



Local Land
Services
Central West

Central West Regional Strategic Weed Management Plan 2017 - 2022



Developed in partnership with the
Central West Regional Weed Committee

Published by Central West Local Land Services

Central West Regional Strategic Weed Management Plan 2017-2022

First published June 2017 www.centralwest.lls.nsw.gov.au

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing. 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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Acknowledgement of Country

The Central West Local Land Services region is situated in the traditional lands of the Wiradjuri, Weilwan, Wongaibon and Gamilaroi Nations. The Central West Local Land Services Board acknowledges and pays its respects to Elders, both past and present of these nations.

We acknowledge that the protection and promotion of Aboriginal culture, heritage, traditional land management practices and spiritual beliefs is an issue of great importance to the traditional owners of these lands and waters and is of benefit to the whole community. Stronger shared cultural values, will ensure a more reconciled and resilient community in the Central West.

Acknowledgement of contributors

This plan was developed by the Central West Regional Weed Committee on behalf of the Central West Local Land Services Board for endorsement by the Board. The Central West Local Land Services Board wishes to acknowledge the work of the committee and regional support staff in developing this plan. The board would also like to thank the Technical Sub Committee of the State Weeds Committee for their support in weed risk prioritisation and the State Weeds Committee, Office of Environment and Heritage and NSW Department of Primary Industries (DPI) for their guidance in the development of this plan.

We also wish to acknowledge that some text within this plan was drawn from a range of NSW DPI publications, including the NSW Invasive Species Plan 2015-2022, NSW Biosecurity Strategy 2013 – 2021 and the *NSW Biosecurity Act 2015* Discussion Paper: Weeds. Development of this plan was supported through NSW Weeds Action Program funding from the NSW Government.

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Central West Local Land Services Board Chair's Foreword

Ms Susan Madden

Chair Central West Local Land Services

I am pleased to present the Central West Regional Strategic Weed Management Plan.

The Local Land Services vision is 'Resilient communities in productive healthy landscapes.' An important step towards achieving this is the management and control of invasive species, including weeds.

With a landscape as diverse as ours, localised knowledge has been key to developing a comprehensive understanding of weed related issues across the Central West region.

The establishment of the Central West Regional Weed Committee has brought together individuals, the wider community, government agencies and industry to look at ways we can best manage existing and emerging weeds.

The comprehensive yet localised perspective of the committee has been drawn on in the development of this plan.

The finalisation of this plan and subsequent practical local delivery is fundamental in safeguarding our primary producers and protecting and conserving our environment.

Moving forward, it is vital that weed management is recognised as a shared responsibility.

I would like to acknowledge and commend the members of the Central West Regional Weed Committee for their efforts in this process and look forward to moving into the next phase of working together for the benefit of our region.



Regional Weed Committee Chairs Foreword

Mr Peter Shinton

Chair Central West Regional Weed Committee

The Central West Regional Strategic Weed Management Plan (RSWMP) was developed by a regionally based stakeholder partnership committee, providing a tenure neutral, risk based plan for the management of weeds throughout the Central West Local Land Services region.

Weeds pose a threat to biodiversity and agricultural production throughout NSW meaning that their control has both time and financial costs to landholders. Weeds within the Central West Local Land Services region seem to be adapting to climatic changes and are encroaching on areas that they have not been found before. This leads to a new challenge of managing existing weeds within the region, but also taking into account the weeds of the future. This will no doubt encourage developments in technology.

The RSWMP supports the implementation of the NSW Biosecurity Strategy, *NSW Biosecurity Act 2015* and the NSW Invasive Species Plan 2015-2022 as they relate to weed management. This new approach has drawn on the experience and knowledge of regionally based individual landholders, Local Government, State Government and Corporate bodies to determine the priority weeds and control measures within the region that all landholders will be working toward.

This shared responsibility for the management of weeds within the region means that anyone who knows, or ought to reasonably know, that a weed issue poses a risk, should take all reasonable and practical measures to minimise or eliminate that risk.

I would like to take this opportunity to thank the members of the Central West Regional Weed Committee for their valued input into the process. I am sure that this collaborative approach will lead to coordinated weed programs within the region, benefiting the whole of community.



Executive Summary

Our vision

Biosecurity protects the economy, environment and community from the negative impacts of pests, diseases and weeds. As such, it is vital for the health, well-being and prosperity of the state. The Central West Regional Strategic Weed Management Plan focuses on managing weeds to improve the region's biosecurity. Our vision is to protect the Central West environment, landscape, livelihood, cultural and lifestyle values from weeds by strengthening the sustainability of the natural environment, primary industries, and local communities in the region.

In line with new Commonwealth biosecurity measures, NSW has reformed its weed, pest and disease legislation. Together, the NSW Biosecurity Strategy 2013-2021 and *NSW Biosecurity Act 2015* (which repeals the *Noxious Weeds Act 1993*) provide a streamlined, clear framework for safeguarding primary industries, natural environments and communities from a range of pests, diseases and weeds. Community-wide shared responsibility for biosecurity and a tenure neutral approach are crucial to realise the vision of a sustainable and prosperous future.

The Central West Regional Strategic Weed Management Plan is a direct response to this strategic and legislative reform. It was prepared by the Central West Regional Weed Committee on behalf of the Central West Local Land Services Board, with guidance from the State Weeds Committee and Local Land Services staff.

Working together

The plan outlines how government, industry and the community will share responsibility and work together to identify, minimise, respond to, and manage weeds. It relates to all lands and waters in the Central West Local Land Services region of NSW. It focuses on managing weeds that impact:

- animal and plant industries, including agriculture, horticulture, forestry, aquaculture and recreational and commercial fishing in freshwater systems
- ecological communities and biodiversity, including 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 Central West, and outlines strategies and actions to achieve outcomes based on principles of shared responsibility, sustainable landscapes, collaborative leadership and innovation.

Vision:

Government, industry and the people of the Central West region working together to protect the environment, economy and community from the negative impacts of weeds.

Goal 1: Responsibility for weed biosecurity is shared by the Central West Community

Actions focus on a whole of community approach to weed management, with an emphasis on:

- building community capacity
- building stronger partnerships
- fostering a shared responsibility
- promoting behavioural change.

Goal 2: Weed biosecurity supports profitable, productive and sustainable primary industries

and

Goal 3: Weed biosecurity supports healthy, diverse and connected natural environments

Actions focus on weed biosecurity to protect the environment and foster sustainable economic growth. The emphasis is on:

- preventing new weeds from entering the region
- eradicating or containing the spread of weeds that do establish
- managing widespread weeds on priority sites.

Goal 4: Weed biosecurity is supported by coordinated, collaborative and innovative leadership and partnerships

Actions focus on consistent approach to implementing this plan, with emphasis on:

- providing good governance and leadership to support a collaborative approach
- supporting and delivering the weed biosecurity reforms for NSW
- implementing risk based systems across all tenures in a coordinated manner
- using information and mapping systems, current research and adaptive management to improve effectiveness of weed control
- promotion and continued engagement of the Regional Weeds Committee
- Regional Weeds Committee will continue to engage the community.

Sharing responsibility

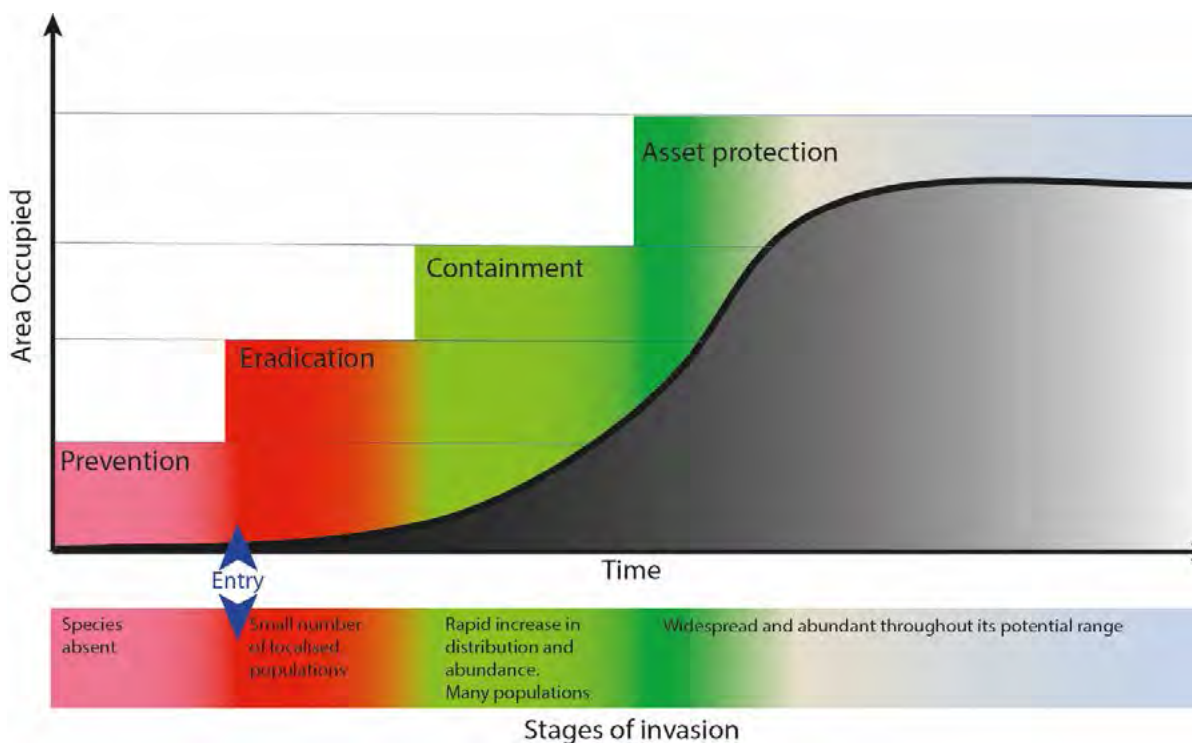
The plan provides a sound basis for a cooperative and coordinated approach to managing weeds in the Central West region. It defines what “shared responsibility” means for the region’s communities and stakeholders, and how they might work together to identify, minimise, respond to and manage high risk weeds at a landscape scale, both now and into the future.

The *NSW Biosecurity Act 2015* is tenure neutral, as it applies equally to all land in the region, whether public or private. The Act contains a range of new regulatory tools and a General Biosecurity Duty that support this tenure neutral approach to managing weed biosecurity risk. These tools include Prohibited Matter, Biosecurity Zones, Mandatory Measures and Control Orders and the plan outlines how they might be applied.

The plan outlines how land managers might meet requirements under the General Biosecurity Duty: *the responsibility of any person who has any dealing with weeds (biosecurity matter), whether they have an infestation on their land, are selling a potentially invasive species, dumping garden rubbish, or supplying contaminated fodder or the like must prevent, minimise or eliminate the biosecurity risk (as far as is reasonably practicable).*

Weed priorities

An expert panel used best available knowledge and an internationally-recognised risk-assessment process to identify the Central West’s high-priority weed species. Weed prioritisation is guided by the principle that *managing weeds earlier rather than later is more cost effective*. The Central West’s weed management objective support this principle, and prioritises outcomes which can be achieved in the early stages of the invasion process.



Weed invasion curve illustrating area infested and resources required for control over time, and the basis of management objectives. Prevention of any new weed incursion needs to be given the highest priority as this is the most effective opportunity to eradicate.

The plan identifies regional priority weeds, including management objectives and “outcomes to demonstrate compliance with the General Biosecurity Duty”, which for those weeds clearly define community expectations for land managers to meet their General Biosecurity Duty. The plan also identifies state level and other priority weeds to provide further focus to weed management in the region.

Building on the past

The Central West Regional Weed Committee was established as a local community advisory group under the *Local Land Services Act 2013*. Development of this plan was its initial focus. The role of the committee will now shift to overseeing the plan’s implementation.

The Committee provides strategic planning and coordination of weed management activity at a regional level. It works closely with the State Weeds Committee, whose charter is to ensure a consistent, coordinated and strategic approach to weed management across the state of NSW.

A range of stakeholders have played an important role in weed management planning in the region over many years. This plan builds on past efforts and has gained immeasurably from the accumulated experience and expert local knowledge of committee members and their networks. The Central West Regional Weed Committee includes representatives from Local Government and County Councils, NSW Department of Primary Industries, State government agencies managing state owned lands (Office of Environment and Heritage, National Parks and Wildlife Service, Forestry Corporation of NSW, Roads and Maritime Services and Department of Industry – Lands), John Holland (County Regional Rail Network), NSW Farmers, Landcare, Aboriginal land managers, environmental interests, rural landholders and Central West Local Land Services.

Implementation

The plan will guide investment in weed management across the region and provide a consistent basis for regional weed planning and implementation. The Regional Weed Committee will play an important role in overseeing and coordinating implementation of the plan. Stakeholders will implement the plan’s objectives within a framework of:

- shared responsibility for weed management
- consistent tenure neutral and prioritised weed management planning, investment and control across the region
- strategic communication, capacity building and engaging partners, stakeholders and the broader community
- coordinated and integrated information management guiding adaptive management and research
- performance measurement that focuses on shared responsibility, sustainable landscapes and collaborative leadership and innovation
- robust monitoring, reporting, evaluation and improvement.

Identifying local stakeholder roles, responsibilities and partnerships is integral to developing these measures efficiently and effectively.

1. Intent of plan

1.1 Introduction

Biosecurity is vital for the health, well-being and prosperity of everyone in NSW. It is about protecting the economy, environment and community from the negative impacts of pests, diseases and weeds. The Central West Regional Strategic Weed Management Plan provides a framework for regional weed management. The plan supports regional implementation of the *NSW Biosecurity Act 2015* by articulating community expectations in relation to effective weed management and facilitating a coordinated approach to weed management in the region. The plan (and the legislation that underpins it) is based on the premise that biosecurity is everyone's responsibility. It supports development of this culture, guiding the community in effective and coordinated management of weeds and meeting relevant statutory obligations.

The plan relates to all lands and waters in the Central West Local Land Services region of NSW. (Figure 1.1).

This plan has built on past planning efforts, and has gained immeasurably from the accumulated experience and expert local knowledge of Regional Weed Committee members and their networks. It will guide resource allocation and investment in the region and provide a consistent basis for regional planning and delivery.

The Central West Regional Strategic Weed Management Plan implements the NSW weed reforms, Biosecurity Strategy and Invasive Species Plan in relation to weeds for the Central West region. It was prepared by the Central West Regional Weed Committee on behalf of the Central West Local Land Services Board, and covers weed risks that impact:

- animal and plant industries, including agriculture, horticulture, forestry, aquaculture, recreational and commercial fishing
- biodiversity of natural, urban and peri-urban environments (terrestrial and aquatic)
- human health, livelihood, lifestyle, recreation and landscape amenity
- infrastructure and service industries, including energy, transport and water supplies.

This plan sets the vision, goals and objectives for weed management on the Central West for the next five years and outlines the strategies and actions through which these goals will be achieved.

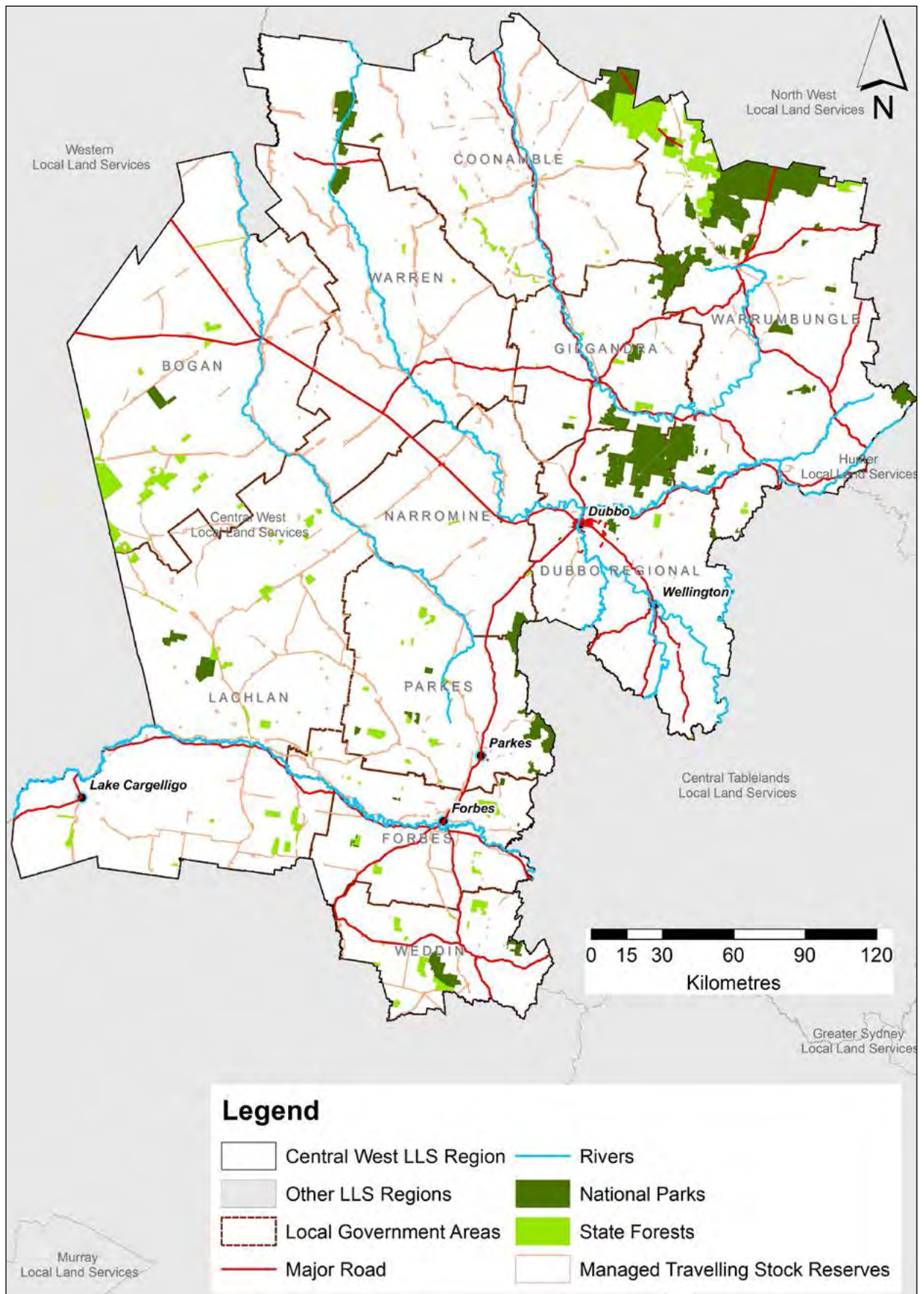


Figure 1.1: Central West Local Land Services region.



1.2 Vision, Goals and Objectives

This plan provides a sound basis for a cooperative and coordinated approach to weed management, The Vision for this plan is:

Government, industry and the people of the Central West region working together to protect the environment, economy and community from the negative impacts of weeds.

The goals, objectives and outcomes for this plan align with those of the NSW Biosecurity Strategy 2013-2021 and the Central West Local Land Services Local Strategic Plan 2016-2021, which provide the overarching policy framework. Our goals are:

1. *Responsibility for weed biosecurity is shared by the Central West community*
2. *Weed biosecurity supports profitable, productive and sustainable primary industries*
3. *Weed biosecurity supports healthy, diverse and connected natural environments*
4. *Weed biosecurity is supported by coordinated, collaborative and innovative leadership.*

The objectives of this plan, outcomes we expect to see, and the strategies to achieve them, are shown in Table 1.1.

Table 1.1: Vision, Goals, Outcomes, Objectives and Strategies of the plan.

Government, industry and the people of the Central West region working together to protect the environment, economy and community from the negative impacts of weeds.			
Vision	Shared Responsibility	Sustainable Landscapes	Collaborative Leadership and Innovation
Goals	<p>1. Responsibility for weed biosecurity is shared by the Central West community</p> <ul style="list-style-type: none"> Community, industry and government are sharing responsibility for weed management and have a clear understanding of their roles and obligations. People have the skills, knowledge, capacity and capability to deliver weed management activities. Strong supportive partnerships have improved weed management for all partners. Awareness of weed management in the region has improved, with communication and engagement, proactive and inclusive. 	<p>2. Weed biosecurity supports profitable, productive and sustainable primary industries</p> <p>3. Weed biosecurity supports healthy, diverse and connected natural environments</p> <ul style="list-style-type: none"> Weed management is integrated and coordinated across all tenures. Weeds are monitored at landscape and industry scales and developing problems are proactively managed. Weed management is supporting landscape health and key assets important to biodiversity. Primary industries are using leading weed management practices that contribute to increases in productivity, sustainability and market access with minimal impacts on natural resources. Sensitive Aboriginal cultural heritage areas are protected. Weed biosecurity threats are continually identified, assessed and prioritised across Central West region environments and primary industry sectors. Weed biosecurity emergencies and high risk pathways are well managed. Impacts on high priority assets have been minimised through risk based weed management programs. 	<p>4. Weed biosecurity is supported by coordinated, collaborative and innovative leadership</p> <ul style="list-style-type: none"> Engagement, collaboration and involvement of local people in decision making are coordinated. Relevant and timely information supports decision making by the Central West Regional Weed Committee and the State Weeds Committee. Information, monitoring, performance evaluation and reporting systems, provide for benchmarking, continuous improvement, stakeholder feedback and innovation. A strong evidence and knowledge base is supporting innovation and strengthening research. Changes in weed behaviour under a changing climate are being understood and monitored.
Outcomes			

Government, industry and the people of the Central West region working together to protect the environment, economy and community from the negative impacts of weeds.		
Vision	Government, industry and the people of the Central West region working together to protect the environment, economy and community from the negative impacts of weeds.	
Objectives	<ul style="list-style-type: none"> Communicate a clear strategic vision and build support for a strong and integrated biosecurity system for the region. Provide the foundation for all customers and stakeholders to work together, and to fully utilise knowledge and expertise across all groups. Foster accountability for weed management in the region at all levels. 	<ul style="list-style-type: none"> Improve effectiveness in prevention and response to new weed incursions. Prevent, eradicate, control and manage the impacts of weeds. Understand and have regard for the impacts of a changing climate on weed biosecurity.
Strategies	<p>1.1 Promote weed management and behavioural change in the community.</p> <p>1.2 Build stronger partnerships that support weed management.</p> <p>1.3 Enhance community-wide capacity in sharing responsibility for weed management.</p>	<p>2-3-1 Improve surveillance, reporting and tracing systems for weeds.</p> <p>2-3-2 Improve prevention, preparedness and response to weed emergencies.</p> <p>2-3-3 Eradicate or prevent the spread of new weeds.</p> <p>2-3-4 Contain and manage impacts of widespread weeds.</p> <p>2-3-5 Support and utilise developments in weed science and technology.</p> <p>2-3-6 Use results of research (for example, Weed Futures, Bioclim, ANUCLim) to assess and respond to changing risks under a changing climate.</p>
		<ul style="list-style-type: none"> Provide a framework for more detailed planning, monitoring and reporting of weed management programs. Provide guidance for weed management prioritisation, decision making and actions at a regional level Support consistent and coordinated regional weed management planning and local delivery. Support leading practice in weed management through ongoing creation and sharing of knowledge and spatial information.
		<p>4.1 Provide governance and leadership that supports collaborative, effective and efficient weed management.</p> <p>4.2 Adopt adaptive, contemporary planning and processes.</p> <p>4.3 Develop a regional weed knowledge base and information system that supports state standards.</p> <p>4.4 Develop consistent systems for monitoring, evaluating and reporting on the effectiveness of weed management.</p>

1.3 A more strategic approach to weed management

1.3.1 Drivers

Weeds are a major threat to Australia's natural environment. The impact of weeds on Australian agriculture alone, are estimated to be \$2.5 billion in lost production and \$1.8 billion in control activities every year (NSW DPI, 2015). Impacts on biodiversity and natural environments are harder to quantify, but equally significant.

As well as increasing costs of weed control, a range of developments are increasing the need to manage weeds more strategically and efficiently:

- NSW weed management reform, identified in a *Review of Weeds Management in NSW* (Natural Resources Commission in 2014). This followed reform of Commonwealth biosecurity measures in 2012, alignment of state legislation, and measures for better cross-jurisdictional biosecurity management around the country.
- Globalisation is integrating the world economy with rapid growth in trade, tourism, passenger and cargo movements. This is increasing the risk of pest, disease and weed incursions.
- The global climate is more variable and less predictable, with more extreme weather events, increasing average temperatures and other changes expected. These changes are likely to favour the establishment, spread or shift of some weeds and limit the distribution and impact of others.
- The demand for food is continually increasing, with modelling indicating global food production will have to double between now and 2050 to keep up with that demand. We need to do everything we can to protect our capacity to produce food, with weeds being a major impact on productivity.
- Herbicide resistance is a growing problem, particularly with the development of resistant crops. There is also a trend towards growing organic produce in western countries, and concern about the impact of pesticides on health.
- Pressure to maintain profitability and increase efficiency are ongoing in government, industry, and business sectors with an ageing population and an increasingly global economy. It is crucial that limited resources for weed biosecurity are used wisely, with constructive partnerships and clear decision-making processes established.

Technological developments are creating opportunities to improve the cost effectiveness of weed control and improve capacity to work more strategically at a landscape scale. Planning for weed management must consider the effectiveness and efficiency of control measures so that the cost is commensurate with the benefit.

The NSW Biosecurity Strategy 2013-2021 outlined the measures needed to align NSW with Commonwealth and other state biosecurity policies. This led to the development of the *NSW Biosecurity Act 2015*, which replaces 14 other pieces of legislation and establishes a clear framework for safeguarding primary industries, natural environments and communities from biosecurity threats.

The emphasis in the NSW Invasive Species Strategy and biosecurity legislation is on prevention of invasive species and early intervention in the incursion process (Figure 4.1). Early and strategic investment to prevent and eradicate invasive species provides more cost-effective and successful weed control outcomes.

1.3.2 Weed Committees and development of this plan

The NSW weed reforms recommended that Local Land Services assume responsibility for forming a weed committee in each region to act as a Community Advisory Group and provide appropriate support for weed management and planning. The Central West committee includes representatives from Central West Local Land Services, NSW Department of Primary Industries (DPI), state government agencies managing state owned lands (Office of Environment and Heritage (OEH), National Parks and Wildlife Service, Forestry Corporation of NSW, Roads and Maritime Services and Department of Industry – Lands), local government and county councils, John Holland Rail, NSW Farmers, Landcare, Aboriginal land managers, environmental interests and rural landholders. Through this representation, the committee provides tenure neutral strategic planning and coordination of weed management activities at a regional level and also provides a forum for community and stakeholders to raise issues and find solutions.

The State Weeds Committee was established to provide a state-wide perspective in overseeing implementation of the weed management reforms: auditing, evaluating weed declarations, and providing state-level perspectives and governance. Their role includes developing service delivery standards for weed compliance, and commissioning audits. The Regional Weed Committee refers weed policy issues to the State Weeds Committee and will support the State Weeds Committee in the development and implementation of performance standards.

This plan represents a partnership between the Regional Weed Committee and its representative organisations, including state government agencies, local government, stakeholders, the community and Local Land Services. Working together, the committee developed this plan for the Central West Local Land Services Board.

The relationship between Local Land Services, the Regional Weed Committee, the State Weeds Committee and other customers and stakeholders is shown in Figure 1.2. Government, industry, industry associations, research providers, universities, non-government organisations, individuals and the community as a whole, all have a role to play in the management of weed biosecurity risks. Local Control Authorities play a particularly important role in weed management including enforcing the *NSW Biosecurity Act 2015* with respect to weeds.

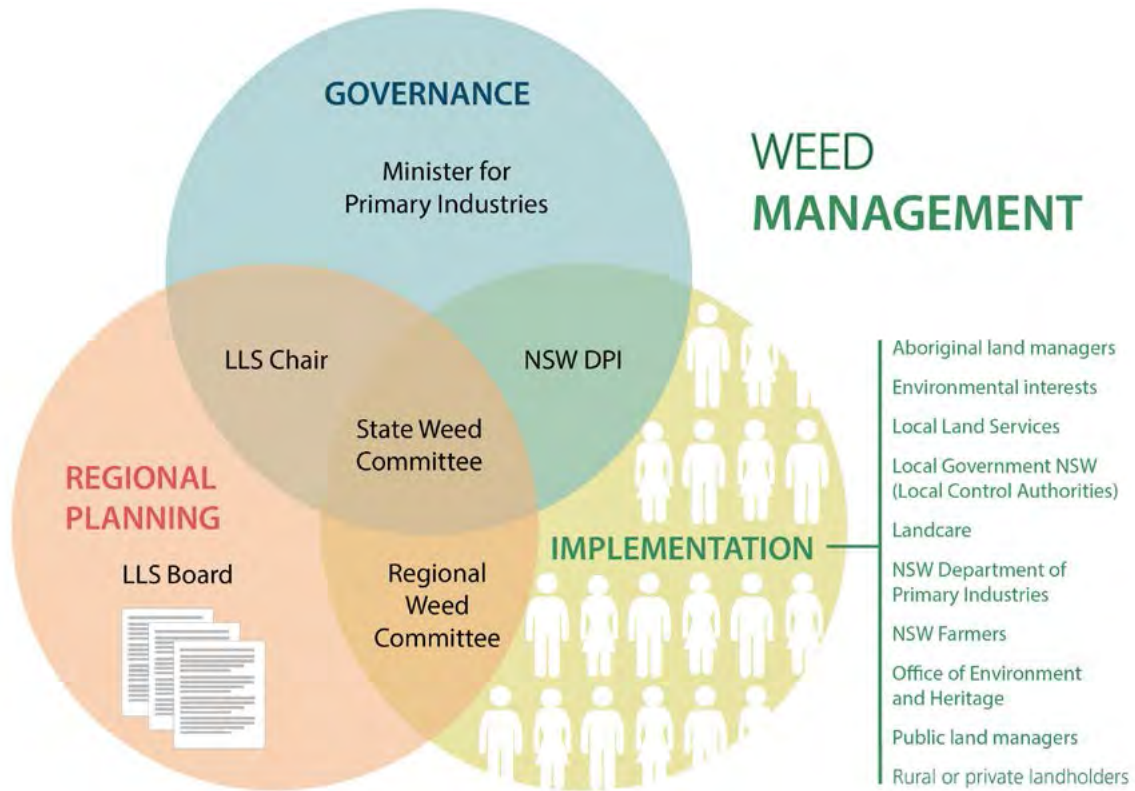


Figure 1.2: Roles in weed management.

Figure 1.3 below shows the relationship between the Regional Weed Committee, the Central West Local Land Services Board and other Community Advisory Groups. Central West Local Land Services provides executive support to the Regional Weed Committee.

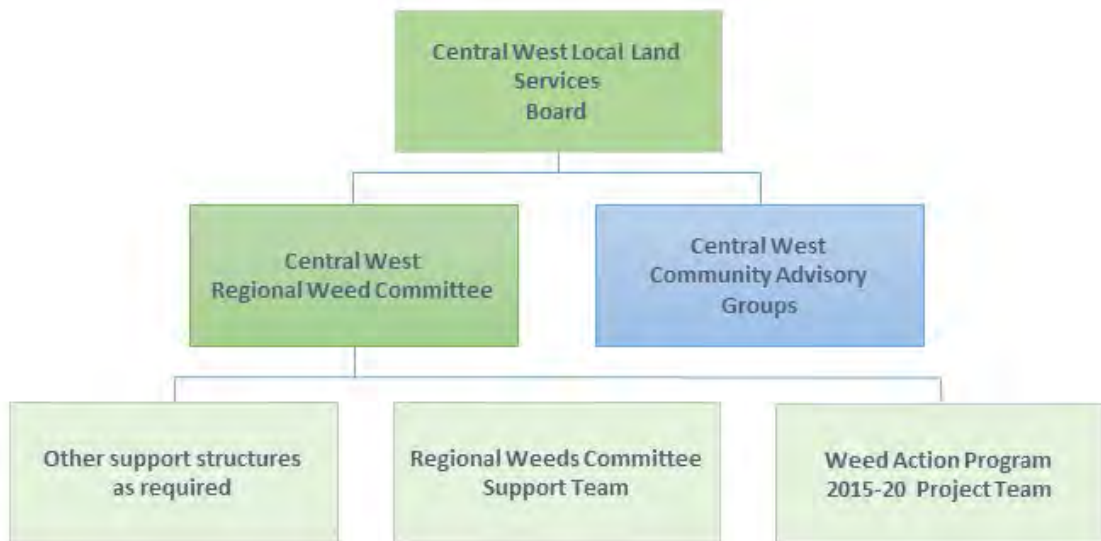


Figure 1.3: Regional Weed Committee relationship to Central West Local Land Services Board.

2. Policy framework

2.1 Overview of key plans and strategies

The Regional Weed Committee considered a range of relevant plans and strategies in development of this plan, at national, state and local levels. These are shown in Figure 2.1.

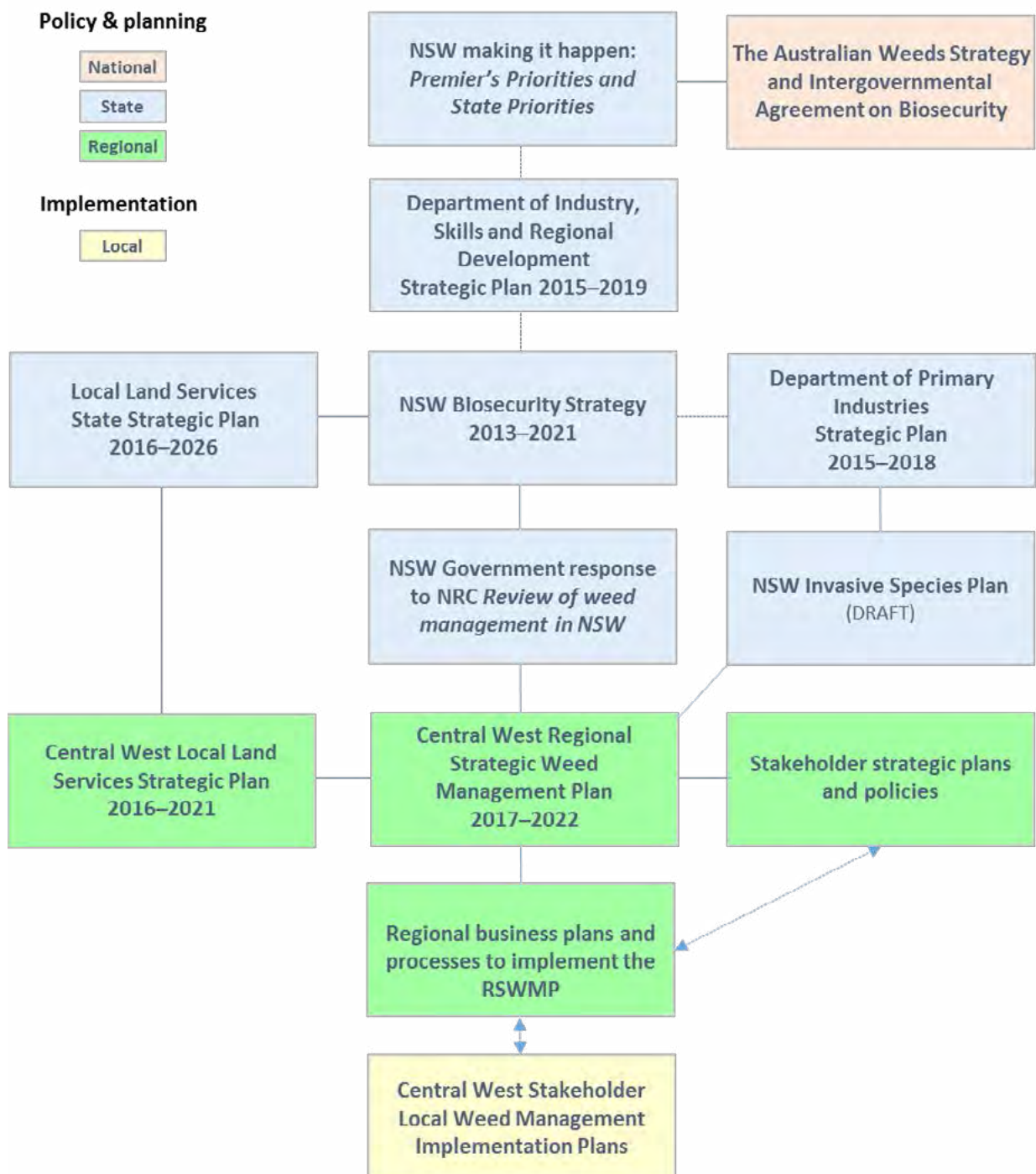


Figure 2.1: Overall planning framework for the Regional Strategic Weed Management Plan

2.2 Guiding legislation

The *NSW Biosecurity Act 2015*, *Local Land Services Act 2013* and *Local Government Act 1993* are the key legislation directing implementation of this plan. The *NSW Biosecurity Act 2015* takes effect with publication of the regulations in the NSW Government Gazette. This Act is administered by NSW Department of Primary Industries.

A range of other relevant state and national legislation will also influence how the plan is implemented. Key NSW legislation relevant to weed management that will continue to operate in tandem with the *NSW Biosecurity Act 2015* are the:

- *Local Government Act 1993*
- *Local Land Services Act 2013*
- *National Parks and Wildlife Act 1974*
- *Biodiversity Conservation Act 2016*
- *Forestry and National Park Estate Act 1998*

The *Crown Lands Management Bill 2016* has passed the NSW Parliament and the new Act is likely to repeal the *Crown Lands Act 1989* and certain other legislation early in 2018. Information about the new Act is available from the Department of Industry - Lands website.

Biodiversity management in NSW is also being reformed, with the NSW government implementing recommendations from the Independent Biodiversity Legislation Review Panel. This includes the new *Biodiversity Conservation Act 2016* and Saving our Species (which will address the range of weeds in Schedule 4 of the *Biodiversity Conservation Act 2016* listed as Key Threatening Processes). The State Weeds Committee will liaise with Regional Weed Committees on the effect of any changes flowing from these reforms.

2.3 NSW Biosecurity Act 2015

The *NSW Biosecurity Act 2015* has repealed the *Noxious Weeds Act 1993*, which has provided regulatory controls and powers to manage noxious weeds in NSW. The *NSW Biosecurity Act 2015* streamlines and modernises the way weeds are managed in NSW as it:

- embeds the principle of shared responsibility for biosecurity risks (including weeds) across government, community and industry
- applies equally to all land in the state, regardless of whether it is publicly or privately owned
- is premised on the concept of risk, so that weed management investment and response is appropriate to the risk
- supports regional planning and management for weeds, as recommended by the *Review of Weeds Management in NSW*.

In keeping with its premise that biosecurity is a shared community responsibility, the Act introduces the legally enforceable concept of a General Biosecurity Duty.

2.3.1 General Biosecurity Duty

For weeds, the General Biosecurity Duty means that any person dealing with plant matter 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 and includes (but is not limited to) activities such as grazing, cropping, fodder production, horticulture, weed control, seed and other plant production, as well as carrying, sale and distribution of these products. In general if you deal with, or carry plant matter as part of a commercial, professional, volunteer or recreational activity or lifestyle, it would be considered that you would know, or ought to know, the risks. Plant matter includes plants, parts of plants and seeds. Weeds are **not** limited to plants listed in the Appendices of this plan or to schedules in the Regulations of the *NSW Biosecurity Act 2015*: any species that poses a biosecurity risk is subject to the GBD. This provides the Act with more flexibility to deal with both agricultural and environmental weeds, plants that may pose risks in particular contexts, and invasive species which are not as yet present, but pose a risk.

2.3.2 Regulatory tools of the Act

The *NSW Biosecurity Act 2015* includes a number of mechanisms (regulatory tools) that can be used to manage weeds in NSW. These are outlined in Table 2.1 below. The *NSW Biosecurity Act 2015* and Regulations provide specific legal requirements for high risk activities and State level priority weeds. The State level priority weeds and associated legal requirements relevant to the region are included in Appendix 1 together with the high risk priority weeds from the regional prioritisation process.

Table 2.1: Tools of the *NSW Biosecurity Act 2015*

<p>Prohibited Matter: biosecurity matter listed in Schedule 2, Part 1 of the <i>NSW Biosecurity Act 2015</i> for the purpose of preventing entry of that matter into NSW or a part of NSW. Prohibited matter relevant to the region is listed in Appendix A1.1 of this plan. Prohibited matter includes weeds nationally targeted for eradication and presently not in NSW.</p>
<p>Control Order: establishes one or more control zones and related measures to prevent, eliminate, minimise or manage a biosecurity risk or impact. Control orders are for managing weeds under approved eradication programs and last for five years (or can be renewed for longer-term eradication programs). Weed Control Order 2017 (Part 6 Division 1) under the <i>NSW Biosecurity Act 2015</i> will include weeds that are subject to a Control Order for the purpose of eradication. Further Control Orders will be proposed as needed to address subsequent eradication campaigns.</p>
<p>Biosecurity Zone: aims at containment of a species and provides for ongoing strategic management in a defined area of the state. A Biosecurity Zone specifies the measures that must be taken in the defined area to manage the weed. Outcomes to demonstrate compliance with the GBD may also apply to the species either within the zone or outside it.</p>
<p>Mandatory Measures Regulation: requires parties to take specific actions with respect to weeds or carriers of weeds. Mandatory Measures are defined in the regulations and include prohibition on certain dealings - including Weeds of National Significance (WoNS) (Division 8 Clause 33), Parthenium weed carriers - machinery and equipment (Division 8 Clause 35), and duty to notify of importation of plants into the state (Division 8 Clause 34). Mandatory measures relevant to the region are listed in Appendix 1.</p>
<p>General Biosecurity Duty (GBD): the purpose of the GBD is to manage the spread and/or impact of all weeds that pose a biosecurity risk (2.3.1 above provides more detail). The GBD is in addition to any requirements included in a control order, biosecurity zone or other instrument made under the <i>NSW Biosecurity Act 2015</i>. For priority weeds, outcomes to demonstrate compliance with the GBD are detailed in Appendix 1 of this plan.</p>
<p>Biosecurity Direction: an Authorised Officer may issue a Biosecurity Direction to a person or class of persons, if the officer reasonably believes it is necessary for any of the following:</p> <ul style="list-style-type: none"> • to prevent, eliminate or minimise a biosecurity risk • to prevent, manage or control a biosecurity impact • to enforce any instrument under the <i>NSW Biosecurity Act 2015</i>

Biosecurity Undertaking: is a written undertaking by a person, accepted by an authorised officer. It must specify the measures a person has agreed to implement to remedy a contravention, likely contravention, or suspected contravention of the *NSW Biosecurity Act 2015* and when those measures must be implemented by. It is not an admission of guilt.

Emergency Order: may be issued to respond to a current or imminent biosecurity risk that may have a significant impact.

2.3.3 Enforcing the *NSW Biosecurity Act 2015*

NSW Department of Primary Industries (DPI) administer the *NSW Biosecurity Act 2015* and determine the weed species covered by regulatory tools such as Prohibited Matter, Control Orders and Biosecurity Zones.

Local Control Authorities (Local Councils and County Councils) are responsible for enforcing weed legislation. This includes such activities as:

- conducting weed inspections on public and private property
- inspecting and controlling weeds in high risk pathways and sites
- providing education, training and resources for both the public and staff in relation to weed management
- administering and ensuring compliance with any of the above regulatory tools
- responding to breaches of the Act, and
- notifying and reporting on weed activities to the Biosecurity Information System (BIS).

Authorised officers are appointed under Section 372 of the *NSW Biosecurity Act 2015*.

The primary focus of this plan is to encourage and work with the community and landholders to achieve weed management objectives. Education, extension and use of biosecurity undertakings reinforce the concept of the General Biosecurity Duty and establish a cooperative approach to local and regional weed management.

Monitoring and compliance for weed management in the region will focus primarily on weeds listed in Appendix 1 to this plan. For these high risk weeds, prompt and responsible action is essential to avoid significant impacts on other landholders, industry and the environment.

Box 1.1: Agreed standards for weed management.

In terms of regulation the Regional Strategic Weed Management Plan plays an important role in articulating the shared responsibility principle of the *NSW Biosecurity Act 2015* (the Act) and communicating weed control obligations. Although the plan is not a regulatory document in the traditional sense, it provides information to enable people to effectively discharge their obligations under the Act, including their General Biosecurity Duty (GBD).

The GBD requires that all land managers and users ensure: *as far as is reasonably practicable, that the biosecurity risk is prevented, eliminated or minimised*. It does not prescribe how these outcomes are achieved. For this reason the plan does not include prescriptive measures for landholders and users to discharge their GBD. The plan focuses on the outcomes to be achieved, allowing for different measures to achieve the same outcome.

While not technically a Regulation, the plan links the key elements of *Knowledge, Risk, Practicality and Outcomes* for discharging the GBD.

3. Weed management in the region

3.1 Overview

3.1.1 Description of the region

The Central West Local Land Services region is located in Central NSW and covers an area of 94,000km² (Figure 1.1). It is bounded by Local Land Service areas of the Central Tablelands to the east, Western to the west, North West to the north and Riverina to the south; a small part of the boundary adjoins the Hunter Local Land Services to the north east. The Central West Region supports a diverse and distinct mixture of landscape, livelihood and lifestyle values.

Landscape Values

A diversity of natural landscapes and a variable climate provide for nationally recognised biodiversity, wilderness and wetland areas; combined with complex and diverse soil systems. The region's diverse landscape includes major river systems (Macquarie, Lachlan, Bogan and Castlereagh), mountain ranges (Warrumbungle's and Harvey Ranges) and expansive plains. The region has varying soil types from extremely fragile, to some of the most robust and productive in Australia.

In addition to the landscape and soil variability, the rainfall is also extremely variable. The annual average rainfall ranges from 754mm at Coonabarabran to 420mm at Condobolin with slightly summer dominant in the North to slightly winter dominant in the region's south. Temperatures are often in excess of 40 degrees Celsius in summer to below zero during winter (Central West Local Land Services, 2014a). This diversity, combined with natural beauty, leads to many nature-based tourism attractions and places of interest. These include the Ramsar-listed Macquarie Marshes, Lake Cowal wetlands and the Warrumbungle, Goonoo and Weddin Mountain National Parks.

Despite the variation in climate and soils, on the whole the region is considered highly productive. European settlement in the region was founded on agricultural production and has been a mainstay to the economy and it remains the highest economic driver across the region generating nearly \$1.7 billion annually. This is around 14% of NSW's gross agricultural production (Central West Local Land Services, 2014a). The diverse landscape of the Central West enables a wide range of agricultural systems including broadacre cropping, irrigation, horticulture, viticulture, dairy, livestock and intensive industries. Retail, services, mining and tourism also make important contributions to the economy and their influence is increasing. Mining can have positive and negative impacts on the environment and community. The region is rich in minerals which attracted pioneers and has been an important part of the history and continues to expand with the extraction of gold, copper and zinc. However, the expansion of mining into historical productive agricultural land has posed a challenge to the region due to the competition for scarce resources and skilled labour.

Cultural Values

The Central West Region is the traditional home to four Aboriginal nations, the Wiradjuri, Wailwan, Wongaibon and Gamilaroi. Throughout the landscape there are cultural sites, special places and physical evidence of traditional land use. Continued use of wild foods and medicines is an important activity highly valued by Aboriginal people.

There are approximately 14,000 Aboriginal people in the Region as well as 14 Local Aboriginal Land Councils, reflecting the diversity of the region and the community.

Livelihood Values

The Region has a diverse economy that reflects the provision of services to an ageing population, and strong rural based industries sector. The diverse landscapes, including riparian, floodplain, slopes and plains, provide a range of soil types, many highly fertile and desirable for agriculture.

The Central West supports a range of natural resource-based industries which underpin the prosperity of the Region. These include the mining, broadacre cropping, animal husbandry, irrigation, and horticulture, dairy and intensive industries. (see Figure 3.1).

Lifestyle Values

Approximately 111,000 people reside in the Central West. The major towns in the region are Dubbo, with a population of 50,000 and Parkes and Forbes with a combined population of some 25,000. The region has progressive and innovative farmers and passionate community groups that work to enhance the region's natural and social assets.

Remnant native vegetation is widespread across the region, except in some eastern and southern parts of the area. Corridors of native plant species on travelling stock reserves are important in maintaining connectivity of native vegetation across the region. Native plant communities in the region include woodlands, riverine forests, grasslands, shrub lands and wetlands.

Important places of natural vegetation and ecosystems include the Ramsar-listed Macquarie Marshes, Lake Cowal wetlands and the Warrumbungle, Goonoo and Weddin Mountain National Parks.

The region includes 11 local government areas: Bogan, Coonamble, Dubbo Regional, Forbes, Gilgandra, Lachlan, Parkes, Narromine, Warren, Warrumbungle and Weddin. Each of these local government areas is individually responsible for the control of weeds on council controlled lands such as reserves and roadsides. Exceptions to this are Coonamble, Gilgandra, Warren and Warrumbungle Shire Councils who are members of Castlereagh Macquarie County Council.

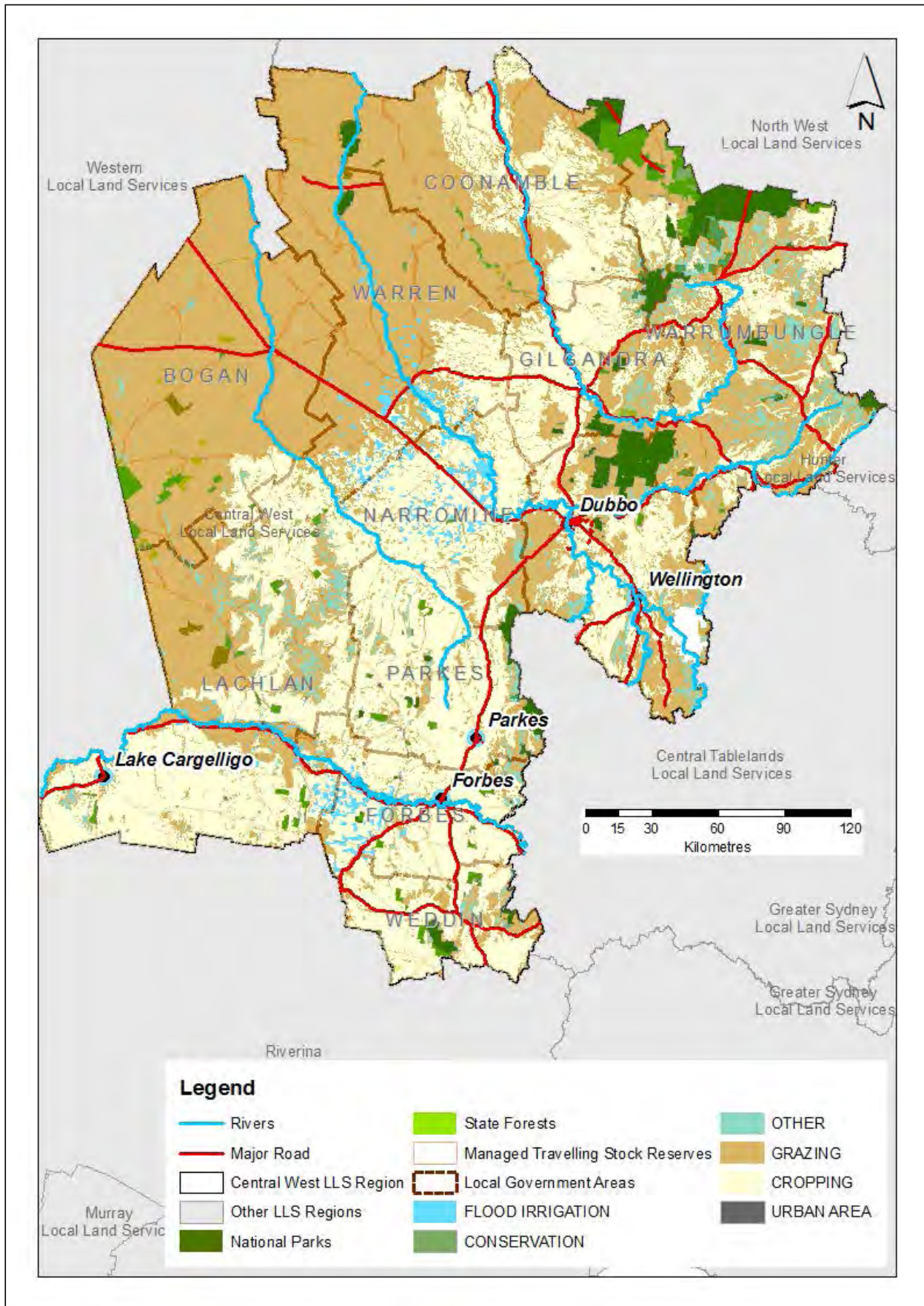


Figure 3.1 Land use in the Central West region.

3.1.2 Key impacts and risks of weeds

Directly or indirectly, all Australians are affected by weeds. They reduce the quantity and quality of agricultural, horticultural and forestry products which impacts both the industries and consumers. The estimated cost to the Australian economy of the agricultural impact of weeds in 2005 was estimated at \$4 billion per annum (Sinden et al 2005).

The economic impact of weeds on nature conservation, tourism and landscape amenity is thought to be of a similar magnitude (Oakwood 2009). Weeds affect the structure and function of terrestrial and aquatic ecosystems, impact negatively on flora and fauna, and pose a threat to the integrity of nationally and globally significant sites, including natural and cultural heritage sites. They also impact aboriginal connection to country and the ability to undertake cultural activities.

Many weeds also affect human and animal health causing allergies, dermatitis, asthma and poisoning. Weeds can also be detrimental to the aesthetic value and the communities' enjoyment of natural areas (Oakwood 2009).

Extent of weed impacts on the Central West

The potential impact of invading plants in the Central West Local Land Services area is greatest on large areas of grazing land, rangeland, and broad acre cropping areas, wetlands and waterways. Weeds can reduce productivity of land, impact on waterways and the biodiversity of natural areas. Weeds may also affect livestock and humans directly as toxic plants or in causing mechanical damage as well as other impacts such as inciting hay fever and contact dermatitis. Some species will degrade parklands and other amenity areas around towns.

Weed incursions are most likely to occur through established pathways such as roads, railway corridors, travelling stock routes and rivers. Potential sites for establishment of invading species include sale-yards, depots for earth moving equipment and boat ramps. Potential sources of new weed species are travelling stock and vehicles, contaminated produce, such as imported hay, plant nurseries and aquarium suppliers.

Climate change with increasing temperatures and increasing erratic summer rainfall is likely to favour incursions of species from the north. Catastrophic climatic events will probably favour many weed species over native and cultivated species because of their higher reproductive capacity and colonising ability.

Risks due to resourcing levels

Despite increasingly coordinated, strategic and innovative approaches to weed management by Local Control Authorities, National Parks and Wildlife Service and other pro-active public and private land managers, the number and extent of priority species in the region continues to grow. Over 150, candidate invasive species were assessed and considered for inclusion within this plan.

Historically, available resources have not been adequate to eradicate the number of new incursions reported. The protection of the Region's agricultural, biodiversity, cultural and environmental assets, often under threat from more widespread invasive weeds, also requires a higher level of resourcing.

Many of the Region's weed infestations, natural assets and high risk pathways are on public land and weed management is not always a high priority as some of the public land managers face competing demands for their limited resources.

Given the extremely high value of our environmental and economic assets there is a clear need for increased investment in weed management in this region.

3.1.3 Regional influences

There are many factors that influence how we deliver weed biosecurity in the Central West Region. This plan has little direct influence over them, but needs to be mindful of:

- changing climate and extreme climatic events
- changing population size, growth rate, density and distribution
- farm aggregation brought about by the purchase of land by corporations
- land-use change, diversification and intensification
- market forces and the impact of new technologies
- resource use change and the adequate supply and security of natural resources (e.g. water)
- community values and expectations
- changes in government policies
- competing priorities for resources and funding across both the public and private sectors
- natural disasters (e.g. floods, wildfire).

Changing climate

Climate change and increasing variability in climatic events is a particularly important consideration for weed management. Adaptation is likely to be required within the lifetime of this plan to maintain efficient and effective management strategies.

The main drivers for climate change impacts on weeds include increased temperatures, changed rainfall, increased carbon dioxide levels, more extreme weather, and changed phenology (seasonal timing of plant growth and reproduction) (Scott et al 2014). The actual climate-related implications for weed management are complex because they will impact at a species and ecosystem level, will affect invasive and native species, and will be a result of a suite of inter-related processes (for example changing climate, land-use, and fire regimes).

Some considerations for the Central West Region include:

- species' range may shift so monitoring arrivals from other areas will be more critical. The suite of regional priority weeds is expected to change

- extreme climatic events such as drought and flood provide a greater opportunity for certain weeds to spread due to landscape disturbance and seed dispersal
- currently benign species (both native and non-native) may become more invasive and 'sleepier weeds' may become more active
- while enhancing landscape connectivity can facilitate the adaptation of natural environments to changing climate, it may also present opportunities for increased weed invasion (Scott et al 2014) and options for managing species movement
- herbicide effectiveness may vary due to warmer temperatures and changed rainfall.

3.2 Recent strategic weed management

3.2.1 Regional weed planning

Weed Advisory Committees

Prior to the implementation of the NSW weed reforms and the formation of the Central West Regional Weed Committee, weed management agencies across Central West NSW have had a long history of cooperation, dating back to 1978 with the establishment, in the Narromine area, of the Macquarie Valley Johnson Grass Eradication Committee. The Lachlan Valley Johnson Grass Eradication Committee established soon after in the Forbes/ Cowra region. Members were originally Local Control Authorities i.e. local councils and county councils. The two committees developed into the Macquarie Valley Weeds Advisory Committee (MVWAC) and Lachlan Valley Weeds Advisory Committee (LVWAC) respectively.

This plan builds on the significant achievements of these Committees. Both Committees were very productive and highly regarded, laying the foundations for weed management in the Central West, with a focus on:

- inclusive core memberships of the Local Control Authorities, Department of Primary Industries, state natural resource authorities and agencies, public land managers, private land managers and farming organisations, Landcare, environmental and other interest groups
- implementation of capacity building, prevention, eradication and containment activities
- provision of advice on weed policy development, noxious weed declarations and control
- promotion of regional priorities, coordinated responses, and awareness raising initiatives
- development of excellent weed related information resources, management programs and management plans
- provision of a forum for information exchange on weed matters
- attracting significant external funding to support weed management.

Other weed planning initiatives

Regional Pest Management Strategies National Parks and Wildlife Service prepare and implement regional pest management strategies to manage weeds and pest animals in national parks and reserves across NSW. These provide a strategic approach to pest management on lands managed by the National Parks and Wildlife Service under the *National Parks and Wildlife Act 1974*.

The strategies aim to minimise the adverse impacts of pests on biodiversity, protected areas and the community. Programs are developed and often carried out in collaboration with neighbours and other stakeholders. The Pest Management Strategies for the NPWS Regions were revised in 2011 and are due to be updated in 2017.

Biodiversity Priorities for Widespread Weeds Many weeds that threaten biodiversity are widespread and usually beyond the scope of prevention and eradication programs developed to deal with new and emerging weed threats.

The Biodiversity Priorities for Widespread Weeds Project was a joint initiative between NSW Department of Primary Industries, NSW Office of Environment and Heritage and the former Catchment Management Authorities. This project used an adapted Threat Abatement Plan (site-led) approach to identify and



prioritise widespread weeds impacting on biological assets and sites for weed control within each former Catchment Management region in New South Wales.

3.2.2 Current situation

Central West Local Control Authorities continue with their role to enforce weed legislation in local government areas. Additionally, they implement and report on their activities aligned to the NSW Invasive Species Plan, cofunded by regional allocations from NSW Department of Primary Industries' Weeds Action Program and contributions from Local Government. These activities are mainly concerned with weed prevention, eradication and containment, surveillance and control along high risk sites and pathways, prioritising sites for asset protection, and raising community awareness and capacity. They are underpinned by a suite of mandatory regional operational plans. The Weeds Action Program commenced in 2010 based on Weeds Advisory Committee boundaries and was updated in 2015 with new regional funding arrangements based on Local Land Service regions.

3.2.3 Community involvement

This plan provides strategies to continue to build community awareness and capacity in weed management in the Central West. Like all weed strategies it recognises that weed biosecurity is most effective if all stakeholders share responsibility and support coordinated effort.

The community sectors involved in weed management on the Central West include individual landholders, community groups such as Landcare, rural industry and farmer groups, the Aboriginal community, non-government organisations, environmental businesses, and conservation interests. These sectors are represented on the Central West Regional Weed Committee, and the members are tasked with engaging with their own networks regarding the role of the committee.

The General Biosecurity Duty that underpins the NSW Biosecurity regulations and this plan should encourage greater action by private landholders, public land managers and community members within the region.

4. Weed risk assessment and prioritisation

4.1 Weed management prioritisation

To ensure limited resources are used to best effect, and that management of weeds is commensurate with the risk posed by each species, an objective and repeatable risk assessment was undertaken across the region. This section outlines the principles and assessment processes used to prioritise weed management.

The generalised Weed Invasion Curve (Figure 4.1) illustrates the invasion process for weeds from arrival to widespread establishment (after Chippendale (1991); Hobbs and Humphries (1995); and Environmental Weeds Working Group (2007) and shows that the effort and resources required to control a weed rise with time and area occupied. *Managing weeds earlier rather than later* is more effective. This principle is a foundation of the process used to develop the regional weed priority list in this plan (Appendix 1.1). The asset protection phase shown in Figure 4.1 illustrates an important shift in the focus from controlling a weed species, to limiting the impact it may have on important assets.

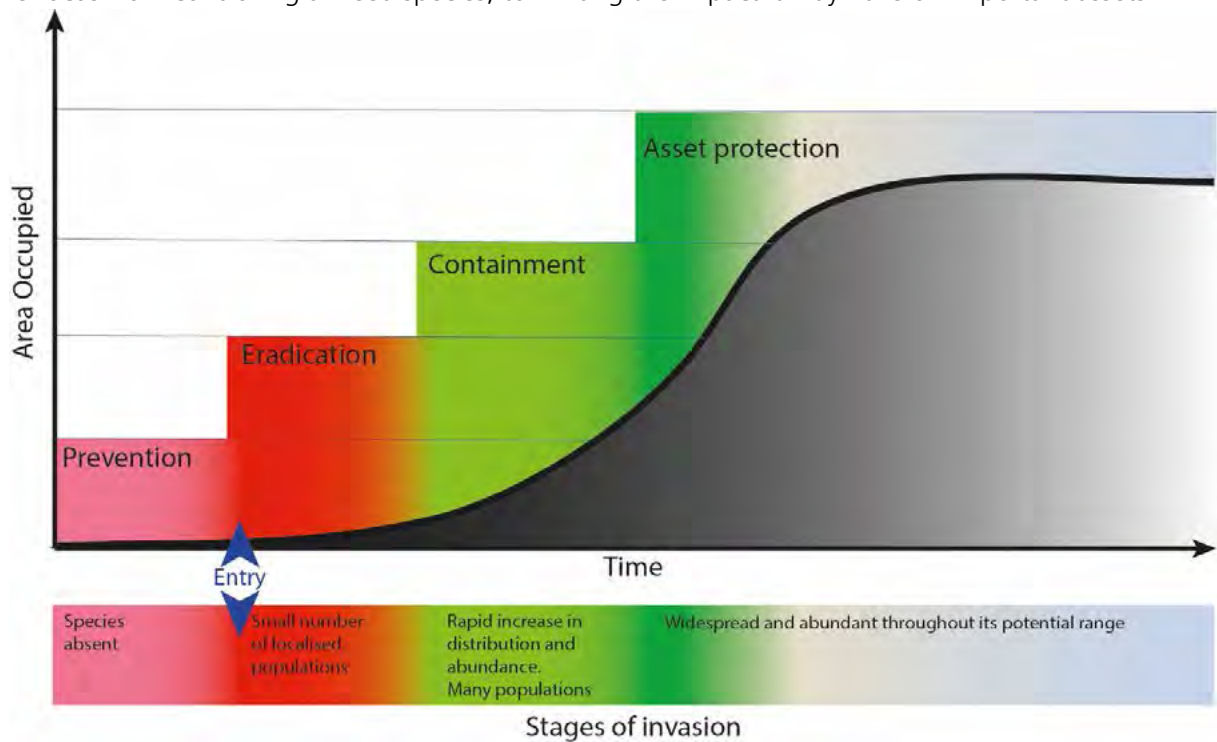


Figure 4.1: Weed invasion curve illustrating area infested and resources required for control over time, and the basis of management objectives.

4.1.2 NSW Weed Risk Management system

The NSW Weed Risk Management (WRM) system provides a standard, nationally accepted and transparent process to help make decisions about prioritising weed species and determining appropriate management responses. The Weed Risk Management system considers two components for prioritising weeds for management action:

1. A weed risk assessment
2. An assessment of the feasibility of coordinated control.

Weed risk is determined through scoring a series of parameters (invasiveness, impacts, potential distribution) and likewise for feasibility of coordinated control (control costs, persistence, and current distribution). An assessment of these components provides a management objective that reflects the principles of effective weed management, and links with the objectives of the *NSW Biosecurity Act 2015*.

4.2 Regional prioritisation process

A regional weed prioritisation process was undertaken using the NSW WRM system. This was carried out using an expert regional panel on behalf of the Central West Regional Weed Committee. The panel brought together practitioners with long term on-ground experience with high priority species, including local experts previously involved in the weed advisory committees.

Weed Risk Management system assessments were undertaken at the regional scale to ensure the outcomes reflected regional conditions. Where there was significant variation in weed risk or weed distribution in the region, the assessments were conducted at a sub-regional level, to determine containment zones or any other sub-regional response.

Quality assurance was undertaken by the Technical Subcommittee of the State Weeds Committee. The Technical Subcommittee reviewed the weed risk management assessments, management categorisation and objectives, and the outcomes to demonstrate compliance with the General Biosecurity Duty developed for the region. This ensured consistency and alignment with the Weed Risk Management system and the *NSW Biosecurity Act 2015*. The Technical Subcommittee also provided guidance to Regional Weed Committees on appropriate outcomes to demonstrate compliance with the General Biosecurity Duty. The management categories used in the assessment are summarised in Table 4.1.

Table 4.1: Regional weed management categories

Category	Objective	Characteristics of weeds in this category
Prevention	To prevent the weed species arriving and establishing in the region.	These species are not known to be present in the region. They have a high to very high weed risk (highly invasive and high threat) and have a high likelihood of arriving in the region due to potential distribution and/or an existing high risk pathway.
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 or a part of it with the aim of local eradication.	These species are present in the region to a limited extent only and the risk of re-invasion is either minimal or can be easily managed. They have a high to very high weed risk and high feasibility of coordinated control.
Containment	To prevent the ongoing spread of the species in all or part of the region.	These species have a limited distribution in the region. Regional containment strategies aim to prevent spread of the weed from an invaded part of the region (core infestation), and/or exclude the weed from an uninvaded part of the region (exclusion zone).
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 weed species are widespread and unlikely to be eradicated or contained within the wider regional context. Effort is focussed on reducing threats to protect priority high value assets.

4.2.1 Priority weed list for the region

The regional prioritisation process culminated in the identification of the priority high risk weeds and the development of the regional priority weed list for the region - Appendix 1 (A1.2) of this plan. This identifies outcomes to demonstrate compliance with the General Biosecurity Duty for listed species. State level priorities (Appendix 1 (A1.1)) were determined by the Department of Primary Industry. Management requirements for weeds, whether they be specific regulatory measures (state level priorities) or outcomes to demonstrate compliance with the General Biosecurity Duty (regional priority weeds), are also detailed in Appendix 1.

The outcomes applied to a particular weed will depend on factors such as the biology and ecology of the weed, the land use(s) in which it occurs, the size of the infestation, potential pathways for infestation and others. These factors have been taken into account in determining the suite of outcomes to demonstrate compliance with the General Biosecurity Duty and strategic responses. As with all components of this plan, these obligations apply to all private and public landholders in the region. Monitoring and compliance for weed management in the region will focus primarily on weeds listed in Appendix 1.

4.2.2 Additional regional weed lists

The community is also interested in management of widespread weeds because of their extent and impact in sub-regional locations. Appendix 2 outlines other priority weeds identified by the committee in consultation with the community. These are species for which a consistent and/or collaborative approach to management will provide the best outcome across the region. Weeds identified within Appendix 2 are also subject to the General Biosecurity Duty and may be a focus for local management plans and coordinated campaigns by the community and other stakeholders in the region.

Both the regional priority weed list (Appendix 1) and the additional regional weed lists (Appendix 2) may be amended as necessary in accordance with state-level reviews and the regional review process.

5. Actions

5.1 Overview

This section covers actions required to achieve our goals. In essence, Goal 1 addresses community capacity to discharge the General Biosecurity Duty; Goals 2 and 3 are focussed on weed management outcomes, while Goal 4 focuses on coordinating successful regional weed management.

Strategies, actions and associated regional measures of performance are based on the best available information and science relevant to weed biosecurity. Strategies and actions for each goal are presented in Table 5.1 below.

Table 5.1: Goals, strategies and actions of the plan.

Goal 1: Responsibility for weed biosecurity is shared by the Central West community	
Strategies	Actions
1.1 Promote weed management and behavioural changes in the community.	<p>1.1.1 Develop and implement a strategic marketing and communication plan that promotes delivery of weed management in the Central West.</p> <p>1.1.2 Develop products promoting behavioural change and the profile of weed management in the Central West, including promotional campaigns and events, sponsorship, media releases, social media, web sites, e-newsletters, brochures and other publications.</p>
1.2. Build stronger partnerships that support weed management	<p>1.2.1 Develop partnerships that support tenure neutral weed management.</p> <p>1.2.2 Foster networks, alliances and aboriginal engagement that support communities and stakeholders in weed management activities.</p> <p>1.2.3 Develop and implement mechanisms to protect biodiversity and support management of weeds on non-productive land.</p>
1.3 Enhance community-wide capacity in sharing responsibility for weed management	<p>1.3.1 Develop, promote and assist with interpretation of information outlining stakeholder roles, obligations and implications in weed management.</p> <p>1.3.2 Enhance existing communication networks to increase effective dissemination of information and understanding of shared responsibility and a whole of community approach to weed management.</p> <p>1.3.3 Provide greater opportunities for education, training and community based programs that support behavioural change and increase community capacity to manage priority weeds.</p>

Table 5.1: Goals, Strategies and Actions of the plan continued.

Goal 2: Weed biosecurity supports profitable, productive and sustainable primary industries and	
Goal 3: Weed biosecurity supports healthy, diverse and connected natural environments	
Strategies	Actions
2-3.1 Improve surveillance, reporting and tracing systems for weeds	<p>2-3.1.1 Improve surveillance, reporting and tracing for weeds:</p> <ul style="list-style-type: none"> • Widen implementation of early detection by encouraging partners to become involved in the High Risk Pathways and Sites inspection program and report via BIS • Develop tools, systems and services (e.g. drones) to allow for efficient weed mapping • Build community capacity to assist with surveillance and reporting • Undertake coordinated surveillance activities for high risk species. <p>2-3.1.2 Support state-wide processes in development of more efficient ways of demonstrating proof of freedom from weeds.</p>
2-3.2 Improve prevention, preparedness and response to weed emergencies	<p>2-3.2.1 Improve cross-jurisdictional collaboration on consistent and effective approaches to preventing establishment of new weed species.</p> <p>2-3.2.2 Manage high risk pathways, using strategic intentional surveillance, region-wide and consistent industry codes, education and enforcement mechanisms.</p> <p>2-3.2.3 Improve prevention and response to weed biosecurity emergencies through improved identification processes, improved communication and reporting networks, and rapid responses to management of new high priority weeds.</p>
2-3.3 Eradicate or prevent the spread of new weeds	<p>2-3.3.1 Develop standardised and consistent planning for:</p> <ul style="list-style-type: none"> • Weeds listed in Appendix 1 of this plan • New weed incursions, including rapid response plans and associated cost sharing arrangements. <p>2-3.3.2 Work with other jurisdictions to standardise weed biosecurity arrangements across regional and state borders.</p> <p>2-3.3.3 Ensure management occurs for high priority weeds in alignment with State, Regional or Sub-regional objectives.</p>
2-3.3 Contain and manage impacts of widespread weeds	<p>2-3.4.1 Develop and promote integrated land management practices and best practice weed management to minimise the spread and reduce the impacts of established weeds.</p> <p>2-3.4.2 Support the ongoing development and coordination of new and existing cooperative programs for reducing or controlling the current extent of widespread weeds in priority sites.</p> <p>2-3.4.3 Actively manage high priority and widespread weeds which threaten key sites/ assets in alignment with State, Regional or Sub-regional objectives.</p> <p>2-3.4.4 Continue to contribute to new and existing State and National arrangements for managing established weeds.</p>
2-3.5 Support weed research and implement developments in weed science and technology	<p>2-3.5.1 Document invasive weed species research priorities in collaboration with government, industry, research providers, the Aboriginal community, and the wider community and report these to the State Weeds Committee.</p> <p>2-3.5.2 Strengthen research partnerships and actively participate in the development of new technologies and innovative approaches to weed management.</p>

2-3.6 Assess and respond to changing weed risks associated with climate change	<p>2-3.6.1 Use predictive modelling (e.g Weed Futures, BioClim, ANUclim) to identify the likely weed species and the environmental, social and economic values that will be vulnerable to invasive weeds under a changing climate.</p> <p>2-3.6.2 Implement actions that promote resilience and minimise the risk of high risk invasive weeds under a changing climate.</p>
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Table 5.1: Goals, Strategies and Actions of the plan continued.

Goal 4: Weed biosecurity is supported by coordinated, collaborative and innovative leadership	
Strategies	Actions
4.1 Provide governance and leadership that supports collaborative, effective and efficient weed management	<p>4.1.1 Work in a collaborative partnership with all stakeholders to implement this plan.</p> <p>4.1.2 Support the functions and business needs of the State Weeds Committee.</p> <p>4.1.3 Support a coordinated regional approach to strategic and investment planning; monitoring, performance evaluation and reporting; weed risk assessment review; and weed emergency management preparation, response and recovery processes.</p>
4.2 Adopt adaptive, effective and collaborative planning and processes	<p>4.2.1 Develop the components of the Regional Business Planning Framework that underpins the implementation of this plan.</p> <p>4.2.2 Work with stakeholders to develop and update local implementation plans using best available standards, local knowledge, research and technology, as required.</p> <p>4.2.3 Review and update existing Regional and Sub-regional weed risk assessments where and when required.</p> <p>4.2.4 Share information with other jurisdictions and regions on approach, progress and innovation with weed management.</p>
4.3 Develop a regional invasive weed knowledge base and information system that supports state standards	<p>4.3.1 Support the continuing development of the Biosecurity Information System to collect standardised regional data (including weed mapping) capture, storage, record keeping and retrieval processes.</p> <p>4.3.2 Encourage wider use of the Biosecurity Information System to improve weed distribution and impacts data and management information.</p> <p>4.3.3 Ensure that weed information and research data are readily available to stakeholders for use in weed management and planning.</p>
4.4 Develop consistent systems for monitoring, evaluating and reporting on the effectiveness of weed management	<p>4.4.1 Develop and implement indicators that assess the performance of this plan and progress towards achieving strategic outcomes.</p> <p>4.4.2 Develop and implement standard local monitoring and reporting protocols that support region and state-wide needs.</p> <p>4.4.3 Use the information collected from research, local MERI programs and the BIS to inform an adaptive management approach to Central West weed management projects, plans, programs, policies and reforms.</p>

6. Implementation

This chapter covers how the plan will be implemented, including governance. It includes guiding principles for weed management planning and implementation and roles and responsibilities for stakeholders and customers in implementing this plan.

6.1 Regional Weed Committee

Collaboration and building capacity of land managers is central to the successful implementation of this plan. By working collaboratively and engaging with all sectors – public, private, non-profit, individuals and community groups – effective and lasting solutions to shared problems can go beyond what any sector can achieve on its own. The Central West Regional Weed Committee and its member organisations will facilitate implementation of this plan with executive support from Central West Local Land Services and overarching guidance from the Local Board.

In implementing the plan the committee will work with Local Land Services to:

- advise the State Weeds Committee on weed priorities and other strategic matters in the region and seek their advice relating to weed listings, cross jurisdictional and other matters
- liaise with neighbouring Regional Weed Committees, especially with respect to any significant incursions and potential movement of priority weeds from one region to another
- promote weed policy, risk assessments, declarations, best practice and control outcomes to member organisations and the community
- oversee the implementation of the plan on a region-wide perspective, using committee expertise and best available knowledge, research and technology
- facilitate regional communication, education, training and awareness programs that promote plan outcomes
- promote effective coordination of weed management across agencies and tenure, including appropriate resource and information sharing between member organisations
- identify synergies from collaboration and opportunities for funding and priority project delivery
- identify information and research needs and appropriate collaborative actions
- oversee measurement and evaluation of weed control activities in the region to inform management actions and planning
- monitor, evaluate and report on outcomes of collaborative planning and delivery processes.

6.2 Guiding principles for implementation

The following principles will be used to guide weed management planning and implementation and are consistent with the weed reforms and leading practice:

- 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 their timing are critical to the prevention and reduction in the spread and impact of weeds.
- Weeds are managed in a strategic and coordinated 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.

6.3 Processes supporting implementation

A range of plans and processes will support implementation of this plan as outlined in Box 6.1. Central West Local Land Services will work with the committee in the development of these processes in the region.

A key element of this plan is collaborative and coordinated weed management across tenures. This will require policies, processes and procedures for collaborative planning and action to enable member organisations and key stakeholders to translate this plan into local area priorities, actions, collaboration and partnerships that integrate weed management across both tenures and stakeholders.

Box 6.1 Business plans and processes that support delivery of the plan.

- Central West Regional Weed Committee coordination - to ensure clear stakeholder roles and responsibilities and good governance. May also cover delivery of business planning components, including the review and update of weed risk assessments as required.
- Local implementation roles and responsibilities - to ensure clear roles and responsibilities and consistency in the delivery of local weed management.
- Processes for integrating regional delivery and projects - to ensure efficient and effective delivery.
- Compliance planning - to support an integrated and consistent approach to meeting regulatory obligations across the region.
- High risk weed incursion planning - to address surveillance and identification of new weed incursions and coordination of regional responses.
- Rapid response planning - to address procedures, responsibilities and actions for response to a new incursion.
- Local control authority planning - to ensure that compliance strategies, standards and service agreements are consistent with this plan and to provide a consistent policy and procedural framework for inspections and enforcement under the *NSW Biosecurity Act 2015*.
- State Guidelines and best practice codes - to support consistency in approach and the capacity to inform state-wide reporting.
- Communication and marketing - to develop a strategic approach to communicating key messages and engaging partners, stakeholders and the broader community.
- Key performance indicator development - to support assessment of this plan's performance measures.
- Monitoring, evaluation, reporting and improvement coordination - to support consistent approaches that allow for reporting at local, regional and state scales.
- Research and development collaboration – to support a collaborative approach to addressing research needs in the region.
- Investment planning – to support an integrated approach to investment in priorities for weed management in the region.
- Procedures for review of weed listings in the plan. Responsibility for amendments to state determined priorities rest with NSW DPI and the State Weeds Committee. The committee will raise any identified issues with changes to listings for state determined priorities via the State Weeds Committee to ensure consistency and alignment.

Many of these plans and processes are already underway, but require Regional Weed Committee endorsement or further collaboration between partners.

6.4 Delivery partners

Delivery partners have an interest in delivery of priority actions. This interest spans from being involved in refining priority actions, to further developing processes to address actions, through to participating in the delivery and enforcement of the plan. Broad roles and responsibilities are determined, and responsibilities for specific actions will be agreed upon. As implementation progresses and opportunities for new partnerships emerge, new partners may also become involved.

Resourcing of weed management is unpredictable and will fluctuate, and partners also differ in their capacity to deliver weed management resources. Commitments from partners improve community confidence in action implementation. It is recognised that commitments and capacity may be contingent upon availability of resources at a given point in time.

Lead organisations will take responsibility for the delivery of actions and performance measures within this plan and will manage and coordinate implementation of components of the plan and associated programs. This will ensure clear responsibilities for plan implementation and will be agreed upon in the development of relevant business plans and policies. Partners will take primary responsibility within their respective areas in the delivery of actions and performance measures. Other government agencies, industry and community will also play a role in implementing this plan to varying degrees.

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

Roles and Responsibilities

Regional Weeds Committee and Local Land Services

The Central West Regional Weed Committee and its member organisations will facilitate implementation of this plan with executive support from Central West Local Land Services and overarching guidance from the local board. The first term of the committee was focus on the development of this plan, and the role of the committee is likely to evolve as focus shifts to implementation.

Commonwealth government

The Commonwealth government has a role in preventing new weed incursions at national borders (quarantine); in education, research and development; in funding, and national legislation. National agreements outline the roles and responsibilities of government and industry in responding to emergency plant, pest and disease incidents, and detail how those responses will be funded. These agreements include the Intergovernmental Agreement on Biosecurity, Emergency Plant Pest Response Deed and the National Environmental Biosecurity Response Agreement.

State government

State government leads the development of policies, strategies and legislation that promote a comprehensive and responsive weed biosecurity system across NSW. The Department of Primary Industries (DPI) is the lead agency for weed management within the NSW Government, with support from the Office of Environment and Heritage (OEH) in relation to environmental weed management.

Key roles and responsibilities for these two agencies include:

- administration of key legislation relating to priority weeds (*NSW Biosecurity Act 2015* – DPI, and *Biodiversity Conservation Act 2016* – OEH)
- increasing awareness of weeds in industry, key stakeholders and the community
- leading and coordinating prevention, preparedness, response and recovery for weed emergencies
- developing non-regulatory approaches and incentives to underpin weed management
- coordinating diagnostic, surveillance, tracing and monitoring systems for priority species
- conducting weed research in priority areas and collaborating with universities and research providers on priority research initiatives and pest and weed identification
- coordinating the delivery of leading practice solutions for weed managers across the state.

NSW Department of Primary Industries

DPI leads and coordinates the prevention, preparedness, response and recovery for weed emergencies. This agency also develops and maintains regulatory mechanisms that support weed programs.

Office of Environment and Heritage and National Parks and Wildlife Service

The Office of Environment and Heritage (OEH) is responsible for managing more than 850 national parks and reserves. OEH also leads state-wide initiatives to reduce the impacts of invasive species on biodiversity. The *Saving our Species* program provides for the conservation of threatened taxa across all land tenures under the *Biodiversity Conservation Act 2016*.

The National Parks and Wildlife Service (NPWS – part of OEH) is responsible for managing over 7 million hectares of land in NSW. As a public land manager, NPWS works with a range of stakeholders to proactively and strategically manage weeds. NPWS is guided by Regional Pest Management Strategies that identify weed management priorities and programs for implementation on all lands managed by NPWS. The strategies aim to minimise the adverse impacts of pests and weeds on biodiversity, protected areas and the community by identifying the highest priority programs and delivering measurable outcomes. The strategies also demonstrate NPWS's responsibilities in delivering the NSW Biosecurity Strategy 2013-2021.

Department of Industry - Lands

The Department of Industry - Lands is a business unit of the NSW Department of Industry and administers and manages *Crown Land*, which makes up approximately half the state. It develops funds and implements invasive species management strategies on land under its direct control and supports activities undertaken by community groups, reserve trusts, lessees and others that manage land on its behalf, including Councils.

Department of Industry - Lands incorporates a multi-pronged risk-based approach to managing invasive species on *Crown Land*, including education, extension, and project implementation, and audit and compliance activities. Department of Industry - Lands is always keen to work in partnership with other stakeholders and agencies to ensure optimal outcomes in the management of invasive species on *Crown Land*.

Local government

Local government plays a significant role in biosecurity, particularly in weed management. It has an important role to play in engaging local communities, managing public lands and assisting with emergency management. Local government also makes a significant investment in local and regional weed management. Weed control functions of local government are undertaken by Local Control Authorities.

Local Control Authorities

Includes local government and county councils (formed by adjoining councils to pool resources for weed control or other specified functions). Local Control Authorities have a major role and responsibility for the implementation of this plan and for priority weed control including:

- 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.

Other managers of state owned land and linear reserves

A number of organisations and government agencies manage state owned land allocated for specific purposes. These include travelling stock reserves (TSRs, managed by Local Land Services), state forest (Forestry Corporation of NSW, a state owned corporation), state infrastructure such as road and rail corridors (Roads and Maritime Services and John Holland Rail Pty Ltd), corridors for energy infrastructure and Water NSW. All land managers have an important role in the management of weeds in the region, including the development and implementation of management strategies and the education of the community and other stakeholders.

Aboriginal land managers (Local Aboriginal Land Councils)

Local Aboriginal communities have a similar role to other community organisations in managing weeds on their land, but have additional cultural factors which influence land management. Aboriginal traditional owners have obligations under traditional law and custom to care for Country. This may result in Aboriginal people having priorities for weed management to address threats to cultural sites, indigenous plants and animals or other important cultural resources (OEH, 2016).

Throughout the region there are a number of different types of land ownership and management by Aboriginal people. Indigenous Land Use Agreements help clarify obligations of public land managers where Native Title is recognised over the land they manage (OEH, 2016).

Industry

Industry roles in weed management include:

- implementing and developing industry standards, guidelines and codes of practice
- contributing to research programs in priority areas
- participation in biosecurity response agreements and cost-sharing arrangements
- managing weeds on land and water used for production
- managing risks when trading in potential or known weed species used for, or held by, nurseries, pet shops and aquaria (water weeds), collectors, agriculture, horticulture, aquaculture and biofuels etc.
- preventing the establishment of weeds, through movement of goods, produce and equipment.

Community groups, volunteers and individuals

Community groups and volunteers play an important and significant role in the management of weeds in the region by enlisting support and providing on-ground weed control. This includes non-government organisations such as Landcare, Conservation Volunteers, Greening Australia and Bushcare. Activities undertaken by these groups include weed removal and monitoring activities, bush regeneration, biodiversity conservation projects and rehabilitation of aquatic habitats on private and public lands. Building on this foundation is essential in sharing responsibility for weed management.

Individual community members also have an important role to play in helping to minimise the impacts of weeds in the region. The community provides much needed “eyes and ears” to detect and report new incursions and support eradication. Community participation also provides crucial support to the actions of responsible authorities, land managers and external funding programs. Private land owners and occupiers play an important role in the ongoing management of established weeds on their own land and in collaboration with their neighbours and the surrounding community.

6.5 Investment

The development of the business planning components identified in section 6.3 should ultimately ensure that investment in Central West weed management is effective, efficient and delivers desired outcomes. This plan supports investment planning that provides both short and long term outcomes that reflect achievement of our goals - shared responsibility, sustainable landscapes and coordinated and innovative delivery.

Stakeholders will no doubt continue to deliver their programs according to investor preferences. This plan will support the transitioning of existing investment in local weed management to achieve this plan’s goals.

The Regional Weed Committee will play a critical role in sourcing investment, brokering partnerships, and facilitating coordination of stakeholder investment to ensure that the region’s weed biosecurity needs are met. The committee will provide advice on options for tailoring both new and existing stream of investment so that they best fit the region’s new management approaches.

The committee will also facilitate exploration of opportunities for integrating the existing efforts of stakeholders, along with options for stakeholders to work in collaboration on new initiatives. This will be fundamental to implementing this plan’s tenure neutral approach, and to meeting the region’s General Biosecurity Duty. The proactive development of flexible, integrated and effective projects that meet the region’s priorities will ensure that the region is “investment ready”.

Clear definition of partner roles and responsibilities will be critical to ensuring that stakeholders can continue to satisfy their individual investors, whilst also delivering results that complement and value add to a greater set of outcomes (e.g. coordinated local control authority compliance, high risk incursion and rapid response planning will contribute to broader regional weed biosecurity). The committee has a critical role in this regard.

The committee will work with stakeholders to keep a watching brief on national, state and regional potential investment schemes and opportunities for collaboration and cross regional approaches. Cross regional networking will be critical to facilitating the leveraging of funding from other sectors.

6.6 Community engagement

This plan supports the development of long term approaches to maintaining and improving community capacity to share responsibility for local weed management. Significant effort will be put into letting all land managers know about the plan, how weed management in the region has changed under the new biosecurity legislation, and the implications for how they manage weeds.

Stakeholders will continue to engage and work with communities on their weed management programs. Stakeholder approaches to engaging community will need to accommodate the changes in weed management approach outlined in this plan.

The Regional Weed Committee will drive an inclusive approach to community engagement. A communication and marketing strategy will be developed to identify community and stakeholder engagement needs, their sphere of influence, their roles in weed management, and the best ways to approach and involve them in weed management. Clear and concise information products will be developed for specific sectors of the community (e.g. rural landholders, alternate life stylers) and at local and sub-regional scales to assist community understand their obligations. These information products will be developed after the plan is approved.

The plan supports targeted capacity building programs that focus on priority species. Communities differ in their capacity to be involved in weed management, and so programs will be tailored to meet local knowledge, skills, networks and resourcing needs. The Regional Weed Committee will also assist with the identification of need for and coordination of capacity building programs in priority areas.

The Regional Weed Committee will also support stakeholder networks to understand and promote changes in weed management including the requirements of the General Biosecurity Duty, the tenure neutral approach, and the implications for their customers.

7. Measuring success and continuous improvement

Measuring and reporting on progress against key performance indicators is particularly important, as are practices that promote reflection and learning to inform decision making. 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.

7.1 Measuring performance

In common with other agencies and businesses, Central West Local Land Services has a responsibility to demonstrate to its customers, investors and stakeholders that its strategies are sound and effective. Underpinning all strategies, programs and systems will be a requirement to monitor, evaluate and report on performance.

The committee will work with Central West Local Land Services to establish a monitoring, reporting, evaluation and improvement process (MERI) that is consistent with the Central West Local Land Services and Natural Resource Commission standards. This MERI framework will facilitate the review of results against planned immediate, intermediate and long-term outcomes. It will also enable a systematic and objective assessment of the effectiveness and efficiency of actions, policies, projects and programs.

This plan depends on collaboration and sound partnerships for strategic weed planning, implementation and reporting. The development of measures to track the establishment of a workable collaborative approach is important to support tenure neutral implementation. The committee will also track resources secured and aligned for implementing the plan.

7.1.1 Performance indicators and reporting

Agreed standardised MERI systems will be used to compile and report on the efforts and achievements of stakeholders in contributing to this plan. Achieving consistency will require the use of:

- key performance indicators
- standard local monitoring and reporting protocols that support region and state-wide needs
- evaluation by partners and the committee to guide improvement in weed management projects, programs and policies.

Performance indicators will be developed to enable tracking of the progressive impacts of interventions and investment in priorities and will relate to the goals for this plan as outlined below.

Shared responsibility (Goal 1)

- Adoption of leading practice (by sector)
- Awareness and education programs delivered with uptake indicated by community involvement in weed control
- Community capacity and capability to undertake weed biosecurity (knowledge, skills, barriers addressed, networks, resources) increased.

Sustainable landscapes (Goals 2 and 3)

- New incursions of high priority weeds avoided
- New incursions of high priority weeds eradicated or destroyed
- Spread of high priority weeds prevented
- Impacts of widespread weeds on high priority assets reduced
- Sources of weed invasion identified and managed
- Weed impacts on natural ecosystems reduced or avoided
- Weed risks or impacts to production / industries reduced (economic goal).

Collaborative leadership and innovation (Goal 4)

- Percentage of supporting plans and processes completed (see section 6.3).

Available metrics can be used in the short term based on existing knowledge, while we refine metrics to provide more accurate measures of progress. A wide range of metrics are in use by committee member organisations, stakeholders and through the Weeds Action Program 2015-2020 and other programs. These will take time to collate and assess. Agreed metrics will be considered by the committee in consultation with the State Weeds Committee.

Review and reporting on performance against this plan will occur annually. A component of this review will be an evaluation of our regional contribution to the new biosecurity reforms and their influence on weed management in the Central West.

The approach to MERI must meet the needs of customers, investors and stakeholders and facilitate reporting on investment outcomes at a range of scales – local, sub-regional, and regional. Standardised reporting should support:

- individual stakeholder needs for local level reporting
- state level reporting and reporting to investors
- annual reporting on implementation and progress of this plan and progress.

7.1.2 Information management

Data collection and management is crucial to the adoption of standardised approaches for the region, and for the implementation of MERI procedures.

The committee will work with Local Land Services to oversee the coordinated development of systems for:

- adopting standard regional data (including weed mapping) capture, storage, record keeping and retrieval protocols
- collecting, synthesising and storing data in a form useful for multiple stakeholders
- contributing weed data and management information to the Biosecurity Information System
- contributing to local, regional and state-wide weed information and knowledge platforms that support research capacity and capability
- ensuring that weed information and data are readily available to stakeholders for use in research, updating management plans and reporting.

The data and information collected will be integrated into state-wide data sets and be accessible through open government wherever possible. It will contribute to whole-of-NSW reporting on the state and trend of asset conditions including the State of the Environment report and reporting against objectives for the Invasive Species Plan.

7.1.3 Strengthening science and research capacity

Research plays an important role in evaluating and informing practice, supporting innovation and informing future directions. Engaging proactively with the research community is fundamental to improving the region's weed management planning and practice. Through links with the SWC, the Regional Committee will contribute to and facilitate:

- engagement with weed science researchers, community, the aboriginal community, government, and industry to identify current knowledge gaps and to document weed species research priorities
- stronger partnerships and active participation in industry, government and university collaboration for weeds research
- new and updated regional and sub-regional weed risk assessments
- development of new technologies and innovative approaches to the management of weed risks
- investigation of biological control programs for priority weeds
- a better understanding in the region of the impacts of a changing climate on weed behaviour and the interplay between natural systems and weeds
- incorporation of research findings into weed management decision-making (this is part of adaptive management).

7.2 Adaptive Management and continuous improvement

The Central West Regional Weed Committee will foster adaptive management and continual improvement in weed management. Adaptive management is used in changing environments, where optimal management procedures have not been determined. It is based on a continuous improvement cycle: “plan–do-learn”. This is underpinned by monitoring, reporting and evaluation processes, and the subsequent improvement of planning and delivery based on lessons learned.

Local Land Services applies learning at the following scales to drive continuous improvement:

- project (where learning focuses on improving project design and practices),
- program (where learning focuses on improving strategies, targets and assumptions),
- organisational (where learning focuses on improving governance and systems).

This approach is outlined in the Central West Local Land Services Local Strategic Plan and will provide the basis of MERI for this plan.

7.3 Plan review

A mid-term review of this plan will be undertaken at year 3 (2020) and a full review will be undertaken nearing the end of the five year term for this plan (2022). Weed risk assessments will be updated as needed from time to time and a particular focus at year 3 will be on evaluation and review of weed lists in this plan (Appendix 1 and 2).

8. Abbreviations

BIS	Biosecurity Information System
DPI	NSW Department of Primary Industries
GBD	General Biosecurity Duty
km	kilometre
LCA	Local Control Authority
LLS	Local Land Services
MERI	Monitoring, evaluation, reporting and improvement
OEH	The NSW Office of Environment and Heritage
NPWS	NSW National Parks and Wildlife Service
NRC	Natural Resources Commission
RSWMP	Regional Strategic Weed Management Plan
RWC	Regional Weed Committee
SWC	State Weeds Committee
TSR	Travelling stock reserve
WAP	NSW Weed Action Program

9. Glossary

Aboriginal cultural heritage: Aboriginal cultural heritage consists of places and items that are of significance to Aboriginal people because of their traditions, observances, lore, customs, beliefs and history. It provides evidence of the lives and existence of Aboriginal people before European settlement through to the present. Aboriginal cultural heritage is dynamic and may comprise physical (tangible) or non-physical (intangible) elements.

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.

Core Infestations: Areas of infestation where anything other than minimising Biosecurity risk is not practicable.

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 Central West Local Land Services Board exercises power, responsibility and decision making to ensure accountability, fairness, and transparency in relationship to the Central West region's customers, stakeholders and investors.

General Biosecurity Duty: Under the *NSW Biosecurity Act 2015* a General Biosecurity Duty (GBD) 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.

Investor: Organisations and individuals who invest in Local Land Services and leverage outcomes from this investment.

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.

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

Stakeholder: Organisations that collaborate and partner with Local Land Services directly to support customer service delivery.

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 Program (WAP): NSW Government funding program supporting delivery of priority weed investment to local government, Local Land Services and Local Control Authorities.

10. References

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Appendix 1: Priority weeds for Central West Local Land Services Region

This appendix covers State level determined priority weed species (A1.1) as set by NSW DPI and regionally determined priorities (A1.2) as determined by the rigorous weed prioritisation and expert review process outlined in Section 4.2.

The *NSW Biosecurity Act 2015* and regulations provide specific legal requirements for state level priority weeds (A1.1) and high risk activities. For each state level priority weed, the management objective, and specific requirements for its management (as stated in the *Biosecurity Act 2015* and regulations) is included. These specific requirements include Prohibited Matter, Biosecurity Zones, Control Orders and Mandatory Measures.

A1.2 identifies regionally prioritised weeds and outcomes to demonstrate compliance with the General Biosecurity Duty. Recommended measures for these weeds are provided in the NSW DPI website and mobile based application WeedWise, as practical advice on achieving these outcomes.

A1.1 State level determined priority weeds

State Priority Weed Objective – PREVENTION:

The following weeds are currently not found in the state, pose significant biosecurity risk and prevention is a reasonably practical objective.

Species	Biosecurity Act requirements & Strategic Response in the region
<p>All species of vascular plant (Tracheophyta)</p>	<p>Mandatory Measure (Division 8, Clause 34) Duty to notify of importation of plants into the State:</p> <p>(1) A person must not import into the State a species of vascular plant (Tracheophyta) if the species is not currently present in the State unless the person has, at least 20 working days before the plant is imported into the State, notified the species of plant and its proposed location within the State.</p> <p>(2) The notification is to be given to the Secretary and is to be given in accordance with Part 6.</p> <p>(3) A species of plant is taken not to be present in the State if the National Herbarium of New South Wales does not show it as being present in the State.</p> <p>Note. See http://plantnet.rbgsyd.nsw.gov.au/</p> <p>Regional Strategic Response: Increased priority placed on the identification and mapping of unrecorded weed species, including the collection and submission of specimens to the Plant Information Network System of the Royal Botanic Gardens.</p>
Gamba grass - <i>Andropogon gayanus</i>	<p>Prohibited Matter (Part 4, NSW Biosecurity Act, 2015): A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence.</p> <p>Regional Strategic Response:</p> <ul style="list-style-type: none"> • Implement quarantine and/or hygiene protocols • Undertake high risk sites & pathways analysis to identify potential introduction areas and preventative options • Have a collaborative rapid response protocol in place.
Pond apple - <i>Annona glabra</i>	
Bridal veil creeper - <i>Asparagus declinatus</i>	
Kochia - <i>Bassia scoparia</i> (excluding subsp. <i>trichophylla</i>)	
Spotted knapweed - <i>Centaurea stoebe</i> subsp. <i>australis</i>	
Black knapweed - <i>Centaurea xmoncktonii</i>	
Siam weed - <i>Chromolaena odorata</i>	
Koster's curse - <i>Clidemia hirta</i>	
Rubber vine - <i>Cryptostegia grandiflora</i>	
Anchored water hyacinth - <i>Eichhornia azurea</i>	
Hawkweed - <i>Hieracium</i> spp. (all species)	
Hydrocotyl / Water pennywort - <i>Hydrocotyle ranunculoides</i>	
Lagarosiphon - <i>Lagarosiphon major</i>	
Frogbit / Spongeplant - <i>Limnobium</i> spp. (all species)	
Yellow burrhead - <i>Limnocharis flava</i>	
Miconia - <i>Miconia</i> spp. (all species)	
Mikania vine - <i>Mikania micrantha</i>	

State Priority Weed Objective – PREVENTION: <i>The following weeds are currently not found in the state, pose significant biosecurity risk and prevention is a reasonably practical objective.</i>	
Biosecurity Act requirements & Strategic Response in the region	
<p>Mimosa - <i>Mimosa pigra</i></p> <p>Eurasian water milfoil - <i>Myriophyllum spicatum</i></p> <p>Mexican feather grass - <i>Nassella tenuissima</i> (syn. <i>Stipa tenuissima</i>)</p> <p>Broomrape - <i>Orobancha</i> spp. (all species except the native <i>O. cernua</i> var. <i>Australiana</i> and <i>O. minor</i>)</p> <p>Water soldier - <i>Stratiotes aloides</i></p> <p>Witchweed - <i>Striga</i> spp. (except the native <i>S. parviflora</i>)</p> <p>Water caltrop - <i>Trapa</i> spp. (all species)</p> <p>Karoo acacia - <i>Vachellia karroo</i> (syn. <i>Acacia karroo</i>)</p> <p>Prickly acacia - <i>Vachellia nilotica</i> (syn. <i>Acacia nilotica</i>)</p>	<p>Prohibited Matter (Part 4, NSW Biosecurity Act, 2015): A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence.</p> <p>Regional Strategic Response:</p> <ul style="list-style-type: none"> • Implement quarantine and/or hygiene protocols • Undertake high risk sites & pathways analysis to identify potential introduction areas and preventative options • Have a collaborative rapid response protocol in place. <p>Prohibited Matter (Part 4, NSW Biosecurity Act, 2015): A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence.</p> <p>Mandatory Measure (Division 8, Clause 35, Biosecurity Regulation, 2017) - Parthenium weed carriers - machinery and equipment</p> <p>(1) This clause applies to the following equipment:</p> <ol style="list-style-type: none"> (a) grain harvesters (including the comb or front) (b) comb trailers (including the comb or front) (c) bins used for holding grain during harvest operations (d) augers or similar equipment used for moving grain (e) vehicles used for transporting grain harvesters (f) vehicles used as support vehicles with grain harvesters and that have been driven in paddocks during harvest operations (g) mineral exploration drilling rigs and vehicles used for transporting those rigs. <p>(2) A person must not import into the State from Queensland any equipment to which this clause applies.</p>
<p>Parthenium weed - <i>Parthenium hysterophorus</i></p>	<p>(1) This clause applies to the following equipment:</p> <ol style="list-style-type: none"> (a) grain harvesters (including the comb or front) (b) comb trailers (including the comb or front) (c) bins used for holding grain during harvest operations (d) augers or similar equipment used for moving grain (e) vehicles used for transporting grain harvesters (f) vehicles used as support vehicles with grain harvesters and that have been driven in paddocks during harvest operations (g) mineral exploration drilling rigs and vehicles used for transporting those rigs. <p>(2) A person must not import into the State from Queensland any equipment to which this clause applies.</p>

State Priority Weed Objective – ERADICATION: <i>The following weeds are present in limited distribution and abundance in some parts of the state. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.</i>	
Species	Biosecurity Act requirements & Strategic Response in the region
<p>Boneseed <i>Chrysanthemoides monilifera</i> subsp <i>monilifera</i></p>	<p style="text-align: center;">Biosecurity <i>Chrysanthemoides monilifera</i> subsp. <i>monilifera</i> (Boneseed) Control Order 2017</p> <p>6. Control measures for owners and occupiers of land: <i>Pursuant to section 62(1)(b) of the Act, an owner or occupier of land in the Boneseed Control Zone on which there is Boneseed must:</i></p> <p>(a) notify the local control authority for the area if the Boneseed is part of a new infestation on the land:</p> <ul style="list-style-type: none"> i) as soon as practicable after becoming aware of the new infestation; ii) verbally or in writing; iii) giving the following: <ul style="list-style-type: none"> (1) the person's full name and contact number; (2) the location of the Boneseed, including the property identification code for the land (if this is known); and (3) any other information reasonably requested by the local control authority; and (b) immediately destroy all Boneseed on the land; (c) ensure that subsequent generations of Boneseed are destroyed; and (d) the land is kept free of Boneseed. (e) The owner or occupier does not need to comply with (a) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. <p>7. Control measures for persons dealing with carriers: Pursuant to section 62(1)(b) of the Act, a person who deals with a carrier of Boneseed in the Boneseed Control Zone, in circumstances where the person knows or ought reasonably to know of the presence of Boneseed on the land or in or on the carrier, must:</p> <p>(a) ensure that Boneseed (including any seed and propagules) is not moved from the land; and</p> <p>(b) immediately notify the local control authority for the area:</p> <ul style="list-style-type: none"> i) as soon as practicable after becoming aware of the presence of Boneseed; ii) verbally or in writing; iii) giving the following: <ul style="list-style-type: none"> (1) the person's full name and contact number; (2) the location of the Boneseed, including the property identification code for the land (if this is known); and (iv) any other information reasonably requested by the local control authority. (c) The person who deals with a carrier of Boneseed does not need to comply with (b) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. <p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not import into the State or sell.</p>

State Priority Weed Objective – ERADICATION: <i>The following weeds are present in limited distribution and abundance in some parts of the state. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.</i>	
Species	Biosecurity Act requirements & Strategic Response in the region
<p>Parkinsonia <i>Parkinsonia aculeata</i></p>	<p>Biosecurity Parkinsonia aculeata (Parkinsonia) Control Order 2017</p> <p>6. Control measures for owners and occupiers of land:</p> <p>Pursuant to section 62(1)(b) of the Act, an owner or occupier of land in the Parkinsonia Control Zone on which there is Parkinsonia must:</p> <p>(a) notify the local control authority for the area if the Parkinsonia is part of a new infestation of Parkinsonia on the land:</p> <ul style="list-style-type: none"> i) as soon as practicable after becoming aware of the new infestation; ii) verbally or in writing; iii) giving the following: <ul style="list-style-type: none"> (1) the person's full name and contact number; (2) the location of the Parkinsonia, including the property identification code for the land (if this is known); and (3) any other information reasonably requested by the local control authority; and (b) immediately destroy all Parkinsonia on the land; and (c) ensure that subsequent generations of Parkinsonia are destroyed; and (d) the land is kept free of Parkinsonia. (e) The owner or occupier does not need to comply with (a) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. <p>7. Control measures for persons dealing with carriers:</p> <p>Pursuant to section 62(1)(b) of the Act, a person who deals with a carrier of Parkinsonia in the Parkinsonia Control Zone, in circumstances where the person knows or ought reasonably to know of the presence of Parkinsonia on the land or in or on the carrier, must:</p> <p>(a) ensure that Parkinsonia (including any seed and propagules) is not moved from the land; and</p> <p>(b) immediately notify the local control authority:</p> <ul style="list-style-type: none"> i) as soon as practicable after becoming aware of the presence of Parkinsonia; ii) verbally or in writing; iii) giving the following: <ul style="list-style-type: none"> (1) the person's full name and contact number; (2) the location of the Parkinsonia, including the property identification code for the land (if this is known); and iv) any other information reasonably requested by the local control authority. (c) The person who deals with a carrier of Parkinsonia does not need to comply with (b) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. <p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not import into the State or sell.</p>

State Priority Weed Objective – ERADICATION:

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

Species

Biosecurity Act requirements & Strategic Response in the region

Biosecurity *Solanum viarum* (Tropical Soda Apple) Control Order 2017

6. 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 Tropical Soda Apple Control Zone on which there is Tropical Soda Apple must:

(a) notify the local control authority for the area if the Tropical Soda Apple is part of a new infestation of Tropical Soda Apple 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 Tropical Soda Apple, including the property identification code for the land (if this is known); and

(3) any other information reasonably requested by the local control authority; and

(b) destroy all Tropical Soda Apple on the land, including fruit; and

(c) ensure that subsequent generations of Tropical Soda Apple are destroyed; and

(d) that the land is kept free of Tropical Soda Apple.

(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.

7. Control measures for persons dealing with carriers :

Pursuant to section 62(1)(b) of the Act, a person who deals with a carrier of Tropical Soda Apple in the Tropical Soda Apple Control Zone, in circumstances where the person knows or ought reasonably to know of the presence of Tropical Soda Apple on the land or in or on the carrier, must:

(a) ensure that Tropical Soda Apple (including any seed and propagules) is not moved from the land; and

(b) immediately notify the local control authority for the area:

i) as soon as practicable after becoming aware of the presence of Tropical Soda Apple;

ii) verbally or in writing;

iii) giving the following:

(1) the person's full name and contact number;

(2) the location of the Tropical Soda Apple, including the property identification code for the land (if this is known); and

iv) any other information reasonably requested by the local control authority.

(c) The person who deals with a carrier of Tropical Soda Apple 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.

Regional Strategic Response:

- Develop a region-wide coordinated campaign for collaborative management
- Detailed surveillance and mapping to locate all infestations
- High level analysis of pathways to identify potential introduction areas and preventative options
- Implement quarantine and/or hygiene protocols
- Monitor progress towards eradication.

Tropical soda apple
Solanum viarum

State Priority Weed Objective – CONTAINMENT: <i>These weeds are widely distributed in some parts of the state. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed these weeds is reasonably practicable.</i>	
Biosecurity Act requirements & Strategic Response in the region	
Land area where requirements apply	Biosecurity Act requirements & Strategic Response in the region
<p>Alligator weed - <i>Alternanthera philoxeroides</i></p> <p>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:</p> <p>(a) Greater Sydney, (b) Hunter (but only in respect of land in the local government area of City of Lake Macquarie, City of Maitland, City of Newcastle or Port Stephens).</p>	<p>Biosecurity Regulation 2017 - Part 5, Division 2 (Alligator weed biosecurity zone)</p> <p>An owner or occupier of land in the alligator weed biosecurity zone on which there is the weed <i>Alternanthera philoxeroides</i> (alligator weed) must:</p> <p>(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, and</p> <p>(b) eradicate the weed or if that is not practicable destroy as much of the weed as is practicable and suppress the spread of any remaining weed.</p> <p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not import into the State or sell.</p> <p>Regional Strategic Response:</p> <ul style="list-style-type: none"> • Develop a region-wide coordinated campaign for collaborative management. • Detailed surveillance and mapping to locate all infestations. • High level analysis of pathways to identify potential introduction areas and preventative options. • Implement quarantine and/or hygiene protocols. • Monitor progress towards eradication.
<p>Bitou bush – <i>Chrysanthemoides monilifera</i> subsp. <i>rotundata</i></p> <p>A Biosecurity Zone, to be known as the bitou bush biosecurity zone, is established for all land within the state except land within 10 kilometres of the mean high water mark of the Pacific Ocean between Cape Byron in the North and Point Perpendicular in the South.</p>	<p>Biosecurity Regulation 2017 - Part 5, Division 3 (Bitou bush biosecurity zone) An owner or occupier of land in the bitou bush biosecurity zone on which there is the weed <i>Chrysanthemoides monilifera</i> subsp. rotundata (bitou bush) must:</p> <p>(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, and</p> <p>(b) eradicate the weed or if that is not practicable destroy as much of the weed as is practicable and suppress the spread of any remaining weed.</p> <p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not import into the State or sell.</p> <p>Regional Strategic Response:</p> <p>Within the Biosecurity Zone:</p> <ul style="list-style-type: none"> • Detailed surveillance and mapping to locate all infestations. • High level analysis of pathways to identify potential introduction areas and preventative options. • Implement quarantine and/or hygiene protocols. • Monitor progress towards eradication.

State Priority Weed Objective – CONTAINMENT:

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

Land area where requirements apply

Water hyacinth - *Eichhornia crassipes*

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 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 & Strategic Response in the region

Biosecurity Regulation 2017 - Part 5, Division 4 (Water hyacinth biosecurity zone)

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, and
- (b) eradicate the weed or if that is not practicable destroy as much of the weed asis 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:

- Develop a region-wide coordinated campaign for collaborative management.
- Identification of key sites/assets in the geographic area.
- Species managed in accordance with published management plans.

State Priority Weed Objective – ASSET PROTECTION: <i>These weeds are widely distributed in some areas of the State. As Weeds of National Significance, their spread should be minimised to protect priority assets.</i>	
Species	Biosecurity Act requirements & Strategic Response in the region
Madeira vine - <i>Anredera cordifolia</i>	
Asparagus weeds - <i>Asparagus aethiopicus</i> , <i>A. africanus</i> , <i>A. asparagoides</i> * including the Western Cape form, <i>A. plumosus</i> , <i>A. scandens</i>	
Cabomba - <i>Cabomba caroliniana</i>	
Scotch broom - <i>Cytisus scoparius</i> subsp. <i>scoparius</i> *	
Cat's claw creeper - <i>Dolichandra unguis-cati</i>	
Cape broom - <i>Genista monspessulana</i> *	
Olive hymenachne - <i>Hymenachne amplexicaulis</i> *	
Bellyache bush - <i>Jatropha gossypifolia</i>	
Lantana - <i>Lantana camara</i>	
African boxthorn - <i>Lycium ferocissimum</i>	
Chilean needle grass - <i>Nassella neesiana</i>	
Serrated tussock - <i>Nassella trichotoma</i>	
Opuntoid cacti – (<i>Opuntia</i> spp., <i>Cylindropuntia</i> spp., <i>Austrocylindropuntia</i> spp.) excluding <i>O. ficus indica</i>	
Mesquite - <i>Prosopis</i> spp.	
Blackberry - <i>Rubus fruticosus</i> agg. (excluding chester thornless, Dirksen thornless, loch ness, silvan, black satin, murrundindi, smooth stem, thornfree and chehalem)	
Sagittaria - <i>Sagittaria platyphylla</i>	
Willows - <i>Salix</i> spp. (excluding <i>S. babylonica</i> , <i>S. x calodendron</i> and <i>S. x reichardtii</i>)*	
Salvinia - <i>Salvinia molesta</i>	
Flax-leaf / Mediterranean broom - <i>Genista linifolia</i>	
Fireweed - <i>Senecio madagascariensis</i>	
Silver-leaf nightshade - <i>Solanum elaeagnifolium</i>	
Athel pine - <i>Tamarix aphylla</i>	
Gorse - <i>Ulex europaeus</i>	

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

Regional Strategic Response – where required:

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

* also in Appendix 1.2

A1.2 Central West Local Land Services Regional priority weeds

Regional Priority Weed Objective – PREVENTION:

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.

Chilean needle grass – <i>Nassella neesiana</i> #*		
Hymenachne - <i>Hymenachne amplexicaulis</i> and hybrids#*		
Hygrophila – <i>Hygrophila costata</i>		
Kidneyleaf mud plantain - <i>Heteranthera reniformis</i>		
Long-leaf willow primrose - <i>Ludwigia longifolia</i>		
East Indian hygrophila - <i>Hygrophila polysperma</i>		
Peruvian primrose – <i>Ludwigia peruviana</i>		
Sagittaria – <i>Sagittaria</i> spp. #*		
Salvinia - <i>Salvinia molesta</i> #*		
Yellow waterlily - <i>Nymphaea mexicana</i>		
Outcomes to demonstrate compliance with the GBD	Strategic response in the region	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land kept free of the plant. Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. Local Control Authority is notified if the plant is found on the land. <p>*The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017) A person must not import into the State or sell.</p>	<ul style="list-style-type: none"> Implement quarantine and/ or hygiene protocols. Undertake high risk sites & pathways analysis to identify potential introduction areas and preventative options. Have a collaborative rapid response protocol in place. 	

Regional Priority Weed Objective – ERADICATION: <i>The following weeds are present in limited distribution and abundance in the Central West region. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.</i>	
Mesquite – <i>Prosopis</i> spp.*	
Carrion flower, Star flower – <i>Orbea variegata</i>	
Burr ragweed – <i>Ambrosia confertiflora</i>	
Fireweed – <i>Senecio madagascariensis</i> *	
Harrisia cactus – <i>Harrisia</i> spp.	
Hudson pear – <i>Cylindropuntia pallida</i> (syn. <i>C. rosea</i>) and <i>C. tunicata</i> *	
Outcomes to demonstrate compliance with the GBD	Strategic response in the region
<ul style="list-style-type: none"> The plant is eradicated from the land and the land if kept free of the plant. Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. <p>*The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017) A person must not import into the State or sell.</p>	<ul style="list-style-type: none"> Detailed surveillance and mapping to locate all infestations. High level pathways analysis to identify potential introduction areas and preventative options. Implement quarantine and/or hygiene protocols. Monitor progress towards eradication.

Regional Priority Weed Objective – CONTAINMENT: <i>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.</i>		
Land area where requirements apply	Outcomes to demonstrate compliance with the GBD	Strategic response in the region
Athel pine – <i>Tamarix aphylla</i>	<p>Whole of region: The plant or parts of the plant are not traded, carried, grown or released into the environment.</p> <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Land managers mitigate the risk of the plant being introduced to their land. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers reduce impacts from the plant on priority assets. Land managers mitigate the risk of the plant being introduced to their land. <p>The following legislative requirement also applies: <i>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017)</i> A person must not import into the State or sell.</p>	<p>Whole of region:</p> <ul style="list-style-type: none"> High level pathways analysis to identify potential introduction areas and preventative options. Implement quarantine and/or hygiene protocols. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives. Monitor progress towards eradication. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Monitor change in current distribution to ensure containment of spread.
Blue heliotrope – <i>Heliotropium amplexicaule</i>	<p>Whole of region: The plant or parts of the plant are not traded, carried, grown or released into the environment.</p> <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Land managers mitigate the risk of the plant being introduced to their land. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers reduce impacts from the plant on priority assets. Land managers mitigate the risk of the plant being introduced to their land. <p>The following legislative requirement also applies: <i>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017)</i> A person must not import into the State or sell.</p>	<p>Whole of region:</p> <ul style="list-style-type: none"> High level pathways analysis to identify potential introduction areas and preventative options. Implement quarantine and/or hygiene protocols. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives. Monitor progress towards eradication. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Monitor change in current distribution to ensure containment of spread.
The core infestation is defined as the whole of region, except the exclusion zone which is defined as all waterways and riparian areas of the region.		
The core infestation is defined as the whole of region except the exclusion zone which is defined as the Weddin Local Government area.		

Regional Priority Weed Objective – CONTAINMENT: <i>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.</i>		
Coolatai grass – <i>Hyparrhenia hirta</i>	<p>Whole of region: The plant or parts of the plant are not traded, carried, grown or released into the environment.</p> <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> • The plant is eradicated from the land and the land is kept free of the plant. • Land managers mitigate the risk of the plant being introduced to their land. <p>Within Core infestation:</p> <ul style="list-style-type: none"> • Land managers reduce impacts from the plant on priority assets. • Land managers mitigate the risk of the plant being introduced to their land. <p>The following legislative requirement also applies: <i>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017)</i> A person must not import into the State or sell.</p>	<p>Whole of region:</p> <ul style="list-style-type: none"> • High level pathways analysis to identify potential introduction areas and preventative options. • Implement quarantine and/or hygiene protocols. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> • Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives. • Monitor progress towards eradication. <p>Within Core infestation:</p> <ul style="list-style-type: none"> • Monitor change in current distribution to ensure containment of spread.
Serrated tussock – <i>Nassella trichotoma</i>	<p>Whole of region: The plant or parts of the plant are not traded, carried, grown or released into the environment.</p> <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> • The plant is eradicated from the land and the land is kept free of the plant. • Land managers mitigate the risk of the plant being introduced to their land. <p>Within Core infestation:</p> <ul style="list-style-type: none"> • Land managers reduce impacts from the plant on priority assets. • Land managers mitigate the risk of the plant being introduced to their land. <p>The following legislative requirement also applies: <i>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017)</i> A person must not import into the State or sell.</p>	<p>Whole of region:</p> <ul style="list-style-type: none"> • High level pathways analysis to identify potential introduction areas and preventative options. • Implement quarantine and/or hygiene protocols. <p>Within Exclusion Zone:</p> <ul style="list-style-type: none"> • Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives. • Monitor progress towards eradication <p>Within Core infestation:</p> <ul style="list-style-type: none"> • Monitor change in current distribution to ensure containment of spread.
<p>An exclusion zone is established for the whole of region, except the core infestation area which is defined as: the Warrumbungle and Coonamble Shire Council areas.</p> <p>An exclusion zone is established for the whole of region, except the core infestation area which is defined as: from the Central West Local Land Services Boundary North along Burrendong Way to Stuart Town. East along Mookerawa Road to Burrendong Dam. East along Oaky Creek bounded by the Central West Local Land Services boundary.</p>	<p>Whole of region: The plant or parts of the plant are not traded, carried, grown or released into the environment.</p> <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> • The plant is eradicated from the land and the land is kept free of the plant. • Land managers mitigate the risk of the plant being introduced to their land. <p>Within Core infestation:</p> <ul style="list-style-type: none"> • Land managers reduce impacts from the plant on priority assets. • Land managers mitigate the risk of the plant being introduced to their land. <p>The following legislative requirement also applies: <i>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017)</i> A person must not import into the State or sell.</p>	<p>Whole of region:</p> <ul style="list-style-type: none"> • High level pathways analysis to identify potential introduction areas and preventative options. • Implement quarantine and/or hygiene protocols. <p>Within Exclusion Zone:</p> <ul style="list-style-type: none"> • Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives. • Monitor progress towards eradication <p>Within Core infestation:</p> <ul style="list-style-type: none"> • Monitor change in current distribution to ensure containment of spread.

Regional Priority Weed Objective – ASSET PROTECTION: These weeds are widely distributed in some areas of the Region. Their spread should be minimised to protect priority assets.	
Species	
Bridal creeper – <i>Asparagus asparagoides</i>	
Giant reed – <i>Arundo donax</i>	
Honey locust – <i>Gleditsia triacanthos</i>	
Johnson Grass - <i>Sorghum halpense</i>	
Mother of millions – <i>Bryophyllum</i> spp.	
Prickly pears (Coral, Rope, Walking stick pears) – <i>Cylindropuntia</i> spp. excluding <i>C. pallida</i> syn. <i>rosea</i>	
Prickly pears (Pad cactus, Tiger, Creeping, Tree wheels, Common and Spiny Pears) – <i>Opuntia</i> spp. except <i>O. ficus-indica</i>	
Spiny burrgrass – <i>Cenchrus longispinus</i> and <i>spinifex</i> (syn. <i>C. incertus</i>)	
Silver-leaf nightshade – <i>Solanum elaeagnifolium</i>	
Cats claw creeper – <i>Dolichandra unguis-cati</i> (syn. <i>Macfadyena unguis cati</i>)	
Outcomes to demonstrate compliance with the GBD	Strategic response in the region
<ul style="list-style-type: none"> The plant or parts of the plant are not traded, carried, grown or released into the environment. Land managers mitigate the risk of the plant being introduced to their land. Land managers reduce impacts from the plant on priority assets. <p>The following legislative requirement also applies: <i>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017)</i>: A person must not import into the State or sell.</p>	<ul style="list-style-type: none"> Develop region-wide coordinated campaigns for collaborative management. Identification of regional containment zones where required. Identification of key sites/assets in the geographic area. Species managed in accordance with published weed management plans.

Appendix 2: Central West Local Services - Other regional weed lists

A 2.1 Central West Local Land Services Regional weed watch list

These species have been identified as a **potential** biosecurity risk to the region; however, they have not been subjected to a regional weed risk management assessment. Note that this list does not include every species that might present a risk to the region – species will be added to, or removed from, this list as more information becomes available.

The following Regional Strategic Responses have been identified:

- Develop regional level Weed Risk Management Assessments.
- Communicate with all Local Control Authorities to prioritise data collection and strategic treatment of these species.
- Provide annual status updates on the distribution and pathways of these species.
- Communicate weed risk information to stakeholders once defined.

Common name	Scientific name
Black willow	<i>Salix nigra</i>
Cape / Montpellier broom	<i>Genista monspessulana</i>
Chinese violet	<i>Asystasia gangetica</i> subsp. <i>micrantha</i>
Columbus grass	<i>Sorghum x almum</i>
Flax-leaf / Mediterranean broom	<i>Genista linifolia</i>
Giant Parramatta grass	<i>Sporobolus fertilis</i>
Horsetail	<i>Equisetum</i> spp.
Senegal tea plant	<i>Gymnocoronis spilanthoides</i>
Leafy elodea	<i>Egeria densa</i>
Cabomba	<i>Cabomba</i> spp. (except <i>C. furcata</i>)
Water lettuce	<i>Pistia stratiotes</i>
Espartillo	<i>Amelichloa brachychaeta</i> and <i>A. caudata</i>
Mahonia	<i>Mahonia lomarifolia</i>

A2.2 Additional Species of Concern in the Central West Local Land Services Region

These species are a high priority for asset protection. Many are actively managed under a number of current programs, or are commercial species with a manageable biosecurity risk. It is not feasible to contain or eradicate these species, however minimising their impacts is reasonably practicable.

The following Regional Strategic Responses have been identified:

- Work within existing widespread weed programs for strategic asset protection
- Prioritise the application of the GBD to assist with management of these species
- Work with industry to develop industry standards including restrictions on sale and trade.

Common name	<i>Scientific name</i>
African boxthorn	<i>Lycium ferocissimum</i>
Bathurst burr	<i>Xanthium spinosum</i>
Blackberry	<i>Rubus fruticosus</i> spp. agg. except cultivars
St John's wort	<i>Hypericum perforatum</i>

Appendix 3: Central West Local Land Services - Weed species listed by common name

The following covers all species listed in order of common name, including the management category under which the species is listed. "State" in the management category, indicates the species is a state listed species (A1.1). This demonstrates where species may have both State and Regional listings. Note that Asset Protection species occur in both Appendix 1.1 and 2.2. Watch species occur in Appendix 2.1

Common Name	Management Category				
	Prevent	Eradicate	Contain	Asset Protection	Watch
African boxthorn - <i>Lycium ferocissimum</i>				*State	
Alligator weed - <i>Alternanthera philoxeroides</i>			State		
Anchored water hyacinth - <i>Eichhornia azurea</i>	State				
Asparagus weeds - <i>Asparagus</i> spp.				State	
Athel pine - <i>Tamarix aphylla</i>				State	
Bathurst burr – <i>Xanthium spinosum</i>					
Bellyache bush - <i>Jatropha gossypifolia</i>				State	
Bitou bush – <i>Chrysanthemoides monilifera</i> subsp. <i>rotundata</i>			State		
Black knapweed - <i>Centaurea xmoncktonii</i>	State				
Black willow - <i>Salix nigra</i>				State	
Blackberry - <i>Rubus fruticosus</i> spp. agg.				*State	
Blue heliotrope - <i>Heliotropium amplexicaule</i>					
Boneseed - <i>Chrysanthemoides monilifera</i> subsp. <i>monilifera</i>		State			
Bridal creeper - <i>Asparagus asparagoides</i>				*State	
Bridal veil creeper - <i>Asparagus declinatus</i>	State				
Broomrape - <i>Orobancha</i> spp.(except <i>O. cernua</i> var. <i>australiana</i> and <i>O. minor</i>)	State				
Burr ragweed – <i>Ambrosia confertiflora</i>					
Cabomba – <i>Cabomba</i> spp. (except <i>C. furcata</i>)				State	
Cape / Montpellier broom - <i>Genista monspessulana</i>				State	
Carrion flower, Star flower – <i>Orbea variegata</i>					
Cat's claw creeper - <i>Dolichandra unguis-cati</i>				*State	

Common Name	Management Category				
	Prevent	Eradicate	Contain	Asset Protection	Watch
Carrion flower, Star flower – <i>Orbea variegata</i>					
Cat's claw creeper - <i>Dolichandra unguis-cati</i>				*State	
Chilean needle grass - <i>Nassella neesiana</i>				State	
Chinese violet - <i>Asystasia gangetica</i> subsp. <i>micrantha</i>					
Columbus grass – <i>Sorghum x almum</i>					
Coolatai grass – <i>Hyparrhenia hirta</i>					
East Indian hygrophila – <i>Hygrophila polysperma</i>					
Espartillo – <i>Amelichloa brachychaeta</i> and <i>A. caudata</i>					
Eurasian Water milfoil – <i>Myriophyllum spicatum</i>	State				
Fireweed - <i>Senecio madagascariensis</i>				State	
Flax-leaf / Mediterranean broom – <i>Genista linifolia</i>				State	
Frogbit / Spongeplant - <i>Limnobium</i> spp. (all species)	State				
Gamba grass - <i>Andropogon gayanus</i>	State				
Giant Parramatta grass - <i>Sporobolus fertilis</i>					
Giant reed - <i>Arundo donax</i>					
Gorse - <i>Ulex europaeus</i>				State	
Harrisia cactus – <i>Harrisia</i> spp.					
Hawkweed - <i>Hieracium</i> spp.	State				
Honey locust - <i>Gleditsia triacanthos</i>					
Horsetail - <i>Equisetum</i> spp.					
Hudson Pear – <i>Cylindropuntia rosea</i>					
Hydrocotyl / Water pennywort - <i>Hydrocotyle ranunculoides</i>	State				
Hygrophila - <i>Hygrophila costata</i> and <i>H. polysperma</i>					
Hymeachne – <i>Hymenachne amplexicaulis</i> and hybrids				State	
Johnson grass – <i>Sorghum halpense</i>					
Karoo acacia - <i>Vachellia karroo</i> (syn. <i>Acacia karroo</i>)	State				
Kidneyleaf mud plantain - <i>Heteranthera reniformis</i>					

Common Name	Management Category				
	Prevent	Eradicate	Contain	Asset Protection	Watch
Kochia - <i>Bassia scoparia</i> (excluding subsp. <i>trichophylla</i>)	State				
Koster's curse - <i>Clidemia hirta</i>	State				
Lagarosiphon - <i>Lagarosiphon major</i>	State				
Lantana - <i>Lantana camara</i> and <i>L. madagascariensis</i>				State	
Leafy elodea – <i>Egeria densa</i>					
Long-leaf willow primrose - <i>Ludwigia longifolia</i>	State				
Madeira vine - <i>Anredera cordifolia</i>				State	
Mahonia / Chinese holly - <i>Berberis lomariifolia</i>					
Mesquite - <i>Prosopis</i> spp.				State	
Mexican feather grass - <i>Nassella tenuissima</i>	State				
Miconia - <i>Miconia</i> spp. (all species)	State				
Mikania vine - <i>Mikania micrantha</i>	State				
Mimosa - <i>Mimosa pigra</i>	State				
Mother of millions – <i>Bryophyllum</i> spp.					
Opuntia - <i>Opuntia</i> spp., <i>Cylindropuntia</i> spp., <i>Austrocylindropuntia</i> spp. (excluding <i>O. ficus-indica</i>)				State	
Parkinsonia - <i>Parkinsonia aculeata</i>		State			
Parthenium weed - <i>Parthenium hysterophorus</i>	State				
Peruvian primrose – <i>Ludwigia longifolia</i>	State				
Pond apple - <i>Annona glabra</i>	State				
Prickly acacia - <i>Vachellia nilotica</i>	State				
Prickly pears (Coral, Rope, Walking stick pears) – <i>Cylindropuntia</i> spp. excluding <i>C. pallida</i> syn. <i>rosea</i>					
Prickly pears (Pad cactus, Tiger, Creeping, Tree wheels, Common and Spiny Pears) – <i>Opuntia</i> spp. except <i>O. ficus-indica</i>					
Rubber vine - <i>Cryptostegia grandiflora</i>	State				
Sagittaria - <i>Sagittaria platyphylla</i>	State			State	
Salvinia - <i>Salvinia molesta</i>	State			State	

Common Name	Management Category				
	Prevent	Eradicate	Contain	Asset Protection	Watch
Scotch broom - <i>Cytisus scoparius</i> subsp. <i>scoparius</i>				State	
Senegal tea plant - <i>Gymnocoronis spilanthoides</i>					
Serrated tussock - <i>Nassella trichotoma</i>				State	
Siam weed - <i>Chromolaena odorata</i>	State				
Silver-leaf nightshade - <i>Solanum elaeagnifolium</i>				*State	
Spiny burrgrass – <i>Cenchrus longispinus</i> and <i>spinifex</i> (syn. <i>C. incertus</i>)					
Spotted knapweed - <i>Centaurea stoebe</i> subsp. <i>micranthos</i>	State				
St John's wort – <i>Hypericum perforatum</i>					
Tropical soda apple - <i>Solanum viarum</i>		State			
Water caltrop - <i>Trapa</i> spp. (all species)	State				
Water hyacinth - <i>Eichhornia crassipes</i>			State		
Water lettuce - <i>Pistia stratiotes</i>					
Water soldier - <i>Stratiotes aloides</i>	State				
Willows – <i>Salix</i> spp. (excludes <i>S. babylonica</i> , <i>S. x calodendron</i> and <i>S. x reichardtiji</i>)				State	
Witchweed - <i>Striga</i> spp. (except the native <i>S. parviflora</i>)	State				
Yellow burrhead - <i>Limnocharis flava</i>	State				
Yellow waterlily – <i>Nymphaea Mexicana</i>					

***In cell indicates both State and Regional objective**



Regional Strategic Weed Management Plan 2017 - 2022



Local Land
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