

Riverina Regional Strategic Weed Management Plan 2023-2027



Acknowledgement of Country

We acknowledge the Traditional Custodians of the land on which we work and live, and recognise their continuing connection to land, water and community. We pay respect to Elders past, present and emerging. We also recognise the unique, diverse and enduring cultures of Aboriginal peoples in NSW.

The Riverina Local Land Services region is primarily situated in the traditional lands of the Wiradjuri Nations but also borders into Ngunnawal lands east of Cootamundra, Ngarigo lands south of Tumut into the Snowy's and into Nari Nari Lands west of Hay. The Riverina Local Board acknowledges the Traditional Custodians of the land on which we work and live, and recognise their continuing connection to land, water and community. We pay respect to Elders past, present and emerging. We also recognise the unique, diverse and enduring cultures of Aboriginal peoples in NSW.

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. A key goal for the Riverina region is connecting people and landscapes and this will be achieved through Ngangaanha—the Wiradjuri word meaning to look after, regard and care for Country.

Riverina Local Land Services is committed through our Aboriginal Engagement Strategy to ensure there is meaningful engagement with Aboriginal people and communities in our region to develop partnerships and explore opportunities in natural resource management and other areas of our business.



This document is not a weed identification or control guide.

For this information please go to WeedWise or your local control authority.

Published by South East Local Land Services

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Acknowledgement of contributors

The Regional Strategic Weed Management Plan was developed by the Riverina Regional Weed Committee on behalf of the Riverina Local Land Services Board for endorsement by the board. The Riverina Local Land Services Board wishes to acknowledge the work of the committee and regional support staff in developing the Riverina 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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Riverina Local Land Services Chair's foreword



Riverina 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 great importance based upon a regional delivery focus.

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

I look forward to working with the Riverina Regional Weed Committee, partnering organisations and stakeholders in implementing the Riverina Regional Strategic Weed Management Plan and providing quality and meaningful outcomes across the Riverina.

Barney Hyams
Chair
Riverina Local Land Services

Riverina Regional Weed Committee Chair's foreword



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

The Riverina 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 Riverina Local Land Services region.

Effective weed management is integral to sustainable agriculture, environmental management, and biosecurity maintenance that underpins our rural industries. This plan helps achieve strategic goals, effective cooperative tenure neutral application of limited resources, and to achieve longer term integrated land and water management across the region. I would like to thank all members of the Riverina Regional Weeds Committee for their process contributions in its creation as a practical document to guide to the way forward for Riverina weed management.

Glenn Neyland Chair Riverina 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 Riverina 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 Riverina 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 communitywide shared responsibility for biosecurity
- cooperative weed management with a tenureneutral approach across jurisdictional boundaries
- effective and supportive legislation since the implementation of the NSW Biosecurity Act in 2015.

The Riverina Regional Strategic Weed Management Plan was prepared by the Riverina Regional Weed Committee on behalf of the Riverina 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 Riverina 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 Riverina, 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.

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 Riverina 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 Riverina region.
- has been prepared by the Riverina Regional Weed Committee on behalf of Riverina 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 Riverina 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 Riverina 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:

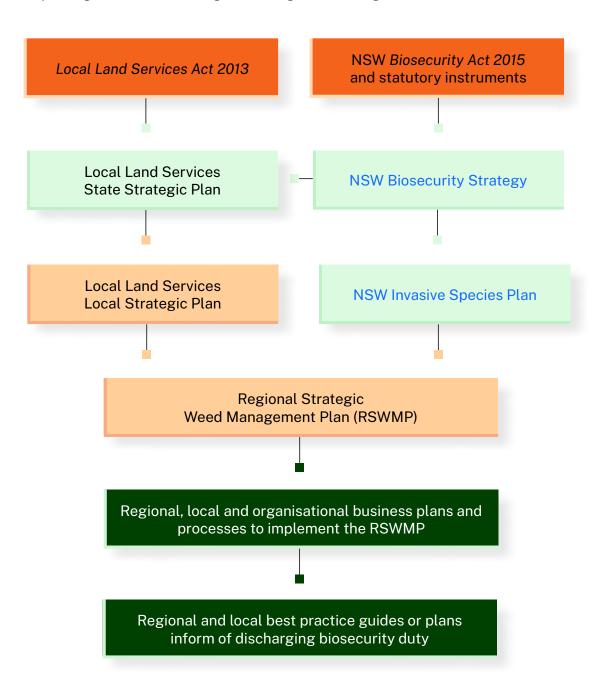
Capacity building – ensure NSW has the ability and commitment to manage invasive species.

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.

lt:

- 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 feasability 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.

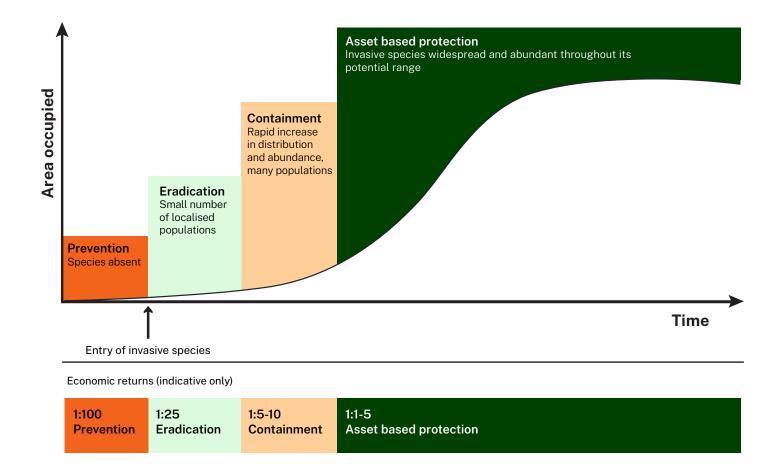
The generalised 'weed invasion curve' (Figure 3.1) illustrates the invasion process of weeds from arrival to widespread establishment after research showed that the effort and resources required to control a weed rises with time and area occupied.

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:

- weed risk (invasiveness, impacts, potential distribution)
- 2. feasability 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.

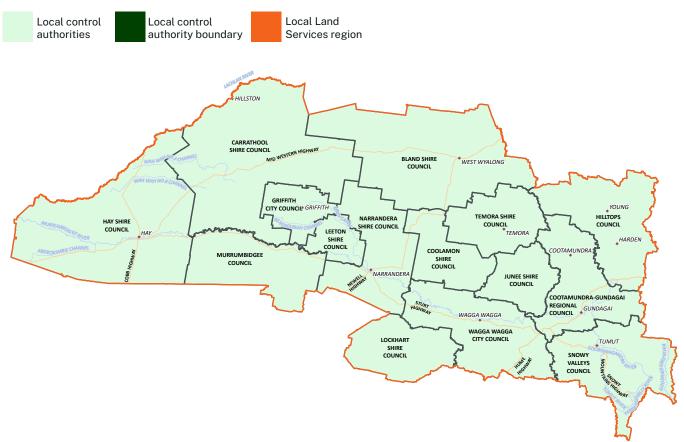
Common name	Scientific name	Regulatory tool
African boxthorn	Lycium ferocissimum	Mandatory Measure prohibits sale within or import into NSW
Allimatory	Alta-us sath and alta-us it	Alligator Weed Biosecurity Zone applies in some parts of NSW
Alligator weed	Alternanthera philoxeroides	Mandatory Measure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

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

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

4. Weed management in the region

Figure 4.1: Riverina Local Land Services regional map.

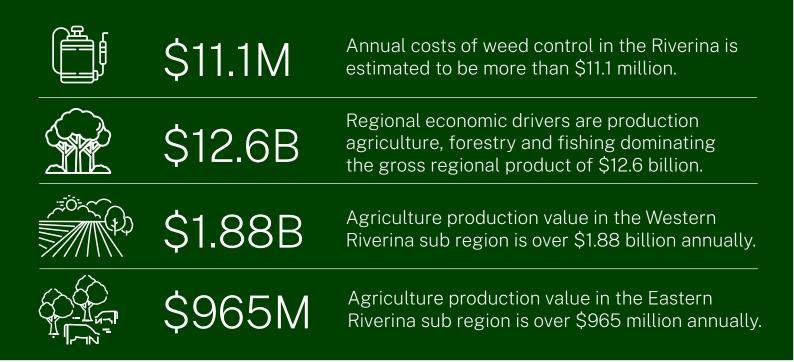


4.1 Introduction to region

The Riverina area is an agricultural region of south-western New South Wales, which extends from the high plains and foothills of the Snowy Mountains, northwest through the Murrumbidgee River catchment area to the flat dry inland plains of Hay and Carrathool.

The area encompasses a diverse range of social, agricultural plant and animal production, economic and natural resource values including lakes, rivers, and natural environment attractions. It houses industry, defence facilities, mining and road and rail transport hubs and two regional cities, Wagga Wagga and Griffith. It covers an area of 80,586 sq km with a population of around 171,855. The area is serviced by 15 local government areas (Bland, Carrathool, Coolamon, Cootamundra-Gundagai, Griffith, Hay, Junee, Leeton, Lockhart, Murrumbidgee, Narrandera, Snowy Valleys, Temora, and Wagga Wagga. (See Figure 4.1). The region, primarily situated in the traditional lands of the Wiradjuri Nation also borders into Ngunnawal and Ngarigo lands to the east and south-east and into Nari Nari lands west of Hay.

The main regional economic drivers are production agriculture, forestry and fishing dominating the gross regional product of \$12.6 billion (2018-19 statistics AE Group DataAU). Agriculture is a key industry both economically and for the scenic and environmental qualities of the rural lands where agriculture is undertaken. The Riverina area is richly diverse in agricultural commodities and highly innovative in the processing and development of food and beverage products throughout.



The Riverina is area is divided into two distinct sub-regions primarily based on climate and topography differences. Agricultural production values exceed NSW average (\$245/ha) with \$385/ha for Western Riverina and \$345/ha for Eastern Riverina respectively.

Western Riverina

The Western Riverina is comprised of Bland, Carrathool, Griffith, Hay, Leeton, Murrumbidgee, and Narrandera.

Western Riverina agriculture is important for broad acre and intensive agriculture/horticultural activities, livestock such as sheep, beef, and poultry.

Agriculture production value in the Western Riverina sub region is more than \$1.88 billion annually (ABS 2015/16).

Eastern Riverina

The Eastern Riverina is comprised of Coolamon, Cootamundra-Gundagai, Hilltops, Junee, Lockhart, Snowy Valleys, Temora, and Wagga Wagga

Eastern Riverina agriculture is important for broad acre crops, livestock including sheep, cattle and pigs, poultry, apples, blueberries, and hay,

Agriculture production value in the Eastern Riverina sub region is over \$965 million annually (ABS 2015/16).

The impact of weeds

Weeds cause significant negative impact on all Riverina lands including urban and environmental recreation areas, but more so in the agricultural, forestry and fishing sectors particularly grazing, broad acre cropping, dairy, fruit, vegetables.

Annual costs of weed control in the Riverina are estimated over \$11.1m (\$2.5m in local government spending and \$8.6m in agricultural production). This figure includes herbicide and labour costs but not equipment.

Production losses (excluding herbicide, labour, and equipment) due to the impact of weeds is estimated at \$416 million annually. (Calculation estimates based on 2020 figures, NSW agricultural production land use of 21.9% (DPI and RDA Agriculture Industry Planning Snapshots 2020) Weed expenditures do not include National, State, or other agency funded weed management programs.

The high cost of weed management negative impact to agricultural productivity demonstrates the need for coordinated, cooperative, and integrated weed management programs across jurisdictional tenures. Similar percentage impacts apply to natural area landscapes and environmental recreation values throughout the region.

4.2 Key risks to the region

The Riverina region faces a myriad challenges and threats from invasive weeds. This requires a wide mix of management strategies due to its varied climate, habitat and both aquatic and terrestrial environmental diversity. Threats from widespread weeds, such as blackberry are endemic, actual, and persistent to all land use. Others such as Hawkweeds or Alligator weed remain small and isolated but potentially pose a greater threat to the environment if ineffectively managed.

The four key weed risk challenges in the Riverina include but are not limited to:

Management

- · Limited long term sustainable measures supporting effective weed management.
- High volume short term extensive works in isolation.
- · Uncoordinated, non-cooperative weed management across jurisdictional tenures.
- Increased herbicide resistance to weed management.

Habitat

- Habitat changes and degradation due to pest animals and invasive weeds, as well as industrial, residential, and agricultural infringement.
- Alteration to the natural water flow regimes of rivers and streams, floodplains and wetlands from both natural and man-made activities making a more suitable environment to weed invasion.
- Anthropogenic Climate Change more suitable for weed proliferation.
- · Native vegetation clearing removes natural weed barrier competition.
- Native plant Pathogens such as Phytophthora cinnamomi allowing weed establishment.

Vectors

- Habitat invasion of escaped garden plants, including aquatic plants left uncontrolled or improperly disposed.
- · Firewood, dead wood and dead trees removal necessary for a natural environment system sustainability.
- Carriage of seed and plant parts by Animals and birds.
- Human activity weed spread from urban and rural development, production agriculture, tourism and travel.

Education

- Coordinated and cooperative weed management across jurisdictional boundaries, and sustainable long-term supported and funded measures are necessary to successfully combat these threatening risks.
- Misunderstanding the importance weed impacts and weed management by decision makers.
- General community lack of awareness of basic weed hygiene practices.

4.3 Priority weeds in the Riverina 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. Riverina regional priority weeds are identified in Table 4.2 with additional further information available in Appendix 1.2 of the Plan.

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).

There are a number of weeds assessed as having a high or very high weed risk (invasiveness, impacts and potential distribution) but where the feasibility of coordinated control (control costs, persistence, current distribution) at the regional level is considered negligible or low given these weeds are already found to be widespread across the region. A list of these weeds is provided in Appendix 2.

Table 4.2: Riverina region priority weeds. (SCO = State Control Order, SBZ = State Biosecurity Zone, SP = Also state priority weed)

Common name	Scientific name	Regional management priority
Alligator weed (SBZ)(SP)	Alternanthera philoxeroides	Eradication
Boneseed (SCO)(SP)	Chrysanthemoides monilifera subsp. monilifera	Eradication
Black willow (SP)	Salix nigra	Containment
Cane needlegrass	Nassella hyalina	Eradication (Exception: Containment for Wagga)
Cape/Montpellier broom	Genista monspessulana	Eradication
Chilean needlegrass (SP)	Nassella neesiana	Eradication
Chinese violet (SCO)(SP)	Asystasia gangetica subsp. micrantha	Prevention
Coolatai grass	Hyparrhenia hirta	Containment
Fireweed (SP)	Senecio madagascariensis	Eradication
Gorse (SP)	Ulex europaeus	Eradication
Green cestrum	Cestrum Parqui	Eradication
Grey sallow (SP)	Salix cinerea	Containment
Kidney leaf mud plantain	Heteranthera reniformis	Eradication
Horsetails	Equisetum spp.	Prevention
Mesquite (SP)	Prosopis spp.	Eradication
Mother-of-millions	Bryophyllum spp.	Eradication
Parkinsonia (SCO)(SP)	Parkinsonia aculeata	Prevention
Perennial ground cherry	Physalis longifolia	Eradication
Prairie ground cherry	Physalis hederifolia	Eradication
Ragwort	Senecio jacobaea	Prevention
Sagittaria (SP)	Sagittaria platyphylla	Eradication (Exception: Containment for Griffith)

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Common name	Scientific name	Regional management priority
Salvinia (SP)	Salvinia molesta	Eradication
Scotch/English broom (SP)	Cytisus scoparius subsp. scoparius	Containment
Senegal tea plant	Gymnocoronis spilanthoides	Prevention
Serrated tussock (SP)	Nassella trichotoma	Eradication
Tropical soda apple (SCO)(SP)	Solanum viarum	Prevention
Water hyacinth (SBZ)(SP)	Eichhornia crassipes	Eradication
Water lettuce	Pistia stratiotes	Prevention
Water poppy	Hydrocleys nymphoides	Prevention
Yellow water lily	Nymphaea mexicana	Prevention

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.

Community involvement of public and private landholders has been both effective, coordinated and regionally successful through several extremely effective education and awareness activities and management projects. Examples include the Silverleaf Nightshade initiative, the Chilean Needlegrass project, the Alligator Weed project, the Wereboldera State Conservation Area project, and others.

Unfortunately, uptake has been primarily reactive rather proactive and usually driven from direct negative economic impacts, or potential for legislative enforcement action. Better promotion of "Shared Responsibility" with awareness and education programs delivered with community involvement in weed control can be addressed by:

- · Focused, hands-on community education activities at local and regional levels.
- Financially supported, simplified, accountable and more efficient weed management activities encouraging collective funding and activities across tenure jurisdictions.
- Funded programs based on a weed management calendar rather government funding stream calendars.
- Inclusion of Aboriginal land management processes integrated into other weed management strategies
- Promotion of success at a realistic ground level community program participation level.
- · Recognition of community activities and initiatives locally and regionally.
- · Local contractor and labour engagement to adopt the areas of weed management of concern.
- Directed education at local government chief executive officers, directors, and managers to correct weed management and legislated responsibility misunderstandings.

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 Riverina Local Strategic Plan and will be implemented in collaboration with key stakeholders, the community and Riverina 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/weedcontrol/general-management/integrated-weedmanagement.

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 Riverina 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 as per Weed Action Plan	Responsibility	Timeframe	
identification and risk ass management of high-risk consiste	1.1.1 Develop species and pathway risk assessment frameworks that are consistent with national approaches where appropriate	Develop Local High Risk Pathway Management Plan (One plan per local control authority) Deliverable: 39 plans	Local control authority Local Land Services coordination	Dec 2023 Annual review	
		Develop regional management plans for high-risk weed species (One regional high-risk plan – reviewed annually) Deliverable: Two regional plans	Local Land Services	Dec 2023 Annual review	
	1.1.2 Review legislative arrangements for control of high-risk species and pathways	Review of High-Risk Pathway Management Plan and high-risk species list for preventing weed spread and communications strategy (3 Plans) Deliverable: One communication plan updated quarterly at Coordinator / RWC meeting	Local Land Services	Dec 2023 Annual review	

Outcomes	Strategies	Key deliverables as per Weed Action Plan	Responsibility	Timeframe
1.1 Improved identification and	1.1.3 Implement legislation, education and enforcement programs for effective	Regional inspection program – planned roadside inspections	Local control authority - inspections	Annual target Quarterly
management of high-risk species and pathways	management of high-risk species and pathways	(Number kilometres inspected)		reportable
species and pathways	patriways	Deliverable: 29,103 km inspected		
		Identified high risk site inspections (Number if named high risk sSite inspections)	Local control authority - inspections	Annual target Quarterly reportable
		Deliverable: 393 inspections		. Sportuble
		Inspection of travelling stock reserves (Number of reserves inspected)	Local control authority - inspections	Annual targe Quarterly
		Deliverable: 424 inspections		reportable
		Inspection of waterways-rivers, creeks and canals	Local control authority - inspections	Annual target
		(Kilometres of shoreline, and river inspected)		reportable
		Deliverable: 3,500 km inspected		
		Inspection of water bodies major dams, lakes-STP dams swamps	Local control authority - inspections	Annual target
		(Number of inspections)	шаресиона	Quarterly reportable
		Deliverable: 110 inspections		Toportable
		Inspection of other publicly managed	Local control authority -	Annual targe
		lands (Crown, parks, forestry, irrigation etc. Excludes TSRs	inspections	Quarterly reportable
		(Number of public lands inspected)		. 5,501 20010
		Deliverable: 380 inspections		

Outcomes	Strategies	Key deliverables as per Weed Action Plan	Responsibility	Timeframe
1.1 Improved identification and	and enforcement programs for effective	Private property inspections (Number of properties inspected)	Local control authority - inspections	Annual target Quarterly
management of high-risk species and pathways	management of high-risk species and pathways	Deliverable: 1,842 inspections		reportable
		Inspection council owned and managed lands	Local control authority - inspections	Annual target Quarterly
		(Number of council managed properties inspected)		reportable
		Deliverable: 581 inspections		
	including codes of practice and labelling standards	Implementing and upgrading of Red Guidepost Initiative	Local Land Services coordination Local control authority	Annual target Quarterly review
		(Number and identification of Red Guidepost areas, one report per local control authority)	2	, J.S.I.S.W
		Deliverable:		
		 One report per local control authority 		
		One Regional Red Guidepost report		
		Support weed management research projects and biocontrol programs	Local Land Services Local control authority	Annual target monitored
		(Number of biocontrol sites / projects)	Other agencies	Quarterly update
		Deliverable: 10 sites of planned activities		

Outcomes	Strategies	Key deliverables as per Weed Action Plan	Responsibility	Timeframe
1.2 Improved early detection capabilities	1.2.1 Continually review and improve early detection capabilities	Local control authorities using weed inspection recording devices with geographic information systems capability (Number of geographic information systems for weed reporting) One per local control authority/local government area Deliverable: 13 capable systems	Local Land Services Local control authority – requirement compliance Department of Primary Industries	Expected compliance by Feb 2023 – IT implementation issues at councils causing delays
	1.2.2 Undertake regular fore-sighting to identify and address emerging trends that could lead to increased biosecurity risks	Quarterly delegate reports submitted to regional weed committee meetings for new biosecurity risks and Weed Action Program monitoring (Quarterly delegates report) Deliverable: Four local control authority reports minimum/other stakeholders reports	Local control authority Local Land Services coordination	Quarterly delegate reporting to regional weed committee
	1.2.3 Improve capacity (people, equipment and processes) to identify and report suspected new invasive species	Planned number of local control authority hosted, weed specific, local field days that you are planning in your local control authority Deliverable: 15 One per local control authority Two Local Land Services supported	Local control authority Local Land Services coordination Department of Primary Industries Landcare National Parks and Wildlife Service Others as available	Annual Target Reported quarterly

GOAL 1 - Exclude: prevent the establishment of new invasive species					
Outcomes	Strategies	Key deliverables as per Weed Action Plan	Responsibility	Timeframe	
1.2 Improved early detection capabilities	1.2.4 Increase public awareness of incursion risk and reporting mechanisms	Planned media releases/activities including social media /council website updates (counts as 1) (Number of all source media representations) Deliverable: 77 annual	Local Land Services regional coordination Local control authority delivery Regional weed committee Delegate organisations	Ongoing Updated quarterly	



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	Local control authorities to eradicate or contain incursions of state and regional priority weeds (Number kilometres controlled, plus nominated sites if applicable) Deliverable: 2,117 km annually	Local control authority-control Project partners	Annual Target Flexible and responsive Ongoing
	2.1.2 Develop incursion response plans for extreme risk species	Local control authority to develop two plans. Coordinator to develop a collective regional plan. (Number of plans) Deliverable: One new incursion plan One high-risk rapid response plan Separate cost sharing agreements as available	Local Land Services – coordination Local control authority - participation	Annual target July 2023 and as required
	2.1.3 Develop rapid response plans and cost-sharing agreements	State Weeds Advisory Group (activities) and coordination activities with joint/ agency/NSW Department of Primary Industries and state organisational meetings (Activity counts as one-ongoing) Deliverable: One	Local Land Services - coordination	Annual Target July 2023 and as required
	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	Species weed risk assessments reviewed and updated as required (Number of Weed Risk Assessments completed) Deliverable: One regional strategic weed management plan	Local Land Services coordination Local control authority-input Department of Primary Industries -directed	July 2023 Reviewed annually and as required

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	3.1.2 Prioritise management efforts based on current and potential impacts	Weed control prioritised on current and potential weed risk and impact (Number kilometres controlled) Deliverable: 29,107 km managed	Local control authority-control	Annual target Reported quarterly
3.2 Improved management effectiveness	3.2.6 Large management programs should have monitoring, reporting and feedback processes in place to allow continual refinement of management approach	MERI Plan, Operational Management Plan and Operational Budget is the WAP plan compared to RSWMP (Quarterly WAP report is Operational Plan and MERI review) Deliverable: Two Weed Action Program and Riverina RSWMP	Local Land Services - analysis and evaluation Local control authority	Ongoing Quarterly review and annual Weed Action Program report

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	Manage Weed Action Program funds with project partners-Weed Action Program development, funding administration and monitoring (Weed Action Program targets and contracts) Deliverable: 14 Weed Action Program contracts 14 Weed Action Program reports	Local Land Services-coordination Local control authority Department of Primary Industries	Ongoing July development October allocations Quarterly monitoring August 31 report
		Develop/maintain terms of reference/ memorandum of understanding to clearly define responsibilities (Regional weed committee terms of reference) Deliverable: One terms of reference	Local Land Services coordination All regional weed committee delegate organisations	Annual review at first financial year regional weed committee meeting
4.2 Private landholders and the general community are motivated to support biosecurity at all stages of invasion curve	4.2.2 Identify opportunities for community involvement in biosecurity	Each local control authority school education days or local control authority /local (not regional) days that you have been a participant (not host) within your local control authority to promote weed awareness as a specific function of that event (Number of events) Deliverable: 15 events	Local control authority	Annual target Ongoing as opportunities present Reportable quarterly

GOAL 4 - Capacity building: Ensure NSW has the ability and commitment to manage invasive species				
Outcomes	Strategies	Key Deliverables	Responsibility	Timeframe
4.2 Private landholders and the general community are motivated to support biosecurity at all stages of invasion curve	4.2.4 Provide a range of information, education and training resources	Provide landholders with education, training and technical advice and support on weed management (Number of information packs disseminated) Deliverable: 1,891	Department of Primary Industries Local Land Services Local control authority	Annual target Ongoing – Info packs provided at inspection reports, educations sessions and other opportunities
	4.2.5 Raise awareness of the importance of reporting new incursions and provide accessible mechanisms for reporting	Engage in public awareness events such as external field days, such as Henty or other hosted for new weeds incursion reporting and promote land tenure <i>Biosecurity Act 2015</i> obligations (Number of external agency / capacity building / field day events attended) Deliverable: 50 events	Local control authority Local Land Services Department of Primary Industries	Annual Target Ongoing as available Provide support/ attend external agency events as practicable Reportable quarterly
4.3 Skilled workforce implementing invasive species management	4.3.1 Maintain availability of competency-based education and training courses	Local control authorities to support biosecurity weeds officers to attend/ complete required training (Number of weed biosecurity training courses/seminars attended) Deliverable: 65	Department of Primary Industries Local Land Services Local control authority	Annual target Ongoing - individual and group training as available Reportable quarterly

Local Land Services

GOAL 4 - Capacity building: Ensure NSW has the ability and commitment to manage invasive species				
Outcomes	Strategies	Key Deliverables	Responsibility	Timeframe
4.3.2 Maintain an adequate network of biosecurity professionals across the state that can be rapidly deployed to manage biosecurity emergencies	Local control authorities to support biosecurity weed officers to attend state weed conference (Number of biennial weeds conference attendees) Deliverable: 20	Department of Primary Industries Local Land Services Local control authority	Biennial Report on numbers for Weed Action Program records	
		Regional weed coordinator employed with Riverina Local Land Services Deliverable: One	Local Land Services	Ongoing – one full time employee

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).

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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 (MERI) framework for Regional Strategic Weed Management Plans, has been developed to guide Regional Weeds Committees to measure their success and continuous improvement.

Each Regional Weeds Committee will establish a MERI framework for Regional Strategic Weed Management Plans. This MERI 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 MERI procedures.

All stakeholders and member organisations of the regional weed committees are expected to assist with data collections and sharing for the purposes of MERI.

6.2 Performance indicators and reporting

Standardised MERI systems are used to compile and report on the efforts and achievements of stakeholders in contributing to this plan. A state-wide MERI 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 Riverina 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

BIS Biosecurity Information System (NSW DPI)

DPI Department of Primary Industries

Km Kilometre

MERI Monitoring, evaluation, reporting and

improvement

RSWMP Regional strategic weed management

plan

TSR Travelling stock reserve

8. Glossary

Adaptive management: A management approach based on the science of learning by doing. It involves testing the response of a system then applying this understanding to future decisions.

Asset protection: Preventing the spread of weed species to high value assets of economic, environmental and/ or social value or reducing the impact on the high value asset for weeds already present.

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.

Collaboration: Working together to develop an understanding of all issues and interests to work out alternatives and identify preferred solutions for joint decision making.

Containment: Preventing the spread of weed species beyond a predefined area and reducing the impact where it occurs.

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

Customer: Any land manager within the state or region, irrespective of whether they are private or public land managers, ratepayers or non-ratepayers.

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.

Eradication: To permanently remove a weed species and its propagules from an area such that there is little or no likelihood of re-invasion occurring.

Governance: The framework of rules, structures, interactions and practices by which the Riverina Local Land Services Board exercises power, responsibility and decision making to ensure accountability, fairness, and transparency in relationship to the Riverina region's customers, stakeholders and investors.

General biosecurity duty: Under the NSW *Biosecurity Act 2015* a general biosecurity duty applies to all weed species that present a biosecurity risk. For weeds, the general biosecurity duty means that any person dealing with plant matter who knows or ought reasonably to know the biosecurity risk posed by that dealing, must take measures to prevent, minimise or eliminate the biosecurity risk (as far as is reasonably practicable). 'Dealing' has a broad definition in the act. Plant matter includes plants, parts of plants and seeds.

Habitat: A place suitable for survival and/or reproduction of a particular plant or animal.

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.

Landscape: Any section of land or coast and its natural features, including rivers and other water bodies. Represents the overlay of the variety and arrangement of physical landforms (e.g. rivers, escarpment, rocky reefs), communities of people (e.g. Aboriginal, rural) and land uses (e.g. urban, conservation, agricultural).

Leading practice: Currently accepted best practice. This is the only reference to leading practice in the document and a glossary reference to a reference in the glossary is not required. The term leading practice is no longer in the glossary.

Prevention: To prevent a weed species arriving and establishing in an area.

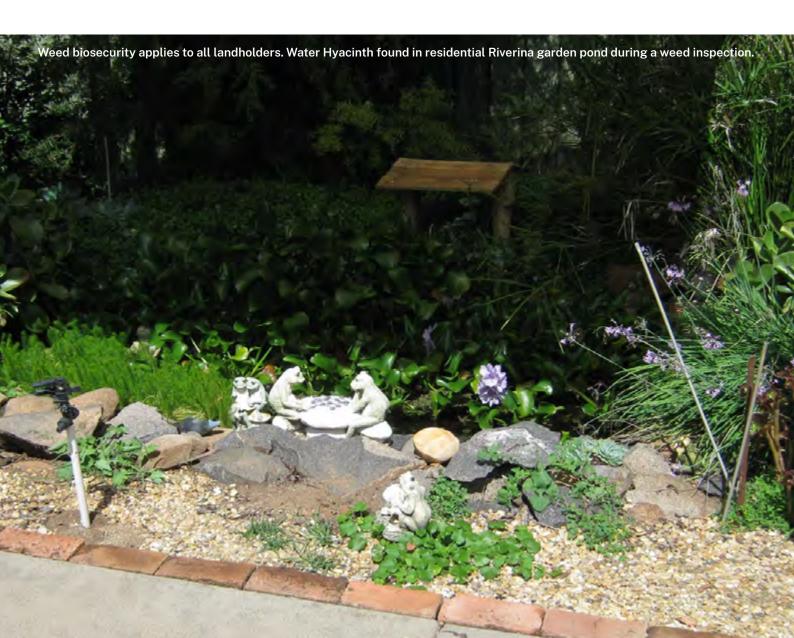
Stakeholders: Organisations that collaborate and partner with Local Land Services directly to support customer service delivery, including community and industry groups, not-for-profits, non-government organisations, Landcare, research institutions, state and local government and private sector providers.

Travelling stock reserve:

- route or camping place reserved for travelling stock route or camping place under the Crown Lands Act 1989
- reserve for travelling stock, water reserve, reserve for access or crossing (where the reserve is for the purpose of providing travelling stock with access to or a crossing of water, whether expressly notified for that purpose or not), or
- stock watering place.

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: 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

A monitoring, evaluation, reporting and improvement (MERI) framework for Regional Strategic Weed Management Plan (2019) – NSW DPI (https://www.lls.nsw.gov.au/__data/assets/pdf_file/0017/1416500/Master-MERI-Framework-Print-Final.pdf)

Australian Government, Weeds in Australia. http://www.environment.gov.au/biodiversity/invasive/weeds/weeds/why/factors.html

Department of Primary Industries (2013). NSW Biosecurity Strategy 2013 – 2021. Department of Primary Industries, Orange.

NSW Biosecurity Act 2015 and NSW Biosecurity Regulations 2017

DPI Weeds Action Program (Riverina) 2020-2025

Hobbs, R.J. and Humphries, S.E. (1995). An integrated approach to the ecology and management of plant invasions. Conservation Biology 9, pp761-70.

Interim Biogeographic Regionalisation for Australia (IBRA), Version 7 (2012) https://www.environment.gov.au/land/nrs/science/ibra/australias-bioregions-maps

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

NSW Department of Primary industries Strategic Plan 2019-2023

NSW WeedWise (NSW WeedWise) (https://weeds.dpi.nsw.gov.au)

NSW Invasive Species Plan 2018-2021

New South Wales Department of Primary Industries (DPI) and Office of Environment and Heritage (OEH) (2011). Biodiversity priorities for widespread weeds. Report prepared for the 13 Catchment Management Authorities (CMAs) by NSW Department of Primary Industries and Office of Environment & Heritage, Orange.

New South Wales Office of Environment and Heritage (OEH) (2013) Regional Pest Management Strategies http://www.environment.nsw.gov.au/pestsweeds/RegionPestManagement.htm

Priority Weeds of the Murray and Riverina Regions Identification Guide (Murray and Riverina Local Land Services Regional Weeds Committees (2021)

Riverina Land Services Local Strategic plan 2021-2026 and supporting Document

Riverina Regional Strategic Weed Management Plan 2017-2021

Sinden, J., Jones, R., Hester, S., Odom, D., Kalisch, C., James, R., and Cacho, O. (2005). The economic impact of weeds in Australia. CRC for Australian Weed Management. Technical Series 8. Adelaide

Appendices

Appendix 1: Priority weeds for the Riverina 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 Riverina 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	Tracheophyta	Mandatory Measure (Division 8, Clause 34) Duty to notify on importation of plants into the state: (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. (2) The notification is to be given to the Secretary and is to be given in accordance with Part 6.	
		(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. Note. See http://plantnet.rbgsyd.nsw.gov.au	

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	ı
Anchored water hyacinth	Eichhornia azurea	ı
Black knapweed	Centaurea x moncktonii	,
Bridal veil creeper	Asparagus declinatus	,
Broomrape	Orobanche spp. (all species except the native O. cernua var. australiana and O. minor)	I
Eurasian water milfoil	Myriophyllum spicatum	
Frogbit / Spongeplant	Limnobium spp. (all species)	
Gamba grass	Andropogon gayanus	
Hawkweed	Pilosella spp (all species) in addition to Hieracium spp (all species except Hieracium murorum)	
Hydrocotyl/ Water pennywort	Hydrocotyle ranunculoides	
Karoo acacia	Vachellia karroo (syn. Acacia karroo)	
Kochia	Bassia scoparia (excluding subsp. trichophylla)	

Biosecurity Act requirements and strategic response in the region

Prohibited Matter (Part 4, Biosecurity Act, 2015)

A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence.

A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised.

A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event.

Regional strategic response:

- Implement quarantine and/or hygiene protocols.
- Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options.
- Trigger rapid response protocol.

State 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
Koster's curse	Clidemia hirta
Lagarosiphon	Lagarosiphon major
Mexican feather grass	Nassella tenuissima (syn. Stipa tenuissima)
Miconia	Miconia spp. (all species)
Mikania vine	Mikania micrantha
Mimosa	Mimosa pigra
Pond apple	Annona glabra
Prickly acacia	Vachellia nilotica (syn. Acacia nilotica)
Rubber vine	Cryptostegia grandiflora
Siam weed	Chromolaena odorata
Spotted knapweed	Centaurea stoebe subsp. australis
Water caltrop	Trapa spp. (all species)
Water soldier	Stratiotes aloides
Witchweed	Striga spp. (except the native S. parviflora)
Yellow burrhead	Limnocharis flava

Biosecurity Act requirements and strategic response in the region

Prohibited Matter (Part 4, Biosecurity Act, 2015)

A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised.

A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event.

Regional strategic response:

- · Implement quarantine and/or hygiene protocols
- Undertake high risk sites and pathways analysis to identify potential introduction areas and preventative options.
- Trigger rapid response protocol.

State 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	Parthenium hysterophorus Prohibited Matter (Part 4, Biosecurity Act, 2015)		
		A person who deals with any biosecurity matter that is Prohibited Matter throughout the state is guilty of an offence.	
		A person has a biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk posed by prohibited matter is prevented, eliminated or minimised.	
		A person who becomes aware of, or suspects, that a prohibited matter event has occurred, is occurring or is about to occur has a biosecurity duty to immediately notify the local control authority about the prohibited matter event.	
		Mandatory Measure (Division 8, Clause 35, Biosecurity Regulation, 2017) - parthenium weed carriers – machiner and equipment	
	(1) This clause applies to the following equipment:		
		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	
		(2) A person must not import into the State from Queensland any equipment to which this clause applies.	

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	
	Chrysanthemoides monilifera subspecies. monilifera	The boneseed control zone is the whole of NSW The parkinsonia control zone is the whole of NSW	
		The tropical soda apple control zone is the whole of NSW	
Parkinsonia	Parkinsonia aculeata	Control measure - owners and occupiers of land	
Tropical soda	Solanum viarum	(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:	
apple		(a) the person's full name and contact details, including a telephone number	
		(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)	
		(c) any other information that is requested by the local control authority.	
		(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.	
		(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.	
		Control measure – persons dealing with carriers	
		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.	

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	Chrysanthemoides monilifera subspecies. monilifera	Control measure – persons moving boneseed, parkinsonia or tropical soda apple and carriers of boneseed, parkinsonia or tropical soda apple
		(excluding a human)
Parkinsonia	Parkinsonia aculeata	(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:
Tropical soda apple	Solanum viarum	(a) the person's full name and contact details
		(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)
		(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.
		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.

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	Asystasia gangetica subspecies. micrantha	Control order – (Chinese Violet Control Zone) 1. Control measures for owners and occupiers of land	
		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:	
		(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:	
		i) as soon as practicable after becoming aware of the new infestation	
		ii) verbally or in writing	
		iii) giving the following:	
		(1) the person's full name and contact number	
		(2) the location of the Chinese violet, including the property identification code for the land (if this is known)	
		(3) any other information reasonably requested by the local control authority	
		(b) destroy all Chinese violet on the land, including fruit	
		(c) ensure that subsequent generations of Chinese violet are destroyed	
		(d) that the land is kept free of Chinese violet	
		(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.	

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	Chinese violet Asystasia gangetica subspecies. micrantha	2. Control measures for persons dealing with carriers	
		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:	
		a) ensure that Chinese violet (including any seed and propagules) is not moved from the land	
	b) immediately notify the local control authority for the area:		
	i) as soon as practicable after becoming aware of the presence of Chinese violet		
		ii) verbally or in writing	
		iii) giving the following:	
		(1) the person's full name and contact number	
		(2) the location of the Chinese violet, including the property identification code for the land (if this is known)	
		iv) any other information reasonably requested by the local control authority.	
		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.	

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 Alternanthera philoxeroides	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: 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).	Alligator Weed Biosecurity Zone (Biosecurity Regulation 2017 - Part 5, Division 2) An owner or occupier of land in the Alligator Weed Biosecurity Zone on which there is the weed Alternanthera philoxeroides (alligator weed) must: (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. Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017) A person must not import into the state or sell. Regional strategic response: Implement Alligator Weed State Strategic Plan
Bitou bush Chrysanthemoides monilifera subspecies. rotundata	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.	Bitou Bush Biosecurity Zone (Biosecurity Regulation 2016 - Part 5, Division 3) An owner or occupier of land in the Bitou Bush Biosecurity Zone on which there is the weed Chrysanthemoides monilifera subspecies. rotundata (bitou bush) must: (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. Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017) A person must not import into the state or sell. Regional strategic response: Implement Bitou Bush State Strategic Plan

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.

Water hyacinth Eichhornia crassipes

Species

Land area where requirements apply

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:

- (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).

Biosecurity Act requirements and strategic response in the region

Water Hyacinth Biosecurity Zone (Biosecurity Regulation 2017 - Part 5, Division 4)

An owner or occupier of land in the Water Hyacinth Biosecurity Zone on which there is the weed *Eichhornia crassipes* (water hyacinth) must:

- (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.

Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017):

A person must not import into the State or sell.

Regional strategic response:

Implement Water Hyacinth State Strategic Plan

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	Lycium ferocissimum	Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017):
Asparagus weeds	Asparagus aethiopicus, A. africanus, A. asparagoides including the Western Cape form, A. densiflorus, A. plumosus, and A. scandens	A person must not import into the State or sell.
Athel pine	Tamarix aphylla	
Bellyache bush	Jatropha gossypiifolia	
Blackberry	Rubus fruticosus spp. agg. (except the varietals Chester Thornless, Dirksen Thornless, Loch Ness, Silvan, Black Satin, Murrindindi, Smooth Stem, Thornfree and Chehalem)	
Brooms	Genista monspessulana, G. linifolia, Cystisus scoparius	
Cabomba	Cabomba caroliniana	
Cat's claw creeper	Dolichandra unguis-cati	
Chilean needle grass	Nassella neesiana	

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
Fireweed	Senecio madagascariensis
Gorse	Ulex europaeus
Hymenachne	Hymenachne amplexicaulis
Lantana	Lantana camara
Madeira vine	Anredera cordifolia
Mesquite	Prosopis spp.
Prickly pears	Opuntia spp. (excluding O. ficus-indica), Cylindropuntia spp. and Austrocylindropuntia spp.
Sagittaria	Sagittaria platyphylla
Salvinia	Salvinia molesta
Serrated tussock	Nassella trichotoma
Silver-leaf nightshade	Solanum elaeagnifolium
Willows	Salix species except S. babylonica, S. X calodendron and S. x reichardtiji (willows except weeping willows, pussy willow and sterile pussy willow)

Biosecurity Act requirements and strategic response in the region

Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017):

A person must not import into the State or sell.

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.

Horsetails-Equisetum spp.

This plant is on the National Environmental Alert List • This plant is a water weed • This plant should not be sold in parts of NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Implement quarantine and/or hygiene protocols

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

Notify regional biosecurity (weeds) coordinator

Remove all plants from site and destroy

Implement minimum five-year monitoring plan after last plants removed

Implement regional rapid response protocol if assessed as required

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.

Parkinsonia (state) - Parkinsonia aculeata

This plant is a Weed of National Significance • This plant must not be sold anywhere in NSW.

All of NSW is a Parkinsonia Control Zone. (Parkinsonia Biosecurity Control Order 2022)

Parkinsonia Control Zone (Whole of NSW): Owners and occupiers of land on which there is Parkinsonia, must notify the local control authority of new infestations; immediately destroy the plants; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant.

A person who deals with a carrier of Parkinsonia must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant.

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Regional Recommended Measure - 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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed.

Strategic response in the Riverina region

Control measure – persons moving parkinsonia and carriers of parkinsonia (excluding a human)

- (1) A person who moves parkinsonia or a carrier of parkinsonia or (excluding a human) to another property, must notify the local control authority for that other property as soon as practicable before moving the parkinsonia of the following information:
- (a) the person's full name and contact details
- (b) the addresses of the land the parkinsonia 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)
- (2) A person who moves parkinsonia or a carrier of 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.

Note. Examples of when parkinsonia or a carrier of parkinsonia (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.

Additional response in the Riverina region

Implement quarantine and/or hygiene protocols

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

Notify regional biosecurity (weeds) coordinator

Remove all plants from site and destroy.

Implement minimum five-year monitoring plan after last plants removed Implement regional rapid response protocol if assessed as required Specific actions governed by Biosecurity (Parkinsonia) Control Zone Order 2017

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.

Ragwort - Senecio jacobaea

This plant should not be sold in parts of NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Implement quarantine and/or hygiene protocols

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

Notify regional biosecurity (weeds) coordinator

Remove all plants from site and destroy

Implement minimum five-year monitoring plan after last plants removed

Implement regional rapid response protocol if assessed as required

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.

Senegal tea plant - Gymnocoronis spilanthoides

This plant is on the National Environmental Alert List • This plant is a water weed • This plant should not be sold in pats of NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum five-year monitoring plan after last plants removed

Implement regional rapid response protocol if assessed as required

Caution:

If reported, advise not to remove until assessed and evaluated by council biosecurity officer issues associated with disposal of the removed plant material and soil and the risk of spreading stem fragments are major concerns. It is recommended that control not be attempted by individuals

Qualified personnel should treat infestations with herbicide prior to removing plant material to reduce the risk of spreading viable stem fragments. Removed plant material should be dried and incinerated wherever possible as any plant material and soil that remains damp can spread viable plant fragments and seeds

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.

Tropical soda apple (state) - Solanum viarum

This Plant is also a State Priority Weed • This plant is on the National Environmental Alert List • This plant must not be sold anywhere in NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Control Order Biosecurity (Tropical Soda Apple) Control Zone Order 2017

Tropical Soda Apple Control Zone (Whole of NSW): Owners and occupiers of land on which there is tropical soda apple must notify the local control authority of new infestations; destroy the plants including the fruit; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of tropical soda apple must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant on the land, or on or in a carrier

Strategic response in the Riverina region

Implement quarantine and/or hygiene protocols

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

Notify regional biosecurity (weeds) coordinator

Remove all plants from site and destroy.

Implement minimum five-year monitoring plan after last plants removed

Implement regional rapid response protocol if assessed as required

Specific actions governed by Biosecurity (Tropical Soda Apple) Control Zone Order 2017

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.

Water lettuce - Pistia stratiotes

This plant is a water weed • This plant should not be sold anywhere in NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Implement quarantine and/or hygiene protocols

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

Notify regional biosecurity (weeds) coordinator

Remove all plants from site and destroy.

Implement minimum five-year monitoring plan after last plants removed

Implement regional rapid response protocol if assessed as required

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.

Water poppy - Hydrocleys nymphoides

This plant is a water weed • This plant should not be sold anywhere in NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum five-year monitoring plan after last plants removed

Implement regional rapid response protocol if assessed as required

Support local management programs

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.

Yellow water lily - Nymphaea mexicana

This plant is a water weed • This plant should not be sold anywhere in NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum five-year monitoring plan after last plants removed

Implement regional rapid response protocol if assessed as required

Support local management programs

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Alligator weed - Alternanthera philoxeroides

This Plant is also a State Priority Weed • This plant is on the National Environmental Alert List • This plant must not be sold anywhere in NSW.

Notify local control authority if found. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

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:

- 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).

Strategic response in the Riverina region

Alligator Weed Biosecurity Zone (Biosecurity Regulation 2017 - Part 5, Division 2)

An owner or occupier of land in the Alligator Weed Biosecurity Zone on which there is the weed *Alternanthera philoxeroides* (alligator weed) must:

- (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.

Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017)

A person must not import into the state or sell.

Regional strategic response:

Implement Alligator Weed State Strategic Plan

Note: Alligator weed is difficult to control. Any infestations should be reported immediately to your local council weed officer. Do not try to control alligator weed without their expert assistance. Control effort that is poorly performed or not followed up can help spread the weed and worsen the problem.

Note: Alligator weed is currently indicated as present in Griffith and Carathool LGA. A separate WRA priority of Containment has been listed for Griffith. The remainder of the Riverina maintains an eradication priority.

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Boneseed - Chrysanthemoides monilifera subsp. monilifera

This Plant is also a State Priority Weed • This plant must not be sold anywhere in NSW.

All of NSW is a Boneseed Control Zone. (Boneseed Biosecurity Control Order 2022)

Boneseed Control Zone (Whole of NSW): Owners and occupiers of land on which there is boneseed, must notify the local control authority of new infestations; immediately destroy the plants; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of boneseed must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant.

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Regional Recommended Measure - 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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed.

Strategic response in the Riverina region

Comply with terms of Boneseed Biosecurity Control Order 2022

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum five-year monitoring plan after last plants removed Implement regional rapid response protocol if assessed as required.

Refer A1.1 for details of the Biosecurity Zone and Mandatory Measure for these species.

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Cane needlegrass - Nassella hyaline (eradication whole of region except for Wagga Wagga (containment and manage weed))

This plant is on the National Environmental Alert List • This plant should not be sold in parts of NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Wagga Wagga City Council Exclusion Zone (containment) - Regional Recommended Measure - Outcomes to demonstrate compliance with general biosecurity duty

See details for Wagga Wagga cane needlegrass containment in the containment section of this table

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum seven-year monitoring plan after last plants removed

Monitor change in current distribution – Wagga Wagga only

Implement regional rapid response protocol if assessed as required

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Cape/Montpellier broom - Genista monspessulana

This plant must not be sold anywhere in NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum 10-year monitoring plan after last plants removed due to seed longevity in soil

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Chilean needle grass-Nassella neesiana

This plant is also a State Priority Weed. • This plant must not be sold anywhere in NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum seven-year bi-monthly monitoring plan after last plants seeding flourish

Communication and education protocols implemented

Note: Chilean needlegrass has been noted as present in a large portion of the Riverina but is still in containable infestation zones which are under management. Eradiation priority status remains intact

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Fireweed - Senecio madagascariensis

This plant is also a State Priority Weed. • This plant must not be sold anywhere in NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum five-year bi-monthly monitoring plan after last plants flowering

Communication and education protocols implemented

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Gorse - Ulex europaeus

This plant is also a State Priority Weed. • This plant must not be sold anywhere in NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum 10-year bi-monthly monitoring plan after last plants removed due to longevity of seeds and root fragment durability

Communication and education protocols implemented

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Green cestrum - Cestrum Parqui

This plant should not be sold in parts of NSW.

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.

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable.

Strategic response in the Riverina region

Implement regional rapid response protocol.

Implement site specific quarantine and hygiene protocols where possible Destruction of all infestations

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

Notify regional biosecurity (Weeds) coordinator

Implement minimum five-year bi-monthly monitoring plan after last plants flowering

Communication and education protocols implemented

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Kidney leaf mud plantain - Heteranthera reniformis

This plant is a water weed • This plant should not be sold in parts of NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum five-year biannual monitoring plan after last plants flowering

Communication and education protocols implemented

Note: Kidney leaf mud plantain was recently discovered in an irrigation channel in Leeton Local Government Area. It is under management and the priority of eradication remains

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Mesquite-Prosopis spp.

This plant is also a State Priority Weed. • This plant must not be sold anywhere in NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum 10-year bi-monthly monitoring plan after last plants removed due to longevity of seeds

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Mother-of-millions-Bryophyllum spp.

This plant should not be sold in parts of NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed.

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum 10-15-year monitoring plan after last plants removed due to longevity of seeds

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Perennial ground cherry - Physalis longifolia

This plant should not be sold in parts of NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum five-year monitoring plan after last plants removed due to longevity of seeds

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

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Prairie ground cherry - Physalis hederifolia

This plant should not be sold in parts of NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum five-year monitoring plan after last plants removed due to longevity of seeds

Local management plans supported

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

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Sagittaria - Sagittaria platyphylla (eradication whole of region except for Griffith (containment and manage weed))

This plant is also a State Priority Weed. • This plant is a water weed. • This plant must not be sold anywhere in NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed.

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable.

Griffith Local Control Authority Exclusion Zone (containment) - Regional Recommended Measure - Outcomes to demonstrate compliance with general biosecurity duty

See details for Griffith Sagittaria containment in the containment section of this table.

Strategic response in the Riverina region

Destruction of all infestations

Contain and manage Infestation in Griffith area

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum five-year monitoring plan after last plants removed Implement regional rapid response protocol if assessed as required.

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

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Salvinia - Salvinia molesta

This plant is also a State Priority Weed. • This plant is a water weed. • This plant must not be sold anywhere in NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum five-year monitoring plan after last plants removed Implement minimum five-year monitoring plan after last plants removed

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

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Serrated tussock - Nassella trichotoma

This plant is also a State Priority Weed. • This plant must not be sold anywhere in NSW.

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. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed.

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable.

Strategic response in the Riverina region

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum seven-year monitoring plan after last plants removed Implement local / regional education and communication program

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

The following weeds are currently not found in the region, or are found in such densities and locations where although they pose a significant biosecurity risk, eradication and/or and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Water hyacinth (state) - Eichhornia crassipes

This plant is also a State Priority Weed. • This plant is a water weed. • This plant must not be sold anywhere in NSW.

Outcomes to demonstrate compliance with general biosecurity duty

An owner or occupier of land in the Water Hyacinth Biosecurity Zone on which there is the weed *Eichhornia crassipes* (water hyacinth) must:

- (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 Biosecurity Regulations 2017, and
- (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.

Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017):

A person must not import into the State or sell.

Notify local control authority if found. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed

Biosecurity zone (all of NSW)

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:

- (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).

Regional strategic response

Implement Water Hyacinth State Strategic Plan

Destruction of all infestations

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

Implement site specific biosecurity and hygiene protocols

Detailed surveillance and mapping to locate all infestations

Notify regional biosecurity (weeds) coordinator

Implement minimum five-year monitoring plan after last plants removed Implement regional rapid response protocol if assessed as required.

Support local management programs

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.

Black willow - Salix Nigra

This plant is also a State Priority Weed. • This plant must not be sold anywhere in NSW.

Exclusion zone:

Land area where requirements apply

Core infestation areas:

- Snowy Valleys Council
- Cootamundra-Gundagai Regional Council
- Wagga Wagga City Councill

Exclusion zone

 All of Riverina except identified core infestation areas.

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

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

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Within exclusion zone:

Establish agreed quarantine and/or hygiene management protocols Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives

Where possible, if identified, any new infestations of this plant should be eradicated with early treatment

High level analysis of pathways to identify potential introduction areas and preventative options

Within core infestation area:

Implement site specific biosecurity and hygiene management protocols Identification of key sites/ assets in the geographic area

Identification of regional or local control authority established containment zones, and ensure required containment buffer perimeters are established where possible

Monitor and report change in current distribution to ensure containment of spread

Develop region-wide coordinated campaigns for collaborative management

Species managed in accordance with published weed management plan

Applicable to both exclusion and core infestation areas:

Implement minimum five-year monitoring plan after last plants removed – little is known about seed longevity in the soil

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.

Cane needle grass-Nassella hyalina

This plant is on the National Environmental Alert List • This plant should not be sold in parts of NSW.

Land area where requirements apply

Core infestation area:

Wagga Wagga City Council

Exclusion zones:

 All of Riverina except Core infestation area

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

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Within exclusion zone:

Establish agreed quarantine and/or hygiene management protocols. Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives.

Where possible, if identified, any new infestations of this plant should be eradicated with early treatment

High level analysis of pathways to identify potential introduction areas and preventative options

Within core infestation area:

Implement site specific biosecurity and hygiene management protocols Identification of key sites/ assets in the geographic area

Identification of regional or local control authority established containment zones, and ensure required containment buffer perimeters are established where possible

Monitor and report change in current distribution to ensure containment of spread

Develop region-wide coordinated campaigns for collaborative management

Species managed in accordance with published weed management plan

Applicable to both exclusion and core infestation areas:

Implement minimum five-year monitoring plan after last plants removed

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.

Coolatai grass-Hyparrhenia hirta

This plant should not be sold in parts of NSW.

Land area where requirements apply

Core infestation areas:

 Cootamundra-Gundagai Regional Council

Exclusion zone

 All of Riverina except identified core infestation areas.

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

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Within exclusion zone:

Establish agreed quarantine and/or hygiene management protocols Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives

Where possible, if identified, any new infestations of this plant should be eradicated with early treatment

High level analysis of pathways to identify potential introduction areas and preventative options

Within core infestation area:

Implement site specific biosecurity and hygiene management protocols Identification of key sites/ assets in the geographic area Identification of regional or local control authority established containment zones, and ensure required containment buffer perimeters are established where possible

Monitor and report change in current distribution to ensure containment of spread

Develop region-wide coordinated campaigns for collaborative management

Species managed in accordance with published weed management plan

Applicable to both exclusion and core infestation areas:

Implement minimum five-year monitoring plan after last plants removed – little is known about seed longevity in the soil

Education and awareness

The public and landholders need to know that Coolatai grass is an invasive undesirable species and new occurrences should be correctly identified and controlled

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.

Grey sallow – Salix cinera – (also known as pussy willow, grey willow, common sallow, wild pussy willow)

This plant is also a State Priority Weed • This plant must not be sold anywhere in NSW.

Land area where requirements apply

Core infestation areas:

- Snowy Valleys Council
- Cootamundra-Gundagai Regional Council
- Wagga Wagga City Council

Exclusion zone

All of Riverina except identified core infestation areas.

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

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Within exclusion zone:

Establish agreed quarantine and/or hygiene management protocols Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives

Where possible this plant should be eradicated with early treatment High level analysis of pathways to identify potential introduction areas and preventative options

Within core infestation area:

Implement site specific biosecurity and hygiene management protocols Identification of key sites/ assets in the geographic area

Identification of regional or local control authority established containment zones, and ensure required containment buffer perimeters are established where possible

Monitor and report change in current distribution to ensure containment of spread

Develop region-wide coordinated campaigns for collaborative management

Species managed in accordance with published weed management plan

Applicable to both exclusion and core infestation areas:

Implement minimum five-year monitoring plan after last plants removed

Education and awareness

The public and landholders need to know that Grey sallow is an invasive undesirable species and new occurrences should be correctly identified and controlled

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.

Sagittaria - Sagittaria platyphylla

This plant is also a State Priority Weed • This plant is a water weed. • This plant must not be sold anywhere in NSW.

Land area where requirements apply

Core infestation areas:

- Griffith City Council
- Narrandera Shire Council

Exclusion zone

 All of Riverina except identified core infestation areas.

Outcomes to demonstrate compliance with general biosecurity duty

Land managers should mitigate the risk of the plant being

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:

Exclusion zone:

introduced to their land

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

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Within exclusion zone:

Establish agreed quarantine and/or hygiene management protocols.

Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives.

Where possible, if identified, any new infestations of this plant should be eradicated with early treatment

High level analysis of pathways to identify potential introduction areas and preventative options

Within core infestation area:

Implement site specific biosecurity and hygiene management protocols Identification of key sites / assets in the geographic area.

Identification of regional or local control authority established containment zones, and ensure required containment buffer perimeters are established where possible.

Monitor and report change in current distribution to ensure containment of spread

Develop region-wide coordinated campaigns for collaborative management

Species managed in accordance with published weed management plan

Applicable to both exclusion and core infestation areas:

Implement minimum five-year monitoring plan after last plants removed

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.

Scotch/English broom - Cytisus scoparius subsp. scoparius

This plant is also a State Priority Weed • This plant must not be sold anywhere in NSW.

Exclusion zone:

Land area where requirements apply

Core infestation areas:

Snowy Valleys Council

Exclusion zone

 All of Riverina except identified core infestation areas.

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

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

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable

Strategic response in the Riverina region

Within exclusion zone:

Establish agreed quarantine and/or hygiene management protocols Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives

Where possible, if identified, any new infestations of this plant should be eradicated with early treatment

High level analysis of pathways to identify potential introduction areas and preventative options

Within core infestation area:

Implement site specific biosecurity and hygiene management protocols Identification of key sites / assets in the geographic area

Identification of key sites for biological control initiatives

Identification of regional or local control authority established containment zones, and ensure required containment buffer perimeters are established where possible

Monitor and report change in current distribution to ensure containment of spread

Develop region-wide (Riverina/Murray) coordinated campaigns for collaborative management

Species managed in accordance with published weed management plan

Applicable to both exclusion and core infestation areas:

Implement minimum seven-year monitoring plan after last plants removed due to viable seed longevity

Appendix 2: Other regional weed lists

A 2.1 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:

Unless specified elsewhere in state or regional priority weeds by category listed in Appendix 1, a general biosecurity duty applies to all weeds listed in Appendix A2. Duplication of weeds will occur as different criteria are being assessed such as herbicide resistance, or livestock toxicity, local weeds of concern which may be in the category of prevention or management to local councils and their individual management priorities beyond that of the state and regional priority listings. 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.

Outcomes to demonstrate compliance with general biosecurity duty

Landholders, stakeholders, and those that are involved with the management of weeds on their behalf, should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant.

The plant should not be bought, sold, grown, carried, or released into the environment. Notify local control authority if found.

General biosecurity duty

All plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as is reasonably practicable.

Regional recommended measure

(Localised priority weeds in the region to which a local management plan decision applies.)

Landholders should mitigate the risk of new weeds being introduced to their land and/or spreading from their lands. Where possible, infestations of the plants should be eradicated from the land and the land kept free of the plant. Where eradication is not feasible, the establishment of reasonable property buffer containment lines and positive regular reduction of the plant biomass is recommended.

Strategic response in the Riverina region

- · Implement site specific hygiene protocols where possible.
- Destruction of all new property incursions and manage existing incursions.
- Undertake regular property and pathway inspections to identify, map and report (BIS reporting) on distribution, potential introduction areas and preventative options.
- Implement minimum five-year monitoring plan after last plants removed due to longevity of seeds.
- · Local management plans supported individual localised weed risk assessments to be done as applicable.

A 2.2 Herbicide resistant weeds

Resistance or tolerance to specific herbicide types has been noted as developing in some places of the Riverina.

Table A2.2: Herbicide resistant weeds.

Common name	Resistance group
African love grass	9 (M), 15 (J)
Annual ryegrass	9 (M)
Blackberry nightshade	9 (M)
Capeweed	4 (I) (GRAZON)
Chilean needlegrass	9 (M), 15 (J)
Feathertop rhodes grass	9 (M) (TBC anecdotal)
Flax-leaf fleabane	9 (M)
Serrated tussock	9 (M)
Tall fleabane	9 (M)

Specific resistances noted are:

- **Group 9 (M)** Mode: Inhibitors or EPSP Synthase (an enzyme produced by plants specifically targeted by the herbicide Glyphosate)
- Group 15 (J) Mode: Inhibitor of fat synthesis in plants The fat synthesis specifically targeted by Fluproponate
- **Group 4 (I) –** Mode: Disruptor of plant cell growth The growth and development specifically targeted by Tricoplyr (Grazon)

NOTE: The agriculture industry has been transitioning from an alphabetical to a numerical code system to describe the Mode of Action (MoA). Some new MoAs will be introduced to reflecting the new chemistry and some active ingredients will also be reclassified into different groups to better reflect their actual mode of action, not chemical structure. The new numerical system should be fully implemented by the end of 2024.

Herbicide resistance is the inherent ability of a weed to survive treatment with a herbicide that would normally kill it. In the Riverina, limited signs of resistance development have been reported as noted above. If a resistant plant is allowed to reproduce, the resistance spreads resulting in more and more plants that are resistant to that particular herbicide. The three herbicides specific to the listed weeds are Glyphosate, Tricoplyr, and Fluproponate. This is not the same as poor herbicide performance, however, once herbicide resistance occurs it will persist indefinitely.

Herbicides act by interfering with specific processes in plants, known as the herbicide's mode of action. Different herbicides may have the same mode of action and herbicides with the same modes of action are grouped from Group A to Group Z. The risk of herbicide resistance developing is higher in certain Groups. For example, Groups A and B are more likely to develop resistance than Groups I, L and M.

The best way to manage herbicide resistance is to adopt integrated weed management by combining herbicide use with non-chemical control options (as described in Integrated weed management), as well as:

- ensuring any resistant plants do not set seed
- · regularly monitoring the results of herbicide treatments and looking out for resistant plants
- undertaking herbicide resistance testing on suspect plants that survive herbicide treatments
- not relying on the same herbicide Group for regular weed control (rotate treatments using herbicides from different groups).

More information on Herbicide Resistance Groups and Mode of action can be found in the DPI Weed Control Handbook on Page 15. New South Wales Weed Control Handbook, Seventh Edition (nsw.gov.au)

A 2.3 Local priority species of concern

Other weeds of regional importance at a local level of priority-these are weeds of concern that have been identified for local management plans and coordinated campaigns by the community and other stakeholders in the region.

Note: some of these species may be duplicated from the lists above.

Table A.2.3: Local priority species of concern.

Common name	Scientific name	Category and biosecurity duty
Agapanthus	Agapanthus praecox	Species of concern General biosecurity duty
Anchored water hyacinth	Eichhornia azurea	Prevention. Prohibited matter If you see this plant report it. Notify local control authority if found. Your local biosecurity weeds officer can help to identify, advise on control, and how to remove this weed. This plant must not be sold anywhere in NSW
Bathurst burr	Xanthium spinosum	Species of concern General biosecurity duty
Bear skin fescue	Festuca gautieri	Species of concern General biosecurity duty
Bitter stonecrop	Sedum acre	Species of concern General biosecurity duty
Blackberry nightshade	Solanum nigrum	Species of concern General biosecurity duty
Blue heliotrope	Heliotropium amplexicaule	Species of concern General biosecurity duty. This plant should not be sold in parts of NSW
Box elder	Acer negundo	Species of concern General biosecurity duty
Bridal creeper	Asparagus asparagoides	Species of concern General biosecurity duty. This plant must not be sold anywhere in NSW
Broomrapes	Orobanche spp. (all species except the native O. cernua var. australiana and O. minor)	Prevention. Prohibited matter: If you see this plant report it. Notify local control authority. This plant must not be sold anywhere in NSW

Common name	Scientific name	Category and biosecurity duty
Buffalo burr	Solanum rostratum	Species of concern General biosecurity duty
Cabomba	Cabomba caroliniana	Asset protection General biosecurity duty This plant should not be sold in parts of NSW
Caltrop / catshead / bindii / goats head / yellow vinie	Tribulus terrestris L.	Species of concern General biosecurity duty
Camel thorn	Alhagi maurorum	Species of concern General biosecurity duty This plant should not be sold in parts of NSW
Cape tulips	Moraea flaccida and M. miniata	Species of concern General biosecurity duty This plant should not be sold in parts of NSW
Capeweed	Arctotheca calendula	Species of concern General biosecurity duty
Cat's claw creeper	Dolichandra unguis-cati	Asset protection General biosecurity duty This plant should not be sold in parts of NSW
Columbus grass	Sorghum x almum	Species of concern General biosecurity duty
Common heliotrope	Heliotropium europeum	Species of concern General biosecurity duty
Creeping knapweed	Rhaponticum repens	Containment General biosecurity duty This plant should not be sold in parts of NSW
Devils Claw	Ibicella lutea or Proboscidea louisianica	Species of concern General biosecurity duty
English Ivy	Hedera helix	Species of concern General biosecurity duty
Feathertop Rhodes grass	Chloris virgata	Containment General biosecurity duty. This plant should not be sold in parts of NSW

Common name	Scientific name	Category and biosecurity duty
Flax-leaf broom	Genista linifolia	Asset protection General biosecurity duty This plant should not be sold in parts of NSW
Flax-leaf fleabane	Conyza bonariensis	Species of concern General biosecurity duty
Fountain grass	Cenchrus setaceus	Species of concern General biosecurity duty
Galenia	Galenia pubescens	Species of concern General biosecurity duty
Galvanised burr	Sclerolaena birchii	Species of concern General biosecurity duty This is a native plant. Check native vegetation requirements before undertaking control
Gamba grass	Andropogon gayanus	Prevention Prohibited matter: If you see this plant report it. Notify local control authority. This plant must not be sold anywhere in NSW
Gazania spp	Gazania linearis	Species of concern General biosecurity duty
Golden dodder	Cuscuta campestris	Species of concern General biosecurity duty
Harrisia cactus	Harrisia martinii and H. tortuosa	Species of concern General biosecurity duty This plant should not be sold in parts of NSW
Himalayan honeysuckle	Leycesteria formosa	Species of concern General biosecurity duty
Honey locust	Gleditsia triacanthos	Species of concern General biosecurity duty This plant should not be sold in parts of NSW
Horehound	Marrubium vulgare	Species of concern General biosecurity duty

Common name	Scientific name	Category and biosecurity duty
Johnson grass	Sorghum halepense	Species of concern General biosecurity duty This plant should not be sold in parts of NSW
Khaki weed	Alternanthera pungens	Species of concern General biosecurity duty
Lippia	Phyla canescens	Species of concern General biosecurity duty This plant should not be sold in parts of NSW Of significant concern in Griffith and MIA and on riparian zones through the Riverina on the Murrumbidgee, Murray and Lachlan rivers.
Long-leaf willow primrose	Ludwigia longifolia	Species of concern General biosecurity duty This plant should not be sold in parts of NSW
Noogoora burr	Xanthium occidentale	Species of concern General biosecurity duty
Ox-eye daisy	Leucanthemum vulgare	Containment General biosecurity duty This plant should not be sold in parts of NSW
Patterson's curse	Echium plantagineum	Species of concern General biosecurity duty
Privet (broad-leaf)	Ligustrum lucidum	Species of concern General biosecurity duty This plant should not be sold in parts of NSW
Privet (narrow-leaf)	Ligustrum sinense	Species of concern General biosecurity duty This plant should not be sold in parts of NSW
Red rice	Oryza rufipogon	Species of concern General biosecurity duty
Reed canary grass	Phalaris arundinacea	Species of concern General biosecurity duty
Reed sweetgrass	Glyceria maxima	Species of concern General biosecurity duty

Common name	Scientific name	Category and biosecurity duty
Rhus tree	Toxicodendron succedaneum	Species of concern General biosecurity duty This plant should not be sold in parts of NSW
Scotch and Illyrian thistles	Onopordum spp.	Species of concern General biosecurity duty
Silk forage sorghum	Sorghum spp. hybrid cultivar "Silk"	Species of concern General biosecurity duty
Spanish heath	Erica lusitanica	Species of concern General biosecurity duty
Spiny burrgrass	Cenchrus longispinus (Cenchrus spinifex)	Species of concern General biosecurity duty
Spiny emex	Rumex hypogaeus	Species of concern General biosecurity duty
St Barnaby's thistle	Centaurea solstitialis	Species of concern General biosecurity duty
St John's wort	Hypericum perforatum	Species of concern General biosecurity duty
Sweet briar rose	Rosa rubiginosa	Species of concern General biosecurity duty
Star thistle	Centaurea calcitrapa	Species of concern General biosecurity duty
Tangled hypericum	Hypericum triquetrifoliu	Species of concern General biosecurity duty
Tree of heaven	Ailanthus altissima	Species of concern General biosecurity duty
Wards weed	Carrichtera annua	Containment General biosecurity duty This plant should not be sold in parts of NSW Currently in Hay-spread prevention

Local determination of invasive plants - not otherwise listed

Determination of local species of concern and management priority.

Local control authorities may determine a specific measures category for any non-listed state or non-listed priority weed at a local level. The general biosecurity duty applies to all weeds. In addition, a local control authority may list a specific plant in one of the following categories at a local level. Such determinations should be found in a local management plan.

For further information, contact your local biosecurity weeds officer.

For prevention species

- 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.

For eradication species

- 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.

For containment species

Exclusion zone: Within the Riverina, exclusion zones are considered lands and properties where the weed is not present.

- 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: This weed is present in various densities throughout the Riverina region. Core infestations are defined by the local control authorities and are unique to each local control authority area of operations. Refer to your local control authority for defined and identified core infestation areas.

- 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.
- Land managers should contain and take effective measures to continually suppress and reduce infestations thus leading to eventual eradication of the plant from the 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.

For asset protection species

- 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.

Appendix 3: General biosecurity duty

Section 22 of the Act (Biosecurity duty – dealing with biosecurity matter and carriers) states:

"Any person who deals with biosecurity matter or a carrier and who knows, or ought reasonably to know, the biosecurity risk posed or likely to be posed by the biosecurity matter, carrier or dealing has a biosecurity duty to ensure that, so far as is reasonably practicable, the biosecurity risk is prevented, eliminated or minimised."

In many cases, the general biosecurity duty will focus on desired outcomes rather than prescribe exactly what a person must do. For example, with respect to weeds, the general biosecurity duty would require a land manager to reduce the impact of weeds found on their property from spreading onto neighbouring properties.

In most cases, a land manager will discharge their general biosecurity duty by simply stopping the spread of weeds from their land, by creating a weed-free buffer zone. In other cases, where a measurable degradation of land occurs as a result of poorly managed weeds, a regulation called a mandatory measure may be in place that will require the land manager to suppress and destroy a particular weed species.

This approach recognises that in most circumstances, the person with the general biosecurity duty is best

placed to decide what is reasonably practicable in the circumstances to prevent, eliminate or minimise the particular biosecurity risk, and should have the flexibility to make this decision.

This approach of flexibility in decision-making provides opportunities for innovative and novel ways to emerge to manage a biosecurity risk and, as a result, achieve a discharge of the biosecurity duty.

In areas of non-compliance, it allows local control authorities to follow a process of inspection, investigation and assessment to determine the risk to reduce the risk of impact of weed spread to the localised environment, economy or community and take legislated enforceable actions such as the issue of a biosecurity direction or accept a legally enforceable biosecurity undertaking.



Bridal creeper and boxthorn removal in bushland.

