
Bridal creeper	<i>Asparagus asparagoides</i>	Containment
Cabomba *	<i>Cabomba caroliniana</i>	Prevention
Cape broom	<i>Genista monspessulana</i>	Eradication
Castor oil plant	<i>Ricinus communis</i>	Eradication
Chilean needle grass	<i>Nassella neesiana</i>	Containment
Coolatai grass	<i>Hyparrhenia hirta</i>	Containment
Creeping knapweed	<i>Rhaponticum repens</i>	Eradication
Fireweed *	<i>Senecio madagascariensis</i>	Prevention *
Flax-leaf broom	<i>Genista linifolia</i>	Prevention
Gorse	<i>Ulex europaeus</i>	Eradication
Green cestrum	<i>Cestrum parqui</i>	Eradication
Grey sallow	<i>Salix cinerea</i>	Eradication
Horsetail	<i>Equisetum sp.</i>	Prevention
Khaki weed	<i>Alternanthera pungens</i>	Asset Protection
Kidneyleaf mud plantain	<i>Heteranthera reniformis</i>	Prevention
Madeira vine *	<i>Anredera cordifolia</i>	Prevention and eradication *
Mesquite *	<i>Prosopis spp.</i>	Prevention
Mother-of-millions	<i>Bryophyllum species</i>	Prevention
Ox-eye daisy	<i>Leucanthemum vulgare</i>	Eradicate
Prairie ground cherry	<i>Physalis hederifolia</i>	Containment

Common name	Scientific name	Regional management priority
Prickly pears (Opuntoid cacti) - Austrocyllindropuntias	<i>Austrocyllindropuntia species</i>	Prevention
Prickly pears (Opuntoid cacti) - Cyllindropuntias	<i>Cyllindropuntia species</i>	Prevention
Prickly pears (Opuntoid cacti) - Opuntia (excludes O. ficus - indica) *	<i>Opuntia species</i>	Containment
Sagittaria	<i>Sagittaria platyphylla</i>	Containment
Salvinia *	<i>Salvinia molesta</i>	Prevention and eradication *
Scotch broom *	<i>Cytisus scoparius</i>	Containment
Senegal tea plant	<i>Gymnocoronis spilanthoides</i>	Prevention
Serrated tussock *	<i>Nassella trichotoma</i>	Containment
Silverleaf nightshade *	<i>Solanum elaeagnifolium</i>	Asset Protection
Water lettuce	<i>Pistia stratiotes</i>	Prevention
Water poppy	<i>Hydrocleys nymphoides</i>	Prevention
Yellow waterlily	<i>Nymphaea mexicana</i>	Eradication

* Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not import into the State or sell. Refer to Appendix 1, A1.2 for additional regional responses.

4.4 Community involvement

For this Plan to succeed it is essential that all programs and related activities continue to be based on partnerships and collaboration with a wide range of landholders, community members and government stakeholders.

- The success of this plan will depend on partnerships and collaboration between landholders, land managers, First Nations people, community and government across all land tenures
- Volunteer groups contribute substantially to weed management in the region, undertaking weed removal, monitoring, bush regeneration and waterway rehabilitation on public and private land
- Private landowners and occupiers have a general biosecurity duty in the ongoing management of weeds on their land, with enhanced outcomes achieved through coordinated and integrated control programs implemented in collaboration with neighbours and the wider community.
- Community involvement will increase its capacity to undertake biosecurity activities leading to improved outcomes for the region.
- First Nations people have a deep connection to country. They inhabited and cared for the land for many generations before European settlement. Local Aboriginal Land Councils are significant landowners and managers in the region.

5. Implementing regional key deliverables

5.1 Overview

A wide range of landholders and stakeholders are involved in weed management in the region. The Plan recognises the roles of all levels of government, industry, community and community organisations and aims to consolidate these efforts through better coordination and communication between organisations and individuals in the region.

This section covers actions required to achieve the goals of the regional plans which have been directly taken from the NSW Invasive Species Plan.

The Plan sits as an enabling plan under the Local Land Services Murray Local Strategic Plan and will be implemented in collaboration with key stakeholders, the community and Murray Local Land Services. Collaboration and building capacity of landholders is central to plan implementation.

Goal 1:

Exclude – prevent the establishment of new invasive species.

Goal 2:

Eradicate or contain – eliminate, or prevent the spread of new invasive species.

Goal 3:

Effectively manage – reduce the impacts of widespread invasive species.

Goal 4:

Capacity building – ensure NSW has the ability and commitment to manage invasive species.

5.2 Implementation principles

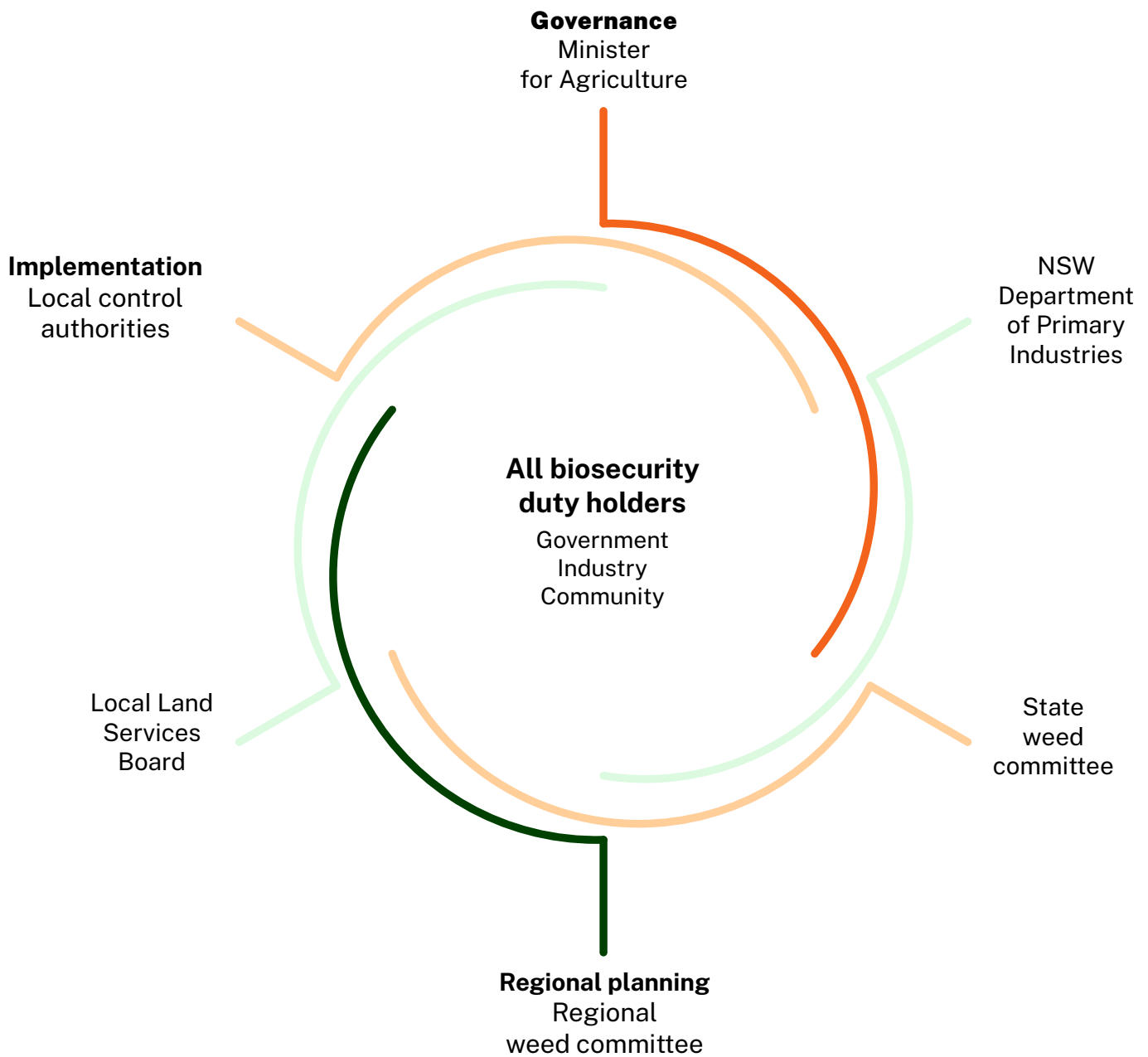
The following principles will be used to guide weed management planning and implementation.

- Effective stakeholder collaboration and shared responsibility are essential to effective weed management.
- Behavioural change and increasing community capacity are important to effective weed management.
- Prevention and early intervention are the most effective weed management tools.
- Causes of weed invasion and spread are managed wherever possible, not just the symptoms.
- The biology and ecological requirements of weeds, including mechanisms and pathways for spread are considered in weed management.
- Innovation in weed control and management is encouraged.
- Regular monitoring, evaluation and improvement are incorporated in weed management programs.
- Weed management is an integral part of land management. Land management practices and the timing of, are critical to the prevention and reduction in spread and impact of weeds.
- Weeds are managed in a strategic and co-ordinated manner across the landscape. Assessing and managing weed risk at a landscape and multi species scale (where appropriate) can lead to significant efficiencies in use of resources and achievement of strategic outcomes.
- The best available science, expertise and tools are utilised in weed management decision making.
- Interrelated weed management is an important part of effective weed management. For more information go to www.dpi.nsw.gov.au/biosecurity/weeds/weed-control/general-management/integrated-weed-management.

5.3 Roles and responsibilities for implementation of the Plan

The following diagram (Figure 5.1) outlines the governance and management role of the state and government organisations collective responsibilities in the development of the Regional Strategic Weed Management Plans, and the implementation roles of stakeholders, the state and local governments in the delivery of the Plan.

Figure 5.1: Roles in weed management.



Landholders (owners and/or occupiers)

All public and private landholders have an important role in the management of weeds in the region, including the development and implementation of management strategies to address the key deliverables.

All public and private landholders are required to know what weeds are or could impact land under their care and control and have reasonable measures in place to mitigate this risk.

Landholders should support implementation of the regional key deliverables by setting a high standard of best practice weed management and collaborating with adjacent landholders to effect tenure neutral weed management.

Local government

Local government supports implementation of the regional key deliverables by:

- engaging local communities, managing public lands and assisting with emergency management.

Local government also makes a significant investment in local and regional weed management.

Local control authorities

Local control authorities, support implementation of the regional key deliverables by:

- enforcing legislated weed management obligations on private and public land
- delivering components of the NSW Weeds Action Program throughout the state
- conducting weed inspections on private and public land
- controlling weeds on lands managed by local government
- reporting and mapping weed incidence across the state
- input into weed strategy and policy
- providing education, training and resources for both the public and for staff.

State government

The NSW Department of Primary Industries is the lead agency for weed management within the NSW Government.

Local Land Services is responsible for coordinating and facilitating weed management at a regional level, through the implementation of regional sub-programs.

NSW Department of Primary Industries

The NSW Department of Primary Industries supports implementation of the regional key deliverables by:

- managing updates and amendments to the NSW *Biosecurity Act 2015*
- leading and administering the NSW Weeds Action Program
- managing the NSW Weeds Information Database, which provides information about over 300 weeds for the [NSW WeedWise website](#) and app
- managing the weeds extranet, which facilitates information and resource sharing for weeds professionals in NSW and interstate
- providing extension, education and training services
- leading the response to new incursions of state priority weeds and nationally significant weeds
- developing non-regulatory approaches and incentives
- conducting weeds research and collaborating with other researchers
- providing biological control services
- capturing state-wide weeds data through the Biosecurity Information System – Weeds
- resourcing the NSW Department of Primary Industries biosecurity helpline (1800 680 244)
- developing policies and guidelines to support the work of the State Weed Committee.

Local Land Services

Local Land Services support implementation of the regional key deliverables by:

- delivering regional strategic weed management plans
- facilitating and coordinating regional strategic planning
- assisting with education and community outreach programs
- controlling weeds on lands under their control.

Local Land Services are responsible for managing the Travelling Stock Reserve network, and therefore must exercise all Landholder responsibilities.

5.4 Regional deliverables

Delivery partners define key regional deliverables and develop and implement processes to address actions. It is recognised that different stakeholders are resourced at different levels and have different priorities in weed management. Consistent collaborative approach for long term weed management is required by all stakeholders.

Investment by all landholders and stakeholders in weed management should align with the goals of the NSW Invasive Species Plan and regional priority weeds.

The below table outlines relevant deliverables that relate to the NSW Invasive Species Plan that are a priority for the Murray region. State deliverables are included in the [NSW Invasive Species Plan](#).

Table 5.1: Relevant regional deliverables that relate to the NSW Invasive Species Plan.

GOAL 1 - Exclude: prevent the establishment of new invasive species				
Outcomes	Strategies	Key deliverables	Responsibility	Timeframe
1.1 Improved identification and management of high-risk species and pathways	1.1.1 Develop species and pathway risk assessment frameworks that are consistent with national approaches where appropriate	Review regional high-risk pathway management plan for Murray region.	Murray Local Land Services Regional weed committee	2023
	1.1.3 Implement legislation, education and enforcement programs for effective management of high-risk species and pathways	High risk pathway inspections conducted (10,000km) High risk site inspections conducted (no. 1,000)	Local control authorities	Per year (Year 1–Year 5)
	1.1.4 Work with industry to mitigate risk, including codes of practice and labelling standards	High risk pathway education and training programs delivered (no. 1) Implement compliance and enforcement program for the <i>Biosecurity Act 2015</i> (no. 8)	Murray Local Land Services Local control authorities NSW Department of Primary Industries Local control authorities	Per year (Year 1–Year 5) Ongoing

GOAL 1 - Exclude: prevent the establishment of new invasive species

Outcomes	Strategies	Key deliverables	Responsibility	Timeframe
1.2 Improved early detection capabilities	1.2.1 Continually review and improve early detection capabilities	Complete review of regional high risk weed species list through review of weed risk assessments.	Murray Local Land Services Regional weed committee	Annually
	1.2.2 Undertake regular fore-sighting to identify and address emerging trends that could lead to increased biosecurity risks	Discuss potential or new Biosecurity risks at regional weed committee meetings.	Regional weed committee	Quarterly
	1.2.3 Improve capacity (people, equipment and processes) to identify and report suspected new invasive species	Weed officers to attend workshops and training to improve skills and implement improved technologies (no. 8) Hold information sessions (workshop or 1:1) to improve overall community capacity to identify and report suspect plants (no. 30)	Local control authorities	Per year (Year 1-Year 5)
			Local control authorities Local Land Services	Per year (Year 1-Year 5)
1.2.4 Increase public awareness of incursion risk and reporting mechanisms	Review Murray Regional Weeds Communication Strategy (no. 1)	Murray Local Land Services Local control authorities	2023	

GOAL 2 - Eradicate or contain: Eliminate or prevent the spread of invasive species

Outcomes	Strategies	Key Deliverables	Responsibility	Timeframe
2.1 Improved rapid response capabilities to eradicate or contain new incursions	2.1.1 Develop more structured processes to respond to invasive species reports	Review the Murray New Weed Incursion and Rapid Response Plans to address incursions of state and regional priority weeds (no. 1)	Local Land Services Local control authorities Regional weed committee	2023
	2.1.2 Develop incursion response plans for extreme risk species			
	2.1.3 Develop rapid response plans and cost-sharing agreements			
	2.1.4 Develop a decision-making framework to make recommendations on when eradication should be attempted and the transition points from eradication, containment, ongoing management	Murray Regional Strategic Weed Management Plan and weed risk assessments reviewed and updated as required.	Local Land Services Local control authorities NSW Department of Primary Industries Regional weed committee	2024 and ongoing
	2.1.5 Maintain a sufficient state-wide network of biosecurity staff to respond to incursions	Maintain a list of regional biosecurity weeds contacts and authorised officers.	Local Land Services Local control authorities NSW Department of Primary Industries	Ongoing

GOAL 3 - Effectively manage: reduce the impacts of widespread invasive species

Outcomes	Strategies	Key Deliverables	Responsibility	Timeframe
3.1 Management programs prioritised to give more targeted effort and greater benefit	3.1.1 Prioritise invasive species management at the regional level through regional pest animal and weed management strategies	Ensure the Murray Regional Strategic Weed Management Plan is aligned with regional and state priorities are promoted with our stakeholders.	Murray Local Land Services Local control authorities Regional weed committee	Ongoing
	3.1.2 Prioritise management efforts based on current and potential impacts	Utilise the NSW Weed Risk Management system (WRM) to review priority species in the Murray region (no. 1)	Murray Local Land Services Local control authorities Murray Regional Weed Committee	Year 3 and 5
	3.1.3 Programs are measured with clear benchmarks to ensure results are quantified	NSW Weed Action Program regional sub program deliverables are reported into WIDX WAP (no.1)	Murray Local Land Services Local control authorities	Per year (Year 1 – Year 5)

GOAL 3 - Effectively manage: reduce the impacts of widespread invasive species

Outcomes	Strategies	Key Deliverables	Responsibility	Timeframe
3.2 Improved management effectiveness	3.2.1 Management is undertaken according to best practice management guidelines and Standard Operating Procedures	Best management practices and procedure guidelines are distributed for regional priority weeds.	NSW Department of Primary Industries Local Land Services Local control authorities	Ongoing
	3.2.2 Encourage co-operative programs that use integrated management across all tenures	Collaborative projects discussed at regional weeds committee meetings (no. 4)	Regional weed committee	Quarterly
	3.2.4 Large management programs should have monitoring, reporting and feedback processes in place to allow continual refinement of management approach	Attend conferences and workshops to learn and share relevant new information (no. 8) Promote new and innovative technology (e.g. drones, WeedScan) in communications with stakeholders and at regional weed committee meetings (no.4)	Local control authorities Murray Local Land Services NSW Department of Primary Industries	Per year (Year 1–Year 5)
	3.2.5 Ensure regulatory framework is implemented to back up voluntary actions	Implement compliance and enforcement program for the <i>Biosecurity Act 2015</i> (no. 8)	Local control authorities NSW Department of Primary Industries	Ongoing
	3.2.6 Large management programs should have monitoring, reporting and feedback processes in place to allow continual refinement of management approach	Complete MERI reporting for the Murray Weed Action Program MERI plan (no.1)	Local Land Services Local control authorities	Per year (Year 1–Year 5)

GOAL 4 - Capacity building: Ensure NSW has the ability and commitment to manage invasive species

Outcomes	Strategies	Key Deliverables	Responsibility	Timeframe
4.1 Roles and responsibilities are clear for weeds management	4.1.1 Ensure roles and responsibilities for each stakeholder are clearly defined and understood	Weed Action Program participant agreements signed by each local control authority (no. 8)	Murray Local Land Services	Per year (Year 1–Year 5)
		Review and maintain the Murray Regional Weed Committee Terms of Reference (no.1)	Murray Local Land Services Regional weed committee	Bi-annually
4.2 Private landholders and the general community are motivated to support biosecurity at all stages of invasion curve	4.2.1 Inform stakeholders of their obligations under the <i>Biosecurity Act 2015</i>	Implement priority actions defined in the Murray Weed Capacity Building plan and NSW Weeds Capacity Building and Engagement Priorities plan (no. 50)		
	4.2.2 Identify opportunities for community involvement in biosecurity			
	4.2.3 Maintain and build on existing volunteer networks	Capacity building events with volunteer networks (no. 4)	Local control authorities Murray Local Land Services	Per year (Year 1–Year 5)
	4.2.4 Provide a range of information, education and training resources	Promote and distribute resources such as the Priority weeds of the Murray and Riverina Regions Identification guides (no. 50)	Local control authorities Murray Local Land Services	Per year (Year 1–Year 5)
		Conduct field days/workshops on weed control options including biological control (no. 8)		
4.2.5 Raise awareness of the importance of reporting new incursions and provide accessible mechanisms for reporting	Promote options to report new incursions including NSW Biosecurity helpline and local weed biosecurity contact details in communications (no. 20)	Murray Local Land Services Local control authorities	Per year (Year 1–Year 5)	

GOAL 4 - Capacity building: Ensure NSW has the ability and commitment to manage invasive species

Outcomes	Strategies	Key Deliverables	Responsibility	Timeframe
4.3 Skilled workforce implementing invasive species management	4.3.1 Maintain availability of competency-based education and training courses	Local control authorities to attend relevant weed and biosecurity training, workshops and conferences and share learnings with relevant council staff and stakeholders (no. 8)	Local control authorities NSW Department of Primary Industries	Per year (Year 1 – Year 5)
	4.3.2 Maintain an adequate network of biosecurity professionals across the state that can be rapidly deployed to manage biosecurity emergencies			
4.6 Commitment to implement and monitor progress of the Invasive Species Plan	4.6.2 Conduct end of Plan review			

Collaborative research and practical application

Regional weed committees will investigate opportunities for collaboration that may include:

- engagement with weed science researchers, community, the aboriginal community, government, and industry to identify current knowledge gaps and to document weed species research priorities
- strengthening partnerships and actively participating in industry, government and university collaboration for weeds research
- maintaining currency of regional and local weed risk assessments
- development of new technologies and innovative approaches to the management of weed risks
- application of biological control programs for priority weeds
- incorporation of research findings into weed management decision-making (this is part of adaptive management).



6. Measuring success and continuous improvement

This section covers how we intend to address and document to what extent goals have been achieved, as well as evaluating performance, and reviewing our activity and focus.

6.1 Measuring performance

A state level monitoring, evaluation, reporting and improvement framework for Regional Strategic Weed Management Plans has been developed to guide regional weed committees to measure their success and continuous improvement.

Each regional weed committee will establish a monitoring, evaluation, reporting and improvement framework for Regional Strategic Weed Management Plans. The framework will facilitate the review of results against planned immediate, intermediate and long-term outcomes.

Data collection and management is crucial to the adoption of standardised approaches for the region, and for the implementation of monitoring, evaluation, reporting and improvement procedures. All members and organisations of the regional weed committees are expected to assist with data collections and sharing for the purposes of monitoring, evaluation, reporting and improvement.

6.2 Performance indicators and reporting

Standardised monitoring, evaluation, reporting and improvement systems are used to compile and report on the efforts and achievements of stakeholders in contributing to this plan. A [state-wide monitoring, evaluation, reporting and improvement systems framework](#) has been developed for annual performance measurement.

Regional weed committees may undertake a more extensive review annually or through the life of the plan.

Performance indicators will be developed against the actions and strategies in section 5, to enable tracking of the progressive impacts of interventions and investment in priorities and will relate to the goals for this plan.

6.3 Plan review

The Murray Regional Weed Committee will foster adaptive management and continual improvement in weed management.

A mid-term review of this plan will be undertaken at year three (2025) and a full review will be undertaken nearing the end of the five-year term for this plan (2027).

Weed risk assessments will be updated as needed from time to time and a particular focus at year three will be on evaluation and review of weeds listed in this plan ([Appendix 1](#) and [Appendix 2](#)).

7. List of Acronyms

km kilometre

ha hectare

8. Glossary

Best practice: A technique or methodology that, through experience and research, has proven to reliably lead to a desired result. Also see leading practice.

Biodiversity: The variety of all life forms: the different species of plants, animals, fungi, bacteria and other micro-organisms, the genes they contain and the ecosystems (the variety of habitats, biotic communities and ecological processes) of which they form a part.

Biosecurity: Protecting the economy, environment and community from the negative impacts of pests, diseases and weeds.

Country: A term used by Aboriginal people to refer to the land to which they have a traditional attachment to.

Emergency management: Management related to preparedness, response and recovery for actual or imminent animal pest and disease and plant pest and disease emergencies, natural disasters and other emergencies impacting on primary production or animal health and safety.

Landholders: Means a person who is the owner of land or who, whether by reason of ownership or otherwise, is in lawful occupation or possession, or has lawful management or control, of land.

Leading practice: Currently accepted best practice.

Stakeholders: Organisations that collaborate and partner with Local Land Services directly to support customer service delivery, including community and industry groups, not-for-profits, non-government organisations, Landcare, research institutions, state and local government and private sector providers.

Weed: Plants (foreign to the region) that are unwanted in a given situation and which usually have detectable negative economic, environmental or social impacts.

Weed Action Program: The New South Wales (NSW) Weeds Action Program is a NSW Government initiative to reduce the impact of weeds through implementation of the NSW Invasive Species Plan and the NSW Biosecurity Strategy.

9. References

McLeod, R. (2018). Annual Costs of Weeds in Australia. Retrieved from <https://invasives.com.au/wp-content/uploads/2019/01/Cost-of-weeds-report.pdf>

Murray Local Land Services Local Strategic Plan 2021-2026 and supporting documents

Murray Regional Strategic Weed Management Plan 2017-2021

NSW Department of Primary Industries Strategic Plan 2019-2023

Appendices

Appendix 1: Priority weeds for the Murray Local Land Services region

This appendix identifies state priority weed species (A1.1) as set by NSW Department of Primary Industries and regionally determined priorities (A1.2) as determined by the Murray Regional Weed Committee.

The *Biosecurity Act 2015* and Biosecurity Regulation 2017 provide specific legal requirements for state priority weeds (A1.1) and high-risk activities. For each state priority weed, the management priority, and specific requirements for its management (as stated in the *Biosecurity Act 2015* and regulations) is included. State priority weeds are regulated as prohibited matter, or under biosecurity zones, or control orders, or have mandatory measures that apply.

A1.2 identifies regionally prioritised weeds and the outcomes that demonstrate compliance with the general biosecurity duty. Recommended measures for these weeds are provided in the NSW Department of Primary Industries website and mobile based application [NSW WeedWise](#), as practical advice on achieving these outcomes.

A1.1 State priority weeds

State priority weed category – PREVENTION:

The following weeds have not established self-sustaining populations in NSW and pose a significant biosecurity risk to the state. Prohibiting these weeds from the state to prevent the biosecurity risk posed is a reasonably practical objective.

Common name	Scientific name	Biosecurity Act requirements and strategic response in the region
All species of vascular plant Tracheophyta	<i>Tracheophyta</i>	<p>Mandatory Measure (Division 8, Clause 34)</p> <p>Duty to notify on importation of plants into the state:</p> <p>(1) A person must not import into the State a species of vascular plant (Tracheophyta) if the species is not currently present in the State unless the person has, at least 20 working days before the plant is imported into the state, notified the species of plant and its proposed location within the State.</p> <p>(2) The notification is to be given to the Secretary and is to be given in accordance with Part 6.</p> <p>(3) A species of plant is taken not to be present in the state if the National Herbarium of New South Wales does not show it as being present in the state.</p> <p>Note. See http://plantnet.rbg Syd.nsw.gov.au</p>

State priority weed category – PREVENTION:

The following weeds have not established self-sustaining populations in NSW and pose a significant biosecurity risk to the state. Prohibiting these weeds from the state to prevent the biosecurity risk posed is a reasonably practical objective.

Common name	Scientific name	Biosecurity Act requirements and strategic response in the region
Anchored water hyacinth	<i>Eichhornia azurea</i>	<p>Prohibited Matter (Part 4, Biosecurity Act, 2015)</p> <p>A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence.</p> <p>A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised.</p> <p>A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event.</p> <p>Regional strategic response:</p> <ul style="list-style-type: none"> Prohibited Matter identification training available to authorised officers and stakeholders to improve identification Establish agreed quarantine and/or hygiene protocols Have a collaborative rapid response protocol in place Surveillance and mapping to locate all infested properties Destruction of all infestations including seed banks Prevention of entry to geographic area, and movement and sale within Implement monitoring and follow up control program Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options <p># Known to occur in the Murray region</p>
Black knapweed	<i>Centaurea x moncktonii</i>	
Bridal veil creeper	<i>Asparagus declinatus</i>	
Broomrape	Orobanche spp. (all species except the native <i>O. cernua</i> var. <i>australiana</i> and <i>O. minor</i>)	
Eurasian water milfoil	<i>Myriophyllum spicatum</i>	
Frogbit / Spongeplant	<i>Limnobium</i> spp. (all species)	
Gamba grass	<i>Andropogon gayanus</i>	
Hawkweed #	<i>Pilosella</i> spp (all species) in addition to <i>Hieracium</i> spp (all species except <i>Hieracium murorum</i>)	
Hydrocotyl/ Water pennywort	<i>Hydrocotyle ranunculoides</i>	
Karoo acacia	<i>Vachellia karroo</i> (syn. <i>Acacia karroo</i>)	
Kochia	<i>Bassia scoparia</i> (excluding subsp. <i>trichophylla</i>)	

State priority weed category – PREVENTION:

The following weeds have not established self-sustaining populations in NSW and pose a significant biosecurity risk to the state. Prohibiting these weeds from the state to prevent the biosecurity risk posed is a reasonably practical objective.

Common name	Scientific name	Biosecurity Act requirements and strategic response in the region
Koster's curse	<i>Clidemia hirta</i>	<p>Prohibited Matter (Part 4, Biosecurity Act, 2015)</p> <p>A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence.</p> <p>A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised.</p> <p>A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event.</p> <p>Regional strategic response:</p> <ul style="list-style-type: none"> Prohibited Matter identification training available to authorised officers and stakeholders to improve identification Establish agreed quarantine and/or hygiene protocols Have a collaborative rapid response protocol in place Surveillance and mapping to locate all infested properties Destruction of all infestations including seed banks Prevention of entry to geographic area, and movement and sale within Implement monitoring and follow up control program Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options <p># Known to occur in the Murray region</p>
Lagarosiphon	<i>Lagarosiphon major</i>	
Mexican feather grass	<i>Nassella tenuissima</i> (syn. <i>Stipa tenuissima</i>)	
Miconia	<i>Miconia</i> spp. (all species)	
Mikania vine	<i>Mikania micrantha</i>	
Mimosa	<i>Mimosa pigra</i>	
Pond apple	<i>Annona glabra</i>	
Prickly acacia	<i>Vachellia nilotica</i> (syn. <i>Acacia nilotica</i>)	
Rubber vine	<i>Cryptostegia grandiflora</i>	
Siam weed	<i>Chromolaena odorata</i>	
Spotted knapweed	<i>Centaurea stoebe</i> subsp. <i>australis</i>	
Water caltrop	<i>Trapa</i> spp. (all species)	
Water soldier	<i>Stratiotes aloides</i>	
Witchweed	<i>Striga</i> spp. (except the native <i>S. parviflora</i>)	
Yellow burrhead	<i>Limnocharis flava</i>	

State priority weed category – PREVENTION:

The following weeds have not established self-sustaining populations in NSW and pose a significant biosecurity risk to the state. Prohibiting these weeds from the state to prevent the biosecurity risk posed is a reasonably practical objective.

Common name	Scientific name	Biosecurity Act requirements and strategic response in the region
Parthenium weed	<i>Parthenium hysterophorus</i>	<p>Prohibited Matter (Part 4, Biosecurity Act, 2015)</p> <p>A person who deals with any biosecurity matter that is Prohibited Matter throughout the state is guilty of an offence.</p> <p>A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised.</p> <p>A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event.</p> <p>Mandatory Measure (Division 8, Clause 35, Biosecurity Regulation, 2017) - parthenium weed carriers – machinery and equipment</p> <p>(1) This clause applies to the following equipment:</p> <ol style="list-style-type: none"> a. grain harvesters (including the comb or front) b. comb trailers (including the comb or front) c. bins used for holding grain during harvest operations d. augers or similar equipment used for moving grain e. vehicles used for transporting grain harvesters f. vehicles used as support vehicles with grain harvesters and that have been driven in paddocks during harvest operations g. mineral exploration drilling rigs and vehicles used for transporting those rigs <p>(2) A person must not import into the State from Queensland any equipment to which this clause applies.</p>

State priority weed category – PREVENTION:

The following weeds have not established self-sustaining populations in NSW and pose a significant biosecurity risk to the state. Prohibiting these weeds from the state to prevent the biosecurity risk posed is a reasonably practical objective.

Common name	Scientific name	Biosecurity Act requirements and strategic response in the region
Parthenium weed	<i>Parthenium hysterophorus</i>	<p>Regional strategic response:</p> <ul style="list-style-type: none"> • Prohibited Matter identification training available to authorised officers and stakeholders to improve identification • Establish agreed quarantine and/or hygiene protocols • Have a collaborative rapid response protocol in place • Surveillance and mapping to locate all infested properties • Destruction of all infestations including seed banks • Prevention of entry to geographic area, and movement and sale within • Implement monitoring and follow up control program • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options

State priority weed category – ERADICATION:

The following weeds are present in limited distribution and abundance and pose a medium to high biosecurity risk to NSW. The measures established under the control orders are necessary to prevent, eliminate, minimise or manage the biosecurity risk or biosecurity impact.

Common name	Scientific name	Biosecurity Act requirements and strategic response in the region
Boneseed*	<i>Chrysanthemoides monilifera</i> subspecies. <i>monilifera</i>	<p>The boneseed control zone is the whole of NSW</p> <p>The parkinsonia control zone is the whole of NSW</p> <p>The tropical soda apple control zone is the whole of NSW</p>
Parkinsonia	<i>Parkinsonia aculeata</i>	<p>Control measure - owners and occupiers of land</p> <p>(1) The owner or occupier of land in the control zone on which there is a new infestation of boneseed, parkinsonia or tropical soda apple must notify the local control authority for that land as soon as practicable of the following information:</p> <p>(a) the person's full name and contact details, including a telephone number</p> <p>(b) the address of the land, including the lot and deposited plan number and the property identification code for the land (if these are known)</p> <p>(c) any other information that is requested by the local control authority.</p> <p>(2) The owner or occupier of the land must ensure that the land is kept free of boneseed, parkinsonia or tropical soda apple by immediately destroying all boneseed, parkinsonia or tropical soda apple on the land. This requirement applies to any new infestation as well as any subsequent generations of boneseed, parkinsonia or tropical soda apple on that land.</p> <p>(3) The owner or occupier does not need to comply with subclause (1) if they know that notification of the new infestation on the land has already been given to the local control authority of that land.</p>
Tropical soda apple	<i>Solanum viarum</i>	<p>Control measure – persons dealing with carriers</p> <p>A person who deals with a carrier of boneseed, parkinsonia or tropical soda apple must take all reasonable steps to ensure that the carrier is not moved from the land with any boneseed, parkinsonia or tropical soda apple on it, attached to it, or contained in it, before the carrier is moved from the land.</p>

State priority weed category – ERADICATION:

The following weeds are present in limited distribution and abundance and pose a medium to high biosecurity risk to NSW. The measures established under the control orders are necessary to prevent, eliminate, minimise or manage the biosecurity risk or biosecurity impact.

Common name	Scientific name	Biosecurity Act requirements and strategic response in the region
Boneseed*	<i>Chrysanthemoides monilifera subsp. monilifera</i>	<p>Control measure – persons moving boneseed, parkinsonia or tropical soda apple and carriers of boneseed, parkinsonia or tropical soda apple</p> <p>(excluding a human)</p> <p>(1) A person who moves boneseed, parkinsonia or tropical soda apple or a carrier of boneseed, parkinsonia or tropical soda apple (excluding a human) to another property, must notify the local control authority for that other property as soon as practicable before moving the boneseed, parkinsonia or tropical soda apple of the following information:</p> <p>(a) the person’s full name and contact details</p> <p>(b) the addresses of the land the boneseed, parkinsonia or tropical soda apple is coming from and going to, including the lot and deposited plan number and the property identification code for the land (if these are known)</p> <p>(2) A person who moves boneseed, parkinsonia or tropical soda apple or a carrier of boneseed, parkinsonia or tropical soda apple (excluding a human) does not need to comply with subclause (1) if they know that notification of the movement has already been given to the local control authority for that other property.</p> <p>Note. Examples of when boneseed, parkinsonia or tropical soda apple or a carrier of boneseed, parkinsonia or tropical soda apple (excluding a human) may need to be moved include, but are not limited to, the movement of vehicles, soil, or livestock as well as movement for disposal.</p> <p>Regional strategic response</p> <ul style="list-style-type: none"> • Prohibited Matter identification training available to authorised officers and stakeholders to improve identification • Establish agreed quarantine and/or hygiene protocols • Have a collaborative rapid response protocol in place • Surveillance and mapping to locate all infested properties • Destruction of all infestations including seed banks • Prevention of entry to geographic area, and movement and sale within • Implement monitoring and follow up control program • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options <p># Known to occur in the Murray region</p>
Parkinsonia	<i>Parkinsonia aculeata</i>	
Tropical soda apple	<i>Solanum viarum</i>	

State priority weed category – ERADICATION:

The following weeds are present in limited distribution and abundance and pose a medium to high biosecurity risk to NSW. The measures established under the control orders are necessary to prevent, eliminate, minimise or manage the biosecurity risk or biosecurity impact.

Common name	Scientific name	Biosecurity Act requirements and strategic response in the region
Chinese violet	<i>Asystasia gangetica</i> <i>subspecies. micrantha</i>	<p>Control order – (Chinese Violet Control Zone)</p> <p>1. Control measures for owners and occupiers of land</p> <p>Pursuant to section 62(1)(b) of the Act, an owner or occupier of land in the Chinese Violet Control Zone on which there is Chinese violet must:</p> <p>(a) notify the local control authority for the area if the Chinese violet is part of a new infestation of Chinese violet on the land:</p> <ul style="list-style-type: none"> i) as soon as practicable after becoming aware of the new infestation ii) verbally or in writing iii) giving the following: <ul style="list-style-type: none"> (1) the person's full name and contact number (2) the location of the Chinese violet, including the property identification code for the land (if this is known) (3) any other information reasonably requested by the local control authority <p>(b) destroy all Chinese violet on the land, including fruit</p> <p>(c) ensure that subsequent generations of Chinese Violet are destroyed</p> <p>(d) that the land is kept free of Chinese violet</p> <p>(e) The owner or occupier does not need to comply with (a) above if they know that notification of the infestation on the land has already been given to the local control authority for the area.</p>

State priority weed category – ERADICATION:

The following weeds are present in limited distribution and abundance and pose a medium to high biosecurity risk to NSW. The measures established under the control orders are necessary to prevent, eliminate, minimise or manage the biosecurity risk or biosecurity impact.

Common name	Scientific name	Biosecurity Act requirements and strategic response in the region
Chinese violet	<i>Asystasia gangetica</i> <i>subspecies. micrantha</i>	<p>2. Control measures for persons dealing with carriers</p> <p>Pursuant to section 62(1)(b) of the Act, a person who deals with a carrier of Chinese violet in the Chinese Violet Control Zone, in circumstances where the person knows or ought reasonably to know of the presence of Chinese violet on the land or in or on the carrier, must:</p> <p>a) ensure that Chinese violet (including any seed and propagules) is not moved from the land</p> <p>b) immediately notify the local control authority for the area:</p> <ul style="list-style-type: none"> i) as soon as practicable after becoming aware of the presence of Chinese violet ii) verbally or in writing iii) giving the following: <ul style="list-style-type: none"> (1) the person's full name and contact number (2) the location of the Chinese violet, including the property identification code for the land (if this is known) iv) any other information reasonably requested by the local control authority. <p>c) The person who deals with a carrier of Chinese violet does not need to comply with (b) above if they know that notification of the infestation on the land has already been given to the local control authority for the area.</p> <p>Regional strategic response:</p> <ul style="list-style-type: none"> • Prohibited Matter identification training available to authorised officers and stakeholders to improve identification • Establish agreed quarantine and/or hygiene protocols • Have a collaborative rapid response protocol in place • Surveillance and mapping to locate all infested properties • Destruction of all infestations including seed banks • Prevention of entry to geographic area, and movement and sale within • Implement monitoring and follow up control program • Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options

State priority weed category – ERADICATION AND/OR CONTAINMENT:

The following weeds pose a medium to high biosecurity risk to NSW and vary in distribution and abundance in different parts of the state. The principal object of a biosecurity zone regulation is to provide for the long term management of a biosecurity risk or biosecurity impact.

Species	Land area where requirements apply	Biosecurity Act requirements and strategic response in the region
Alligator weed [#] <i>Alternanthera philoxeroides</i>	A biosecurity zone, to be known as the Alligator Weed Biosecurity Zone, is established for all land within the state except land in the following regions: <ol style="list-style-type: none"> a) Greater Sydney, b) Hunter (but only in respect of land in the local government area of City of Lake Macquarie, City of Maitland, City of Newcastle or Port Stephens). 	<p>Alligator Weed Biosecurity Zone (Biosecurity Regulation 2017 - Part 5, Division 2)</p> <p>An owner or occupier of land in the Alligator Weed Biosecurity Zone on which there is the weed <i>Alternanthera philoxeroides</i> (alligator weed) must:</p> <ol style="list-style-type: none"> (a) if the weed is part of a new infestation of the weed on the land, notify the local control authority for the land as soon as practicable in accordance with Part 6 (b) eradicate the weed or if that is not practicable destroy as much of the weed as is practicable and suppress the spread of any remaining weed. <p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017)</p> <p>A person must not import into the state or sell.</p> <p>Regional strategic response:</p> <ul style="list-style-type: none"> • identification training/communications available to authorised officers and stakeholders to improve identification • develop a region-wide coordinated campaign for collaborative management • detailed surveillance and mapping to locate all infestations • high level analysis of pathways analysis to identify potential introduction areas and preventative options • implement quarantine and/or hygiene protocols • monitor progress towards eradication. <p>[#] Known to occur in the Murray region</p>

State priority weed category – ERADICATION AND/OR CONTAINMENT:

The following weeds pose a medium to high biosecurity risk to NSW and vary in distribution and abundance in different parts of the state. The principal object of a biosecurity zone regulation is to provide for the long term management of a biosecurity risk or biosecurity impact.

Species	Land area where requirements apply	Biosecurity Act requirements and strategic response in the region
Bitou bush <i>Chrysanthemoides monilifera subsp. rotundata</i>	A biosecurity zone, to be known as the Bitou bush Biosecurity Zone, is established for all land within the state except land within 10 kilometres of the mean high water mark of the Pacific Ocean between Cape Byron in the north and Point Perpendicular in the south.	<p>Bitou Bush Biosecurity Zone (Biosecurity Regulation 2016 - Part 5, Division 3)</p> <p>An owner or occupier of land in the Bitou Bush Biosecurity Zone on which there is the weed <i>Chrysanthemoides monilifera subsp. rotundata</i> (bitou bush) must:</p> <ul style="list-style-type: none"> (a) if the weed is part of a new infestation of the weed on the land, notify the local control authority for the land as soon as practicable in accordance with Part 6 (b) eradicate the weed or if that is not practicable destroy as much of the weed as is practicable and suppress the spread of any remaining weed. <p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017)</p> <p>A person must not import into the state or sell.</p> <p>Regional strategic response:</p> <ul style="list-style-type: none"> • identification training/communications available to authorised officers and stakeholders to improve identification • develop a region-wide coordinated campaign for collaborative management • detailed surveillance and mapping to locate all infestations • high level analysis of pathways analysis to identify potential introduction areas and preventative options • implement quarantine and/or hygiene protocols • monitor progress towards eradication.

State priority weed category – ERADICATION AND/OR CONTAINMENT:

The following weeds pose a medium to high biosecurity risk to NSW and vary in distribution and abundance in different parts of the state. The principal object of a biosecurity zone regulation is to provide for the long term management of a biosecurity risk or biosecurity impact.

Species	Land area where requirements apply	Biosecurity Act requirements and strategic response in the region
Water hyacinth # <i>Eichhornia crassipes</i>	A biosecurity zone, to be known as the Water Hyacinth Biosecurity Zone, is established for all land within the State except land in the following regions: <ul style="list-style-type: none"> (a) Greater Sydney or North Coast (b) North West (but only land in those regions that is in the local government area of Moree plains) (c) Hunter (but only land in that region that is in the local government area of City of Cessnock, City of Lake Macquarie, Mid-Coast, City of Maitland, City of Newcastle or Port Stephens) (d) South East (but only land in that region that is in the local government area of Eurobodalla, Kiama, City of Shellharbour, City of Shoalhaven or City of Wollongong). 	<p>Water Hyacinth Biosecurity Zone (Biosecurity Regulation 2017 - Part 5, Division 4)</p> <p>An owner or occupier of land in the Water Hyacinth Biosecurity Zone on which there is the weed <i>Eichhornia crassipes</i> (water hyacinth) must:</p> <ul style="list-style-type: none"> (a) if the weed is part of a new infestation of the weed on the land, notify the local control authority for the land as soon as practicable in accordance with Part 6 (b) eradicate the weed, or if that is not practicable destroy as much of the weed as is practicable and suppress the spread of any remaining weed. <p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017):</p> <p>A person must not import into the State or sell.</p> <p>Regional strategic response:</p> <ul style="list-style-type: none"> • identification training/communications available to authorised officers and stakeholders to improve identification • develop a region-wide coordinated campaign for collaborative management • detailed surveillance and mapping to locate all infestations • high level analysis of pathways analysis to identify potential introduction areas and preventative options • implement quarantine and/or hygiene protocols • monitor progress towards eradication. <p># Known to occur in the Murray region</p>

State priority weed category – CONTAINMENT AND/OR ASSET PROTECTION:

These weeds are widely distributed in some areas of the state. As Weeds of National Significance, their further spread through trade should be minimised to protect priority assets.

Common name	Scientific name	Biosecurity Act requirements and strategic response in the region
African boxthorn ^{*#}	<i>Lycium ferocissimum</i>	<p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017):</p> <p>A person must not import into the State or sell.</p> <p>Regional strategic response:</p> <ul style="list-style-type: none"> • Where the plant poses a risk to priority assets (Section 4.1) it is managed by all landholders to mitigate the risk. • Improved collaborative management across all landholder boundaries. • Inspection of high-risk pathways including markets and nurseries • Promoting and using best-practice quarantine and weed hygiene procedures. <p>[*] Also listed in Appendix 1, A1.2 – Regional priorities</p> <p>[#] Known to occur in the Murray region</p>
Asparagus weeds	<i>Asparagus aethiopicus</i> , <i>A. africanus</i> , <i>A. asparagoides</i> including the Western Cape form [*] , <i>A. densiflorus</i> , <i>A. plumosus</i> , and <i>A. scandens</i>	
Athel pine ^{*#}	<i>Tamarix aphylla</i>	
Bellyache bush	<i>Jatropha gossypifolia</i>	
Blackberry ^{*#}	<i>Rubus fruticosus</i> spp. agg. (except the varieties Chester Thornless, Dirksen Thornless, Loch Ness, Silvan, Black Satin, Murrindindi, Smooth Stem, Thornfree and Chehalem)	
Brooms	<i>Genista monspessulana</i> , <i>G. linifolia</i> , <i>Cystisus scoparius</i>	
Cabomba	<i>Cabomba caroliniana</i>	
Cat's claw creeper	<i>Dolichandra unguis-cati</i>	
Chilean needle grass	<i>Nassella neesiana</i>	
Fireweed [*]	<i>Senecio madagascariensis</i>	
Gorse	<i>Ulex europaeus</i>	

State priority weed category – CONTAINMENT AND/OR ASSET PROTECTION:

These weeds are widely distributed in some areas of the state. As Weeds of National Significance, their further spread through trade should be minimised to protect priority assets.

Common name	Scientific name	Biosecurity Act requirements and strategic response in the region
Hymenachne	<i>Hymenachne amplexicaulis</i>	<p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not import into the State or sell.</p> <p>Regional strategic response:</p> <ul style="list-style-type: none"> • Where the plant poses a risk to priority assets (Section 4.1) it is managed by all landholders to mitigate the risk. • Improved collaborative management across all landholder boundaries. • Inspection of high-risk pathways including markets and nurseries • Promoting and using best-practice quarantine and weed hygiene procedures. <p>* Also listed in Appendix 1, A1.2 –Regional priorities # Known to occur in the Murray region</p>
Lantana	<i>Lantana camara</i>	
Madeira vine *	<i>Anredera cordifolia</i>	
Mesquite *#	<i>Prosopis spp.</i>	
Prickly pears	<i>Opuntia spp. (excluding O. ficus-indica), Cyllindropuntia spp. and Austrocyllindropuntia spp.</i>	
Sagittaria *#	<i>Sagittaria platyphylla</i>	
Salvinia *	<i>Salvinia molesta</i>	
Serrated tussock *#	<i>Nassella trichotoma</i>	
Silver-leaf nightshade *#	<i>Solanum elaeagnifolium</i>	
Willows	<i>Salix species except S. babylonica, S. X calodendron and S. x reichardtiji (willows except weeping willows, pussy willow and sterile pussy willow)</i>	

A1.2 Regional priority weeds

Regional priority weed category – PREVENTION (whole of region):

The following weeds are currently not found in the region, pose significant biosecurity risk and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Cabomba – *Cabomba caroliniana* *

Flax-leaf broom - *Genista linifolia* *

Horsetail - *Equisetum* sp.

Kidneyleaf mud plantain - *Heteranthera reniformis*

Mother-of-millions – *Bryophyllum* species

Prickly pears (Opuntoid cacti) - *Austrocylindropuntias* - (*Austrocylindropuntia* species) *

Prickly pears (Opuntoid cacti) - *Cylindropuntias* (*Cylindropuntia* species) *

Senegal tea plant - *Gymnocoronis spilanthoides*

Water lettuce - *Pistia stratiotes*

Water poppy - *Hydrocleys nymphoides*

Outcomes to demonstrate compliance with general biosecurity duty

Land managers should mitigate the risk of the plant being introduced to their land.

Land managers should eradicate the plant from the land and keep the land free of the plant.

A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant

Notify local control authority if found.

* Also listed in Appendix 1, A1.1 - The following legislative requirement applies:

Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not import into the State or sell.

Strategic response in the Murray region

Establish agreed quarantine and/or hygiene protocols

Surveillance and mapping to locate all infested properties

Have a collaborative rapid response protocol in place

Destruction of all infestations including seed banks

Prevention of entry to geographic area, and movement and sale within

Implement monitoring and follow up control program

Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options

Regional priority weed category – ERADICATION (whole of region):

The following weeds are present in limited distribution and abundance in some parts of the region. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.

Black willow - *Salix nigra* *

Cape broom - *Genista monspessulana* *

Castor oil plant - *Ricinus communis*

Creeping knapweed - *Rhaponticum repens*

Gorse - *Ulex europaeus* *

Green cestrum - *Cestrum parqui*

Grey sallow - *Salix cinerea*

Ox-eye daisy - *Leucanthemum vulgare*

Yellow waterlily - *Nymphaea mexicana*

Outcomes to demonstrate compliance with general biosecurity duty

Land managers should mitigate the risk of the plant being introduced to their land.

Land managers should eradicate the plant from the land and keep the land free of the plant.

A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, keeping, moving, carrying or releasing the plant

Notify local control authority if found.

* Also listed in Appendix 1, A1.1-The following legislative requirement applies:

Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not import into the State or sell.

Strategic response in the Murray region

Establish agreed quarantine and/or hygiene protocols.

Have a collaborative rapid response protocol in place

Surveillance and mapping to locate all infested properties.

Destruction of all infestations including seed banks.

Prevention of entry to geographic area, and movement and sale within.

Monitor progress towards eradication.

Undertake high risk sites and pathway inspections.

Regional priority weed category – CONTAINMENT:

These weeds are widely distributed in the region. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed by these weeds is reasonably practicable.

Species	Core infestation zone	Exclusion zone
Bridal creeper - <i>Asparagus asparagoides</i> *	Albury City Council, Berrigan Shire Council, Edward River Council, Greater Hume Council, Murray River Council, Murrumbidgee Council	Federation Council, Snowy Valleys Council
Chilean needle grass - <i>Nassella neesiana</i> *	Albury City Council, Greater Hume Council, Federation Council, Murrumbidgee Council, Snowy Valleys Council	Berrigan Shire Council, Edward River Council, Murray River Council
Coolatai grass - <i>Hyparrhenia hirta</i>	Albury City Council, Edward River Council, Federation Council, Greater Hume Council, Murray River Council, Murrumbidgee Council, Snowy Valleys Council	Berrigan Shire Council
Prairie ground cherry - <i>Physalis hederifolia</i>	Berrigan Shire Council, Edward River Council, Greater Hume Council, Murray River Council, Murrumbidgee Council	Albury City Council, Federation Council, Snowy Valleys Council
Prickly Pears (<i>Opuntioideae</i>) <i>Opuntia</i> – <i>Opuntia</i> species (excludes <i>O. ficus-indica</i>) *	Albury City Council, Berrigan Shire Council, Edward River Council, Federation Council, Greater Hume Council, Murray River Council, Murrumbidgee Council, Snowy Valleys Council	
Sagittaria – <i>Sagittaria platyphylla</i> *	Berrigan Shire Council, Edward River Council, Murrumbidgee Council	Albury City Council, Federation Council, Greater Hume Council, Murray River Council, Snowy Valleys Council
Scotch broom - <i>Cytisus scoparius</i> *	Berrigan Shire Council, Greater Hume Council, Murray River Council, Federation Council, Snowy Valleys Council	Albury City Council, Edward River Council, Murrumbidgee Council
Serrated tussock - <i>Nassella trichotoma</i> *	Federation Council, Greater Hume Council, Snowy Valleys Council	Albury City Council, Berrigan Shire Council, Edward River Council, Murray River Council, Murrumbidgee Council

Refer to next page for general biosecurity duty and regional response.

Regional priority weed category – CONTAINMENT:

These weeds are widely distributed in the region. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed by these weeds is reasonably practicable.

Outcomes to demonstrate compliance with general biosecurity duty

Exclusion zone:

- Land managers should mitigate the risk of the plant being introduced to their land.
- Land managers should eradicate the plant from the land and keep the land free of the plant.
- A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant.
- Notify local control authority if found.

Core infestation:

- Land managers should mitigate the risk of the plant being introduced to their land.
- Land managers should mitigate spread of the plant from their land
- A person should not buy, sell, move, carry or release the plant into the environment
- Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value

* Also listed in Appendix 1, A1.1-The following legislative requirement applies:

Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not import into the State or sell.

Strategic response in the Murray region

Within exclusion zone:

- Establish agreed quarantine and/or hygiene protocols.
- Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives.
- Monitor change in current distribution to ensure containment of spread.
- High level analysis of pathways to identify potential introduction areas and preventative options

Within Core infestation area:

- Identification of key sites/ assets in the geographic area
- Identification of regional containment zones where required
- Develop region-wide coordinated campaigns for collaborative management
- Species managed in accordance with published weed management plan

Regional priority weed category – ASSET PROTECTION:

These weeds are widely distributed in some areas of the region. Their spread should be minimised to protect priority assets

African boxthorn - *Lycium ferocissimum* *

Blackberry - *Rubus fruticosus species aggregate* *

Khaki weed - *Alternanthera pungens*

Silverleaf nightshade - *Solanum elaeagnifolium* *

Land area where requirements apply / priority assets being targeted	Outcomes to demonstrate compliance with general biosecurity duty	Strategic response in the Murray region
Murray Local Land Services region	<p>Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.</p> <p>* Also listed in Appendix 1, A1.1-The following legislative requirement applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not import into the State or sell.</p>	<p>Where the plant poses a risk to priority assets (Section 4.1) it is managed by all landholders to mitigate the risk.</p> <p>Improved collaborative management across all landholder boundaries.</p> <p>Inspection of high-risk pathways including markets and nurseries</p> <p>Promoting and using best-practice quarantine and weed hygiene procedures.</p>

Appendix 2: Other regional weed lists

A2.1 Additional species of concern

Species that are high risk, high priority for a number of current regional weed programs, though not feasible to contain or eradicate from the region.

Regional strategic responses:

- working with existing widespread weed programs, community groups and industry for strategic asset protection
- local plans to control these weeds under the general biosecurity duty may be implemented by the relevant local control authority.

Table A2.1: Additional species of concern

Common name	Scientific name
Bathurst burr	<i>Xanthium spp.</i>
Bear-skin fescue	<i>Festuca gautieri</i>
Bitter Stonecrop	<i>Sedum acre</i>
Blue heliotrope	<i>Heliotropium amplexicaule</i>
Box Elder	<i>Acer negundo</i>
Buffalo burr	<i>Solanum rostratum</i>
Camel thorn	<i>Alhagi maurorum</i>
Cape tulips	<i>Moraea flaccida and M. miniata</i>
Columbus grass	<i>Sorghum x alnum</i>
Devils claw (yellow-flowered)	<i>Ibicella lutea</i>
Galvanised burr	<i>Sclerolaena birchii</i>
Golden dodder	<i>Cuscuta campestris</i>
Harrisia cactus	<i>Harrisia martinii and H. tortuosa</i>
Himalaya honeysuckle	<i>Leycesteria formosa</i>
Honey locust	<i>Gleditsia triacanthos</i>
Horehound	<i>Marrubium vulgare</i>
Johnson grass	<i>Sorghum halepense</i>
Long leaf willow primrose	<i>Ludwigia longifolia</i>
Pampas grass	<i>Cortaderia spp.</i>
Red Rice	<i>Oryza rufipogon</i>

Common name	Scientific name
Reed Canary Grass	<i>Phalaris arundinacea</i>
Reed Sweet-grass	<i>Glyceria maxima</i>
Rhus tree	<i>Toxicodendron succedaneum</i>
Scotch -illyrian thistles	<i>Onopordum spp.</i>
Silk forage sorghum	<i>Sorghum spp. hybrid cv. "silk"</i>
Spanish heath	<i>Erica lusitanica</i>
Spiny burr grass	<i>Cenchrus incertus & C. longispinus</i>
Spiny emex	<i>Emex australis Steinh</i>
St Barnaby's thistle	<i>Centaurea solstitialis</i>
St John's wort	<i>Hypericum perforatum</i>
Star thistle	<i>Centaurea calcitrapa</i>
Sweet briar	<i>Rosa rubiginosa</i>
Tamarix	<i>Tamarix ramosissima</i>
Tangled Hypericum	<i>Hypericum triquetrifolium</i>
Tree of heaven	<i>Ailanthus altissima</i>
Willows	<i>Salix spp. except S. babylonica, S. X calodendron and S. X reichardtiji (except weeping willows, pussy willow and sterile pussy willow)</i>

