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Acknowledgment of Country

The North Central Catchment Management Authority acknowledges Aboriginal Traditional Owners within the region, their rich culture and spiritual connection to Country. We also recognise and acknowledge the contribution and interest of Aboriginal people and organisations in land and natural resource management.

Document name: "RLP Addendum to the Regional Catchment Strategy" Front cover photo: Gunbower Forest

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A copy of the draft is also available at <u>www.nccma.vic.gov.au</u> The North Central Catchment Management Authority wishes to acknowledge the Victorian and Commonwealth governments for providing funding for this publication through the National Action Plan for Salinity and Water Quality. This publication may be of assistance to you, but the North Central Catchment Management Authority and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on information in this publication.

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1. Introduction

The North Central Regional Catchment Strategy 2021-27 provides strategic direction about how to protect and enhance the natural resources of the region. The Regional Land Partnerships (RLP) program is an Australian Government Program that is funding natural resource management actions from July 2018 to June 2023. A requirement of the RLP Service Agreement, is to prepare a regional NRM Plan. In Victoria, Regional Catchment Strategies are used for this purpose. This addendum refers relevant information in the North Central Regional Catchment Strategy 2021-27 and provides more detailed information where needed, to meet RLP requirements.

1.1. North Central Regional Catchment Strategy

Regional Catchment Strategies (RCSs) are the primary integrated planning framework for the management of land, water and biodiversity in Victoria. The preparation of RCSs is a statutory requirement contained in Part 4 Division 1 of the Catchment and Land Protection Act (CaLP Act) 1994.

Administered by Victoria's ten regional Catchment Management Authorities (CMAs) on behalf of the State government, the RCSs set regional priorities for the management of natural assets and provide overall direction for investment and co-ordination of effort by landholders, partner organisations and the wider community.

1.2. Regional Land Partnerships

The Regional Land Partnerships Program (RLP) is a core component of Phase 2 of the Australian Government's National Landcare Program from July 2018 until June 2023. Government investment under the RLP is being delivered through a regional model that supports a range of projects contributing to four environment and two sustainable agriculture outcomes (Figure 1).

Environment outcomes focus on; the recovery of species identified under the *Threatened Species Strategy 2015-2020*, protecting threatened ecological communities, and reducing threats to globally important wetlands and world heritage sites. Sustainable agriculture outcomes focus on improving on-farm soil, biodiversity and vegetation, and increasing the capacity of farms to adapt to climate change and evolving market demands.

The Australian Government has engaged service providers to deliver projects in 54 management units through to 2023. North Central CMA is the service provider for the North Central Management Unit (the North Central region).

Under this arrangement, North Central CMA is required to maintain the currency of natural resource management planning and the prioritisation of management actions. This involves ensuring that NRM Plans are consistent with a set of specific Australian Government service level requirements as presented below, with regards to specific outcomes and investment priorities as listed on page 4. These requirements are listed in below and stated in relevant sections of this Addendum.

1.3.1 Service Level Requirements

The RLP Service Level Agreement articulates specific requirements for regional NRM Plans, these include:

- Identify and describe how the RLP 5-year Outcomes and Investment Priorities relevant to the Management Unit are addressed?
- Describe the stakeholder aspirations for natural resource management in the Management Unit, and where possible shows alignment with the RLP 5-year Outcomes and other relevant Australian Government?
- Demonstrate that the Service Provider has identified and prioritised natural resource management actions based on knowledge of:
 - A. location and condition of natural resources, including the Investment Priorities;
 - B. threats to, or impacts on, natural resources;

C. prioritisation methods for determining the most cost-effective management actions, including decision support and spatial mapping tools; and

D. methodologies for assessing the effectiveness of management actions.

- Identify how the delivery of projects will contribute to RLP 5-year Outcomes and Investment Priorities for the Management Unit?
- Identify how the NRM Plan(s) will be implemented with comprehensive Community participation?
- Identify the inclusion of Indigenous peoples' land and sea management aspirations for the Management Unit, including how these relate to the RLP 5-year Outcomes and what plans and strategies are in place to include / implement these aspirations?
- Identify that the Service Provider has, where appropriate, incorporated traditional ecological knowledge, in accordance with agreed protocols of the Indigenous custodians of the knowledge with prior approval?
- Describe key collaborations and how they relate to the delivery of 5-year Outcomes? For example, key collaborations could include partnerships between the Service Provider, industry and/or Community groups.
- Identify and ensure monitoring and reporting process are in place.
- Identify and if necessary, outline any required updates to the monitoring and reporting processes in place to
 ensure the Service Provider measures the achievements and the effectiveness of the NRM Plan(s)?

The Regional Land Partnerships Initiative has also established a Monitoring framework and developed overarching Program logics (Refer to Figure 1 below) that have been used in implementing several projects within the North Central Region.

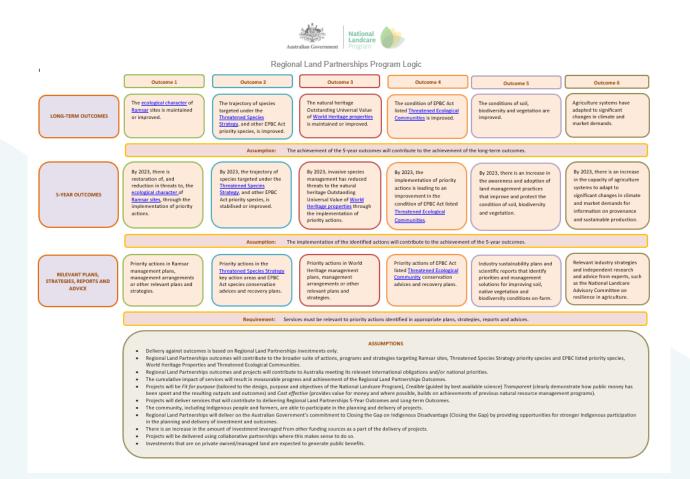


Figure 1: Program Logic for the Australian Government's Regional Land Partnerships Program (Department of Agriculture, Water and the Environment, 2017)

1.3.2. 5-Year Outcomes and Investment Priorities

This section identifies the 5-year Outcomes and Investment Priorities that are relevant to the North Central region. Each Outcome and associated Investment Priority is described in the subsequent sections.

The Regional Land Partnerships Program includes six long-term and associated 5-year Outcomes (Figure 1). Five of these outcomes are relevant to the North Central Region (Table 1). Outcome 3 is not relevant as there are no World Heritage sites in the region.

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Table 1: Regional	I and Dartnarahir	o Droarom	Outcomoo
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	5-year Outcome	Investment Priorities	
1	By 2023, there is restoration of, and reduction in threats to, the ecological character of Ramsar sites, through the implementation of priority actions	Gunbower ForestKerang Wetlands	
2	By 2023, the trajectory of species targeted under the Threatened Species Strategy, and other <i>Environment Protection and</i> <i>Biodiversity Conservation Act</i> 1999 priority species, is stabilised or improved	 Anthochaera phrygia - Regent Honeyeater Botaurus poiciloptilus - Australasian Bittern Lathamus discolor - Swift Parrot Leipoa ocellata - Malleefowl Numenius madagascariensis - Eastern Curlew, Far Eastern Curlew Pedionomus torquatus - Plains-wanderer Pimelea spinescens subsp. spinescens - Plains Rice-flower, Spiny Rice-flower, Prickly Pimelea Sclerolaena napiformis - Turnip Copperburr 	
4	By 2023, the implementation of priority actions is leading to an improvement in the condition of EPBC Act listed Threatened Ecological Communities	 Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions; Grassy Eucalypt Woodland of the Victorian Volcanic Plain; Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia; Natural Grasslands of the Murray Valley Plains; Natural Temperate Grassland of the Victorian Volcanic Plain; Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains; White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland 	
5	By 2023, there is an increase in the awareness and adoption of land management practices that improve and protect the condition of soil, biodiversity and vegetation	 Hillslope erosion Acidification Wind erosion Soil carbon Vegetation and biodiversity on farms 	
6	By 2023, there is an increase in the capacity of agriculture systems to adapt to significant changes in climate and market demands for information on provenance and sustainable production	Agricultural systems adaptation to significant change	

2. North Central RCS linkages to RLP Outcomes Priorities

Australian Government requirement: NRM Plans must identify and describe the 5-year Outcomes and Investment Priorities that are relevant to the Management Unit.

The North Central Regional Catchment Strategy 2021-27 provides high level strategic direction about how to protect and enhance the natural resources of the region. The RLP program requires more detail about the linkages to the 5-year outcome and investment priorities that cannot be provided in the RCS, therefore this addendum and the sections below provide more detail about how the 5-year priorities are covered in the RCS and sub strategies.

Outcome 1: By 2023, there is restoration of, and reduction in threats to, the ecological character of Ramsar Sites, through the implementation of priority actions.

Both Ramsar sites are RCS priority wetland assets – which identifies them as a focus for action and investment. Refer to Figure 2 on the next page which highlights both Ramsar sites as RCS assets.

The North Central Waterway Strategy 2014-2022 is a sub strategy of the RCS, it is linked and its implementation is supported through this RCS direction under the Water theme (noting that 'waterways' includes wetlands).

• Maintain and improve the health of priority waterways through continued implementation of the North Central Waterway Strategy 2014-2022, renewing this strategy by 2023.

Other RCS priority directions and outcomes that specifically apply to priority wetlands:

- Continue to apply an integrated approach to the planning and delivery of water for the environment, undertaking complementary works and where possible using consumptive water, to achieve landscape scale outcomes.
- Improved condition of RCS priority waterways (rivers and wetlands), by 2041
- Increased protection and improved management of 20,000 ha of priority RCS wetland assets, by 2027

Refer to the RCS Water theme page for further detail: <u>Water | North Central Regional Catchment Strategy</u> (rcs.vic.gov.au)

The North Central Waterway Strategy 2014-22 identifies the same priority waterway assets and provides more detail regarding threats and actions relating to ecological character. Refer to

<u>http://www.nccma.vic.gov.au/resources/publications/north-central-waterway-management-strategy-2014</u> To demonstrate how the RCS and sub strategies link and influence RLP outcomes in practice we have included a case study of the Ramsar listed Kerang Wetlands here.



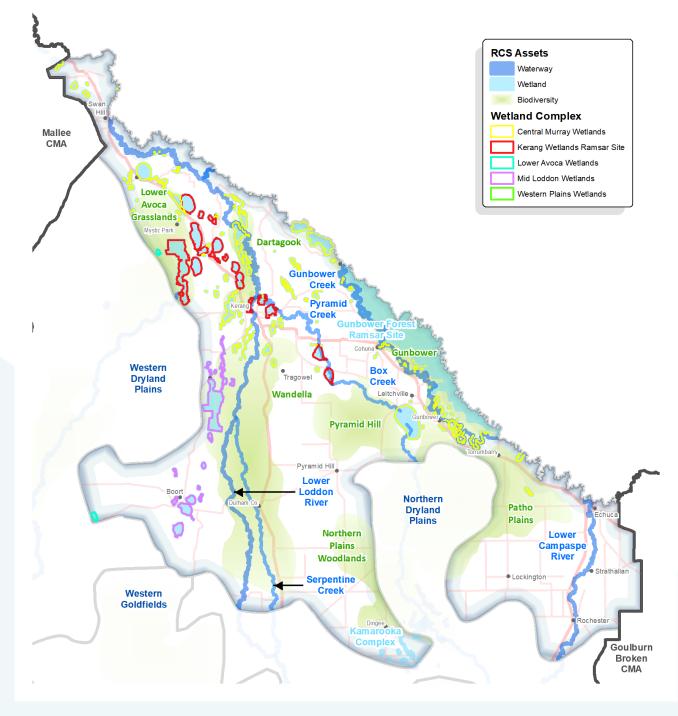


Figure 2: Map of Irrigated Riverine Local Area (From RCS) showing Ramsar Wetlands Gunbower Forest and Kerang Wetlands



Revegetating the Avoca Marshes with Traditional Owners (Kerang Priority Wetlands Protection – Final Performance Report 2018)

Case Study – Kerang Wetlands.

A good example of how threats to ecological character are addressed in practice is in the Kerang Wetlands Action Plan which is the action plan link to the RCS via the North Central Waterway Strategy. See link below:

http://www.nccma.vic.gov.au/resources/publications/kerang-wetlands-ramsar-action-plan-2017-2025-final

The Kerang Wetland Action Plan uses a risk assessment approach to understand and prioritise risks to the ecological character of the Kerang Wetlands. The risk assessment has been used to develop actions to mitigate risks. The Kerang Wetlands Action Plan guides the development of annual works programs that target threats to the ecological character of the Kerang Wetlands.

The primary objective of the Kerang Wetlands Ramsar Site Action Plan (the Action Plan) is:

"To maintain, and where necessary improve, the ecological character and promote conservation and wise use of the site."

This aligns with the long-term resource condition target for the Kerang Wetlands Ramsar Site outlined in the North Central Waterway Strategy:

"Protect and improve the ecological character of the Ramsar wetlands as measured by the Ecological Character Description."

The Action Plan will achieve this by:

· Recommending specific management actions at each wetland; and

• Establishing a framework for strong coordination of management activities amongst the various site managers and stakeholders.

• Establishing a framework for monitoring, evaluation, reporting and improvement.

DELWP have developed a Ramsar Management System that captures information about each Ramsar site in Victoria including any limits of acceptable change (LOC) within each Ramsar site. Formal evaluation and report (rolling review) of ecological character status for all sites is required every three years.

Please note the RLP do not currently fund any actions on Ramsar sites in the North Central Region, although significant funding is being provided by the Victorian State Government for both Ramsar sites located in the North Central region.

Outcome 2: By 2023, the trajectory of species targeted under the Threatened Species Strategy, and other EPBC Act priority species, is stabilised or improved.

Refer Biodiversity theme page: Biodiversity | North Central Regional Catchment Strategy (rcs.vic.gov.au)

The *Protecting Victoria's Environment – Biodiversity 2037* (Biodiversity 2037) outlines Victoria's approach to the protection and enhancement of biodiversity, including threatened species. A key goal of Biodiversity 2037 is to stop the decline of threatened species, securing the greatest possible number of species in the wild, and improving the overall extent and condition of native habitats.

The renewed Australian Government Threatened Species Strategy 2021-2031 highlights a new placed based approach to support the priority threatened species approach:

"Priority places is a new approach that recognises that some threatened species share habitat and that place-based action can support protection and recovery of more than one species. Place-based conservation can also provide coordinated action for poorly known and imperiled species, as well as listed threatened species."

DELWP have developed a spatial decision support tool called Strategic Management Prospects (SMP) to guide action and investment in landscape scale biodiversity management, to deliver cost effective outcomes that benefit most species contributing to the goals of Biodiversity 2037. SMP was used together with Strategic Biodiversity Values (SBV) mapping to review and update the RCS biodiversity assets for RCS 2021-27. Both SMP and SBV consider threatened species habitat as a key value. Most Victorian Biodiversity Atlas records for species targeted under the Threatened Species Strategy, and other species listed under the EPBC Act, are within RCS biodiversity assets, as shown by our analysis and mapping in Figure 2 below and in Appendix 2.

While landscape-scale management may have benefits for threatened species, for those that are critically endangered or have very specific requirements, the RCS acknowledges that a targeted approach is required. The Plains Wanderer is identified as an example. SMP can also be used to inform effective targeted approaches for individual species. To complement SMP, DELWP are also developing a Threatened Species Framework tool to help us better understand the cost-effectiveness of appropriate management interventions and improve decision making and investment in the conservation of endangered and critically endangered species that are more likely to need some form of direct intervention, because they won't typically respond well to landscape-scale management. In this way, the framework will complement the Strategic Management Prospects tool.

The North Central RCS 2021-27 promotes both landscape scale / placed based management and a targeted approach for threatened species that require it, as per the following RCS priority directions:

• Maintain and improve the quality of our remnant native vegetation and habitats, considering climate resilience, with a focus on RCS priority biodiversity assets.

• For endangered and critically endangered species that require targeted intervention, utilise decision support tools such as SMP and the threatened species framework to identify priority species, locations and cost-effective management options to guide action.

The north central regions' contribution to Biodiversity 2037 targets, were provided by DELWP and included as RCS outcomes for biodiversity, as outlined below. By reaching these outcomes it is expected that Victoria will deliver the statewide target of net improvement in the outlook of all species by 2037, as measured by Change in Suitable Habitat (as a common scientific measure and driven by decision support tools). Allocation of hectares was based on priority locations to maximise cost-effectiveness for biodiversity benefit, as determined by Strategic Management Prospects (SMP) version 2.0.

Long-term Outcomes

13,000 ha increase in the area permanently protected, between 2017 and 2037.

22,000 ha of revegetation in priority locations for habitat connectivity, between 2017 and 2037.

70,000 ha of priority assets under sustained weed control (not year by year cumulative total) by 2037.

130,000 ha of priority assets under sustained herbivore control (not year by year cumulative total) by 2037.

40,000 ha of priority assets under sustained pest predator control (not year by year cumulative total) by 2037.

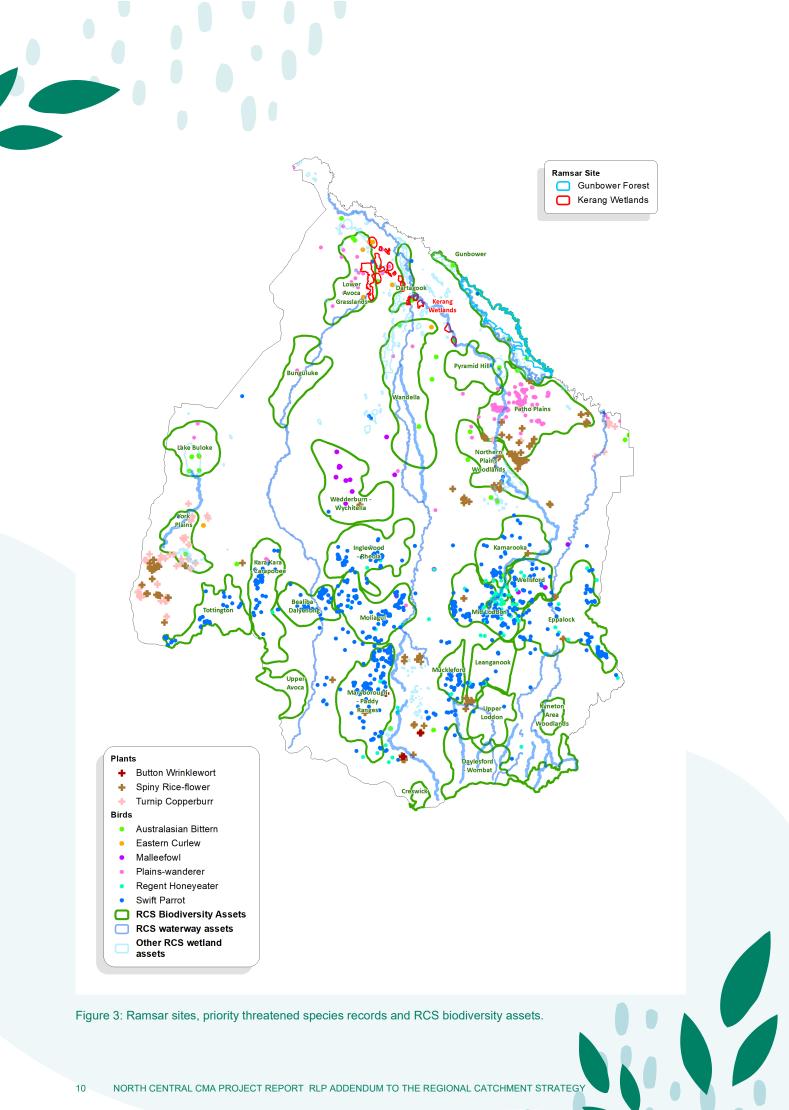
Medium-term outcomes

9

6,500 ha increase in the total area permanently protected, between 2017 and 2027.

11,000 ha of revegetation in priority locations for habitat connectivity, between 2017 and 2027.

56,000 ha of priority assets under sustained weed control (not year by year cumulative total) by 2027.



NORTH CENTRAL CMA PROJECT REPORT RLP ADDENDUM TO THE REGIONAL CATCHMENT STRATEGY

The current RLP funded Plains Wanderer project is a good example of how the North Central RCS contributes to Outcome 2 on threatened species.

Case Study – Plains Wanderer (funded through the RLP Program)

The primary project aim is to improve and enhance Plains-wanderer (PW) habitat on the northern grasslands in Victoria, which support one of two core populations nationally. Activities include placing covenants on grasslands to protect privately-owned high quality Plains-wander habitat, revegetation to replace lost Plains-wanderer food plants at key public grasslands, revegetation of Buloke woodlands, re-introducing populations of spiny rice-flower and turnip copperburr, Boxthorn control to improve habitat, rabbit control to protect revegetation and regeneration, field days to improve landholder knowledge of best practice management, Traditional Owner programs to deliver on-Country aspirations such as cultural burning and condition and population monitoring to guide project prioritisation and assumptions Key partners include Trust for Nature, DELWP, Traditional Owners, the Northern Plains CMN and Parks Victoria.

Project Methodology

The project has had the input of project staff, grassland technical experts, agency staff, landholders, TOs and the Plainswanderer Operations Group. This input captures a vast amount of experience which will ensure effective interventions. A project steering group will help guide project activities and identify high-priority sites for works. Works' agreements will be signed with landholders when on-ground activities are delivered.

Activities include:

Covenants on private land Landholders with high priority habitat will be offered a cash incentive to permanently protect their grasslands. Covenants are key to this project as they are the most secure type of protection mechanism available on private land, preventing poor biomass outcomes and cultivation. Incentives are at a rate to achieve uptake but are cost effective as the opportunity costs are only partially met; landholders contribute financially by foregoing production revenue and paying ongoing maintenance costs.

Revegetation Seeds collected from key Plains-wanderer food plants will be seeded on existing public reserves where they are missing. Seeding will be by hand broadcast, a cost efficient and low impact way of replacing key species that has shown to be effective in previous projects. Weeding Boxthorn and non-native tree species will be controlled at key grassland sites. Plains-wanderers need contiguous areas free of raptor roosts. This is a highly effective intervention as the removal of one shrub/tree can increase suitable Plains-wanderer area by a 200m radius, equating to 12.5 ha.

Fencing Covenanted properties will generally require fencing to manage grazing as part of the management prescriptions. Fencing to soil type allows greater grazing control and directly facilitates improved management. Spiny rice-flower and turnip copperburr Propagating and planting on covenanted sites. This has been successful in past projects and new populations will be established on these permanently protected sites providing source seed for future recruitment. Buloke woodlands Areas with remnant Buloke will be revegetated with irrigated tubestock and direct seeded.

Rabbit control will be undertaken to promote natural regeneration and protect investment. Spotlight surveys by a specialist consultant and installation of Plains-wanderers song meters will be undertaken to build baseline data. Undertaking of pre-works monitoring such as photo points and vegetation quality assessments to obtain baselines.

TO sharing days will be facilitated and knowledge of grasslands will be shared through yarns with Barapa Barapa, Yorta Yorta and Dja Dja Wurrung mob to help realise On-Country aspirations. Scholarships will be offered for TOs to attend the National Indigenous Fire Workshop, Jigija, or equivalent. Building skill and knowledge around fire management is essential to begin the process of introducing fire back to Country, which will be supported by the project.

Annual field days will be held to share information about best practice grassland management, and the likelihood of participants to change their management will be recorded in surveys. Project reports will be drafted in accordance with agreed schedules. Effectiveness of project activities will be monitored and learnings will be used to inform improved management. A more detailed methodology is attached in the Documents section.

Outcome 3: By 2023, invasive species management has reduced threats to the natural heritage Outstanding Universal Value of World Heritage properties through the implementation of priority actions.

There are no World Heritage properties within the North Central management unit.

Outcome 4: By 2023, the implementation of priority actions is leading to an improvement in the condition of EPBC Act listed Threatened Ecological Communities.

Refer Biodiversity theme page: https://northcentral.rcs.vic.gov.au/themes/biodiversity/

There is no extensive, accurate mapping of EPBC Act listed Threatened Ecological Communities in the region, as field assessments are required to confirm where condition thresholds are met. The map of EPBC-listed ecological communities occurring in Victoria (Figure 4 below) indicates their potential occurrence. Previous and current CMA projects across the region, have identified and/or targeted these communities. A current example is the Plains Wanderer project which targets the Native Grasslands of the Murray Valley Plains EPBC-listed ecological communities.

The following RCS priority direction targets RCS biodiversity assets to delivery on RCS biodiversity outcomes (refer list under Outcome 2) which could contribute to improvement in the condition of EPBC-listed Threatened Ecological Communities:

• Maintain and improve the quality of our remnant native vegetation and habitats, considering climate resilience, with a focus on RCS priority biodiversity assets.

Some further information regarding the biodiversity values captured by the RCS priority biodiversity assets is provided on the following pages.

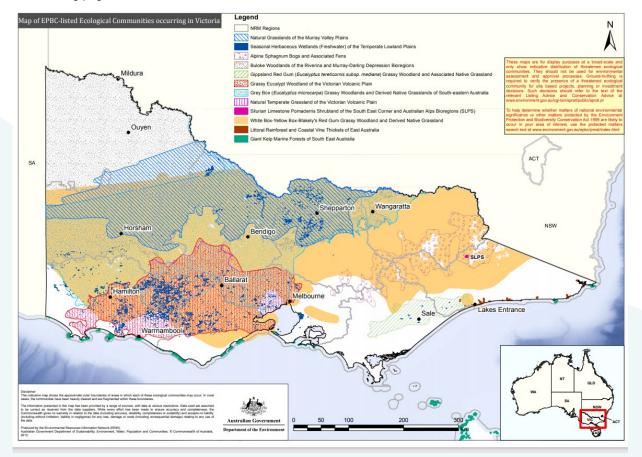
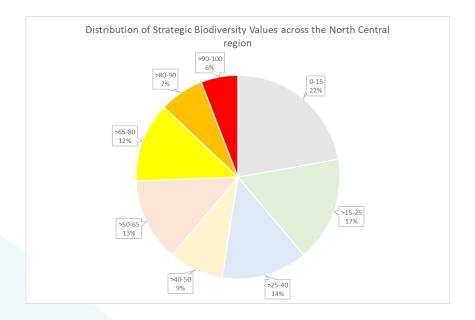


Figure 4: Map of threatened ecological communities in Victoria (Department of Agriculture, Water and Environment)

Strategic Biodiversity Values

As described under 'Priority Assets' on the Biodiversity theme page of the draft RCS <u>Biodiversity | North Central</u> <u>Regional Catchment Strategy (rcs.vic.gov.au)</u> - updates were made to the RCS priority biodiversity assets, by comparing areas identified through engagement, with Strategic Biodiversity Values (SBV) and Strategic Management Prospects (SMP). Where these aligned, and there was a concentration of values either; adjacent to an existing asset or large enough to constitute a new asset, they have been included as updates to the existing biodiversity assets.

The top 35% SBV in the North Central region makes up 25% of the total land area - as shown here in bright colours

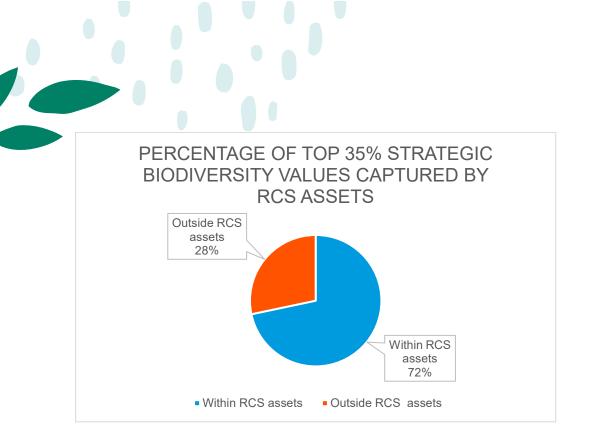


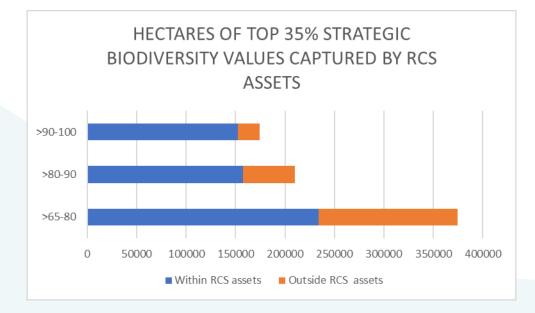
Analysis showed that 62% of the top 35% SBV were captured by 2013-19 RCS biodiversity assets.

Through review of our RCS biodiversity assets for RCS 2021-27, we have now captured 68% of the top 35% SBV (an additional 45,520 ha) – as shown in the graph below.

Additional areas of top 35% SBV are captured by our RCS priority wetlands and waterways, however adding these to the analysis without overlap is difficult. Fragmented areas of top value SBV which can't easily be captured in a catchment scale asset, can also be seen on the map.

Our assets include a greater percentage of the highest value SBV (>90-100) as compared to the >80-90 and >65-80 classes – as shown in the graph below.







Outcome 5: By 2023, there will be increased awareness and adoption of land management practices that improve and protect the condition of soil, biodiversity and vegetation.

Refer Land theme page: Land | North Central Regional Catchment Strategy (rcs.vic.gov.au)

One of the key Land theme priorities is to support and recognise stewardship and promote holistic land management for both soil health (agricultural productivity) and ecological values. The RCS priority directions and outcomes that address this outcome under the Land theme include:

• Deliver community-based participatory programs that build the capacity of land managers/holders, to improve land health.

• Design and pilot a holistic landholder stewardship program that measures improvements in land health, supports and recognises landholders' efforts as improvements are made

- Continue to increase the skills and capacity of partners, service providers and landholders to improve soil health.
- Deliver targeted programs to build the capacity of rural residential landholders, to protect and enhance soils, water and biodiversity values.

• Increased uptake of improved soil management practices across 600,000 ha, to improve productivity, adaptive capacity and ecological function by 2027.

- Engage 200 rural landholders in community-based participatory programs, to build capacity by 2027.
- 600 rural landholders in the LCIR adopting technologies and systems to improve agricultural productivity, water use efficiency and ecological connectivity by 2027.

And under the Biodiversity theme:

- Improve the retention and restoration of native vegetation and habitat on private land through; community education, farm planning and stewardship programs and permanent protection, leveraging incentives and market opportunities.
- Collaborate to maximise the potential of carbon market investment, to contribute to land, water and biodiversity outcomes.

An example is the RLP Funded Regenerative Agriculture project which delivers on several of the directions/outcomes of the RCS (notably - community-based participatory programs and increased uptake of improved soil management practices), increasing the awareness and adoption of land management practices that improve and protect the condition of soil, biodiversity and vegetation.

Case Study Part 1 – Regenerative Agriculture in North Central Victoria

The Regenerative Agriculture in North Central Victoria project works with farmers, industry and communities to improve soil carbon and enhance biodiversity and vegetation on farm. The project provides landholders with skills and knowledge for managing threatening soil carbon processes and biodiversity and vegetation on farm. This will be delivered through a range of landholder selected themes and activities including trial options and test new and innovative land management practices at local on-farm demonstration sites. Adoption of practices to improve soil health and water cycles, enhance ecosystem services, increase resilience to climate changes and strengthen the health and vitality of farming communities are offered.

In establishing the RLP funded project "Regenerative Agriculture in North Central Victoria" a program logic was developed in line with RLP requirements. The program logic links the actions undertaken as part of the Regenerative Agriculture project and how they link to the RLP long term outcome. The Priority directions in the RCS aligned strongly to the RLP outcomes.

Project Approach: The project addresses Outcome 5 through the delivery of related sub-projects comprising of services that will be organised using the following methodology:

• Initiation - Partnerships & collaboration with community groups & industry groups (eg. Vic No Till, Best Wool Best Lamb, Landcare networks) to identify priority on-farm issues and appropriate management responses and appropriate delivery mechanisms. Six Regenerative Agriculture Community Groups (RACG) will deliver on ground projects and activities across the management area. The Regional Sustainable Agriculture Steering Committee (RSASC) (comprising Agriculture Victoria, Murray Dairy, Bendigo Bank, Birchip Cropping Group, North Central CMA, community representatives) provides governance, advice and guidance for the project.

• Implementation - The six RACG will deliver on-ground projects and activities including workshops, field days, trials, and farm tours determined by the group to promote adoption of practices on-farm to manage threatening processes to soil carbon and erosion, biodiversity or vegetation. Sub-projects that will be delivered over the five years of the Regenerative Agriculture project:

1. RACG facilitator training - capacity building of community members to facilitate group activities and engage their community in practices to promote adoption of practices on-farm to manage threatening processes to soil carbon and erosion, biodiversity or vegetation.

2. RACGs planning workshop for project prioritisation themes/threat identification. Groups planning to design and undertake regenerative agriculture knowledge exchange activities and demonstrations aligned with Regional, Victorian and National Catchment and Soils Strategies to improve soil structure and climate adaptation on farm. (Workshops with community groups, survey current practices, knowledge, awareness, skills for baseline).

3. RACGs will deliver individual planning with group members to quantify baseline data and estimate adoption of land management practices.

4. RACGs will deliver soil health knowledge and skills training/workshops focused on the current condition of the soils and soil science, and strategies to improve soil structure and climate adaptation on farm, supported by Agriculture Victoria.

5. Additional activities delivered by the RACGs – identified through the project prioritisation workshop (2) will include a soils, biodiversity or vegetation skills and knowledge workshop/field day/demonstration/farm tour.

6. Traditional Owner Farm Planning engagement - development and distribution of an expression of interest pack to Traditional Owner groups to gauge and understand their values and aspirations, along with their interest in participating in the agriculture sector and provide a business case to be pursued

• Evaluation & continuous improvement - Ongoing reporting, monitoring & evaluation of delivery mechanisms to; demonstrate impact of project and increased understanding of issues; and inform project management to adapt and improve project delivery.

• Project reporting - Project reports will be drafted in accordance with agreed schedule. Project staff will manage adaptively for the life of the project, taking the approach of 'learning by doing'. Effectiveness of project activities will be monitored using a range of techniques outlined in the Monitoring Methodology. Project learnings will be used to inform more efficient ways of management and future project design. Project staff will regularly communicate project progress and performance through a range of methods such as social media, websites, field days and media releases.

In the RCS soil landscapes have been identified to provide a regional overview of different soil types, associated issues, constraints and potential management responses as shown int eh map and described in the table below. This is intended to be a broad reference for future planning and management. The following RCS priority direction also to build our knowledge of soils to inform future planning and management.

• Collaborate to develop a soil health knowledge resource, to improve understanding of the potential and limitations of soils across the region, updating as needed to capture new knowledge gained through research.

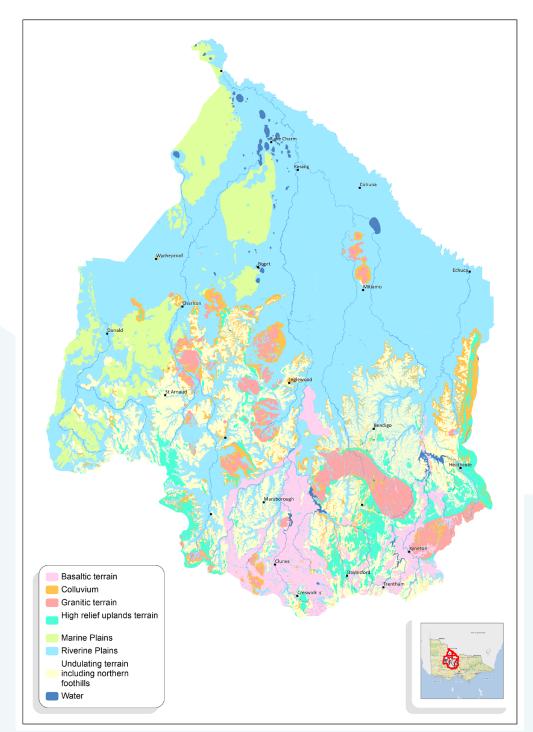


Figure 5: Map of Soil Landscapes in the North Central Region

Table 1: Summary of Soil Threats in North Central Region

Soil-landscape	Issues	Management responses
High relief metasediments - steeper hilly terrain of the Great Dividing Ranges featuring prominent sandstone/slate ridges including metamorphic aureoles surrounding granitic intrusions	Land degradation is prominent where excessive runoff induces gully erosion within adjacent valleys. This is exacerbated by excessive clearing of native vegetation, shallow soils with poor water holding capacity, and soil acidity with attendant aluminium toxicity.	Erosion control structures, land retirement, perennial agriculture, careful grazing management, revegetation and farm forestry
Low relief metasediments – gently undulating terrain of the northern foothills comprising intensely weathered metasedimentary rocks	Dryland salinity can be very severe where salt stores are elevated in intensely weathered terrain. Salinity affects both farmland and water quality within streams. Soils sodicity is also commonplace and maintenance of soil structure remains an ongoing challenge.	Farming for sustainable soil management through the adoption of practices that include targeted farm forestry, saline agriculture, deep rooted perennial pastures, cover crops and conservation tillage. Adoption of erosion control structures can also be very important where gullies are severe
Colluvium – unconsolidated sediments deposited as alluvial fans on the hillslopes of most terrain types found throughout the northern slopes and foothills of the Great Dividing Ranges	Unconsolidated sediments deposited as alluvial fans on sloping terrain can be problematic from both a salinity and erosion perspectives given both surface water and groundwater processes are involved. The extent of issues depends, to a large extent on local hydrological conditions including the parent material from which colluvial aprons are formed. Dryland salinity and gully erosion are commonplace.	Colluvial aprons form within a wide variety of terrain types and, accordingly, management options are best devised through knowledge of local hydrological processes and geomorphic conditions. Options, however, will nearly always include opportunities for improving the water balance of farming systems. In some instances, more targeted approaches include 'break of slope farm forestry' afford an effective and innovative approach
Granitic terrain – includes all terrain types found in granitic lands ranging through (for example) the high relief terrain of the Mt. Alexander complex through to the intensely weathered low relief lands of Murphy's Creek	Gully erosion, soil acidity, silicified hard pans, and dryland salinity are all common in granitic terrain. Susceptibility to degrading processes is intimately linked to the physical nature of the terrain recognising a spectrum that extends from sandy outwash in steeper terrain through intense weathering in lower relief lands	Management options must be tailored to local geomorphic circumstances. Options may include break of slope forestry, perennial agriculture, deep ripping, cover crops, manure injection and so on. Options must be linked to local hydrologic circumstances
Basaltic terrain – Quaternary basalt flows that infill many of the larger valleys found	Issues largely relate to soil structure which is generally excellent in the red	Management options generally focus on opportunities to promote soil health through

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Soil-landscape	Issues	Management responses
throughout the mid to upper Campaspe and Loddon catchments	soils and poor in the grey soils. Water logging frequently occurs in the latter.	increased biological activity following the adoption of practices that increases soil organic matter
Riverine Plains Irrigation – the vast alluvial plains extending northwards beyond the foothills of lower Loddon, Campaspe and Avoca catchments. Formed from unconsolidated sediments deposited by the present-day rivers and their ancestral streams	There are many issues that require management for irrigated lands in the Riverine Plains including the maintenance of soil structure, and salinity	Key principles and practices are established in a range of specific salinity management plans and consolidated in the recently revised Loddon-Campaspe Irrigation Strategy Land and Water Management Plan
Riverine Plains Dryland – as above	The dryland Riverine Plains are susceptible to the loss of soil structure associated with widespread occurrence of sodosols. The plains also suffer from dryland salinity	The management of the dryland plains is largely concerned with attaining health soils through practices that sustain ground cover to avoid wind erosion and the adoption of practices that sustain or increase soil organic matter in an effort to retain and improve soil structure through soil biology
Marine Plains - the gently undulating lands bordering the eastern Wimmera and Mallee country formed from marine sands deposited during the retreat of the Murray Sea	The lighter soils of the low rainfall lands in the west of the CMA region are very prone to wind erosion	Practices that avoid wind erosion include the maintenance of soil cover in concert with minimum tillage and the maintenance of soil organic matter.

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Outcome 6: By 2023, there is an increase in the capacity of agriculture systems to adapt to significant changes in climate and market demands for information on provenance and sustainable production.

Refer Land theme page: Land | North Central Regional Catchment Strategy (rcs.vic.gov.au)

Climate change is acknowledged as the key driver of change throughout the RCS. Under the Land theme, the RCS acknowledges that farmers have been responding to the increased frequency of drought, flood and fire through a range of actions that minimise future climate risk and that they will need to continue to adapt and be prepared for a range of scenarios. Integration of climate, catchment and agricultural systems modelling, as undertaken for other CMA regions, would enable specific projected impacts to be assessed (considering soil types and farming systems) for the North Central CMA region, to better inform decision making for various climate scenarios. The following RCS priority direction has been developed to further this: under the Land theme:

 Develop regional climate change scenarios, to assist farmers and NRM managers, to plan and make informed decisions.

The Regional Sustainable Agriculture Strategy is a sub strategy of the RCS, it is linked and its implementation is supported through this RCS direction under the Land theme.

• Continue to increase the uptake of sustainable agricultural practices through implementation of the Regional Sustainable Agriculture Strategy, Soil Health Action Plan and Land and Water Management Plan for the Loddon Campaspe Irrigation Region.

North Central Victoria Sustainable Agriculture Strategy

Agriculture in north central Victoria has significant economic growth opportunities available but will need to rethink itself in order to be contemporary and profitable. This Strategy sets the strategic direction to seize the growth opportunities by increasing the adoption of sustainable agricultural practices, addressing the change factors such increasingly variable climate, decline in soil health, water reform and irrigation modernization, technological advances and consumer demand for quality food, organic product, and high animal welfare standards.

The North Central Victoria Sustainable Agriculture Strategy has developed a framework for farmers and land managers to enable greater sustainable agriculture on farm, refer to Figure 4 below. Climate change resilience is a key aspect to sustainable agriculture.

An extract from the North Central Victoria Sustainable Agriculture Strategy on climate change:

"The present erratic climate is predicted to extend for the life of the Strategy and beyond. A more variable rainfall trend is predicted with the potential for a more arid climate Increased intensity and frequency of rainfall event s along with increased temperatures and days of extreme heat will all require farmers to adapt their practices. Such adaptation has already and will continue to happen by land manages and communities in response to droughts, floods and fires. Farm practices that are part of a holistic approach to soil health will be a key factor in achieving resilience in the face of a changing climate. It is most likely that this will mean a substantial contraction of cereal cropping in accordance with growing season rainfall and water holding capacity of soils. Mixed farmers may consider rotational grazing to increase soil carbon and water retention. Irrigation farmers will invest in practices to increase water security and lifestyle farmers will progress fuel reduction activities."



Figure 6: The Regional Sustainable Agriculture Strategy's framework (North Central Victoria Sustainable Agriculture Strategy 2016).

The Regenerative Agriculture project case study highlights the approach to increase capacity of agriculture to adapt to climate and markets demands. Refer Case Study on Regenerative Agriculture Project Part 1 (page 17) and Part 2 (below) for more information

Case Study Part 2 – Regenerative Agriculture in North Central Victoria

Outcomes Achieved through the Regenerative Agriculture Project

The 2019-20 Annual report stated "An impressive 75% of people who were engaged through the program have increased their knowledge/awareness in building and maintaining soil carbon on farm and 72% are trialing new practices to achieve project outcomes. These percentages are the result of five committed community groups delivering 17 activities to 395 landholders, managing approx. 83,000ha, to address knowledge gaps in managing soil and practices required to increase soil carbon and protect the soil from wind erosion. Resulting in increases in understanding of soil biology (70%) and the role of soil carbon (68%), > 50% of participants increased skills/confidence in soil testing and interpretation and building soil carbon.

Industry groups have visited trial sites eg Best wool best lamb group. Climate and soil data is publicly available on ExtensionAUS, Data Farmer, and Visualising Australasia's Soils website. Collaborative partnerships have been formed with Agriculture Victoria and industry leaders participating in events providing skills and knowledge to support RLP outcomes five and six and project outcomes. One participating group has 179 Facebook group members. Workshop recordings were published to the North Central CMA YouTube channel for public viewing." Ref North Central CMA Annual Progress Report 2019-20 for Regenerative Agriculture in North Central Victoria."

3. Stakeholder Aspirations

There has been extensive engagement with stakeholders including partner organisations, Traditional Owners and community, to inform the draft RCS. The aspirations in the RCS reflect the aspirations of the region. This is described under Strategy Development: Strategy development | North Central Regional Catchment Strategy (rcs.vic.gov.au) with a summary presented here.

Consultation as part of RCS development

Engagement of our partner organisations, Traditional Owners and the broader community during 2020 was largely online due to coronavirus (COVID-19) restrictions. Activities were promoted directly via an extensive contact list, as well as The Chat newsletter and social media.

A total of 57 x workshops/meetings noting 20 face-to-face interactions and 37 online sessions.

Traditional Owners (22)

Partners (24)

Landcare Networks (2)

CMA staff (4)

Community (9)

Representative groups/corporations from seven Traditional Owners of our region were engaged separately. Addenda to the Traditional Owner Paper was developed to document outcomes and confirm content for each. Water policy officers and other corporation staff were also invited to participate in partner workshops.

Partner Aspirations

There were three phases of partner engagement:

1 Face-to-face workshop in March 2020, where key threats, challenges and priorities were identified including links to various stakeholder strategies and priorities.

2. Theme (Land, Water, biodiversity, community and Traditional Owners discussion papers were drafted incorporating aspirations and priorities from stakeholders and the subsequent online workshops focused on reviewing and discussing the papers. Refer to

Discussion-Paper-for-RCS Water.pdf

Discussion-Paper-for-RCS Land.pdf

Discussion-Paper-for-RCS Biodiversity.pdf

Discussion-Paper-for-RCS Community.pdf

3 Focused meetings were held with key partner organisations to discuss key collaborator roles for priority directions and outcomes. Agreement has been reached from all partners around key collaborators for each Priority Direction.

Community Aspirations

Due to COVID-19 restrictions most community engagement has been online. There were two phases of community engagement in 2020:

- 1. Via a dedicated Engage Vic website focused on North Central RCS renewal, and an online community workshop. During the first phase, 79 online surveys were completed and 57 favourite places or priority assets pinned on the interactive map.
- 2. The second phase community members could provide comments on a summary of the discussion papers, contribute to an online discussion regarding local priorities or attend an online workshop. Seven drop-in

community sessions were undertaken across the region, during the draft RCS public comment phase, to provide an opportunity for face-to face community engagement.

With respect to stakeholder aspirations regarding RLP investment priorities:

Ramsar sites were identified as significant assets and their inclusion as priority RCS assets was strongly supported by partners and the community.

Through the combined engagement process run for RCS development and regional Biodiversity Response Planning a number of species were identified by stakeholders (Traditional Owners, stakeholders and community groups) as a species of interest including the following RLP priority species; Spiny Rive Flower, Turnip Copperburr, Australasian Bittern and Plains Wanderer (refer Table in Appendix 2).

Feedback on the Draft RCS

The Draft North Central RCS was released for public comment for 6 weeks during April and May 2021. The key engagement approaches used during the public release period including online direct feedback through draft RCS website, 7 community drop in sessions across the region and online forums for both the community and regional catchment partners. Extensive feedback was provided through the public consultation period and feedback has been considered and updates to the Draft RCS have been undertaken with confirmation from the RCS Steering Committee and the North Central CMA Board.

Overall feedback was positive. All comments received through the public consultation process have been carefully considered and changes made to the RCS to reflect this. For example:

- Format / integration Some minor changes were suggested that would help people navigate the Draft RCS web site
- Planning Scheme Local Government feedback was focused on enabling greater linkages between RCS and Planning schemes
- Biodiversity More information on approach to threatened species, biodiversity connectivity and management of key assets such as the Box Ironbark Forest.
- Recreational values Community were strongly supportive of the recreational values particularly in relation to RCS assets such as Rivers and Wetlands.
- Integrated Water Management (IWM) Managing water within an urban landscape and applying urban sensitive design focused on supporting urban waterways was highlighted.
- Engaging Corporate Farms Greater number of corporate farms and a need to considered approaches to
 engaged Corporate farms in programs delivered in the RCS.
- Climate Change Provide more information on home page to articulate the important of considering climate change.
- Greater reflection of the challenges and current condition in managing the Box Ironbark Forests and Woodlands (identified through many Biodiversity RCS assets) were reflected in comments from Parks Victoria and the Central Victorian Biolinks Alliance. The RCS has been updated to reflect this. The Box Ironbark Forests and Woodlands are also habitat for the Swift Parrot (Lathamus discolor) a priority Threatened Species under RLP Outcomes 2
- Various community views were articulated about the importance of urban waterway health and the application of Water Sensitive Urban Design principles. The RCS has been updated to better reflect the importance of this issue to local communities.
- Various community views indicated the climate change needed to be more strongly reflected throughout the RCS, particularly on the home page. Improvements to the RCS have been made to better reflect the importance of climate change to the region's environment. This links to RLP Outcome 6 in the land page, which is about focusing on building capacity of landholders to deal with the challenges of climate change.

The development of the RCS has used a collaborative approach in RCS development providing community, Traditional Owners and catchment partners many opportunities to articulate concerns and priorities and align these to the RCS.

4. Prioritised Natural Resource Management Action

Demonstrate that the Service Provider has identified and prioritised natural resource management actions based on knowledge of:

- A. location and condition of natural resources, including the Investment Priorities;
- B. threats to, or impacts on, natural resources;

C. prioritisation methods for determining the most cost-effective management actions, including decision support and spatial mapping tools; and

D. methodologies for assessing the effectiveness of management actions.

A. Location and condition: Places of significant value are captured by RCS assets. Process is described under 'Strategy Development' and further under the 'Priority assets' header for each of Water and Biodiversity themes.

The North Central RCS takes an asset-based approach, identifying the region's highest priority natural assets (waterways, wetlands and biodiversity) to focus our efforts and investment on protecting and enhancing those assets with the most significant values, that are under the greatest threat, and with the highest likelihood and feasibility of protection and enhancement.

The RCS priority waterway and wetland assets were first identified as part of 2013-19 RCS development (refer Strategy Development for more detail). Further assets were identified as part of North Central Waterway Strategy 2014-22 development. This priority setting was based on a rigorous process in which community and partners identified assets that were assessed considering; environmental significance, threat to asset, feasibility of action, technical and socio-economic risks. The priority setting process is underpinned principles used in Investment Framework for Environmental Resources (INFFER). Further information on INFFER is presented under Prioritisation Method, section c below.

Through RCS renewal engagement process there were some places identified as important by the community that have not been included as priority assets. This should not diminish the value of these places. Engaged and active communities who care for their local environment are an asset in themselves, and different funding streams (e.g. Landcare grants) can be leveraged for locally important assets. It is acknowledged that the health of tributaries is linked to the health of priority waterways. A more detailed review of waterway assets is anticipated for the upcoming renewal of the Regional Waterway Strategy in 2022-23.

Condition of Land, Water and Biodiversity is addressed under each theme as per the RCS guidelines. Condition of Ramsar wetlands is noted under the Water theme. A 'Soil and land use overview' highlights soil constraints in the 'Snapshot' table for each of the RCS Local Areas: Local areas | North Central Regional Catchment Strategy (rcs.vic.gov.au)

B. Threats to and impacts on natural resources are addressed under each theme as per the RCS guidelines. Please refer to:

Themes | North Central Regional Catchment Strategy (rcs.vic.gov.au), and specifically:

Water | North Central Regional Catchment Strategy (rcs.vic.gov.au)

Land | North Central Regional Catchment Strategy (rcs.vic.gov.au)

Biodiversity | North Central Regional Catchment Strategy (rcs.vic.gov.au)

Community | North Central Regional Catchment Strategy (rcs.vic.gov.au)

Challenges specific to different areas, are described for each RCS Local Area. Southern Uplands | North Central Regional Catchment Strategy (rcs.vic.gov.au) Bendigo Goldfields | North Central Regional Catchment Strategy (rcs.vic.gov.au) Northern Dryland Plains | North Central Regional Catchment Strategy (rcs.vic.gov.au) Irrigated Riverine | North Central Regional Catchment Strategy (rcs.vic.gov.au) Western Dryland Plains | North Central Regional Catchment Strategy (rcs.vic.gov.au) Western Dryland Plains | North Central Regional Catchment Strategy (rcs.vic.gov.au) Upper Loddon Plains | North Central Regional Catchment Strategy (rcs.vic.gov.au)

C. Prioritisation: The RCS priority assets were initially identified for the 2013-19 RCS, and this process involved rating feasibility of implementation from a technical and socio-economic perspective, decision support tools such as INFFER were used – for more details see <u>This Strategy | North Central Regional Catchment Strategy (rcs.vic.gov.au)</u>

The following is taken from the 2013-2019 North Central RCS and provides a description of the use of INFFER.

"The North Central CMA prioritises natural assets on the basis of careful planning, research and community consultation. Decision support tools are used to assist in making sound decisions regarding investment to ensure the wise use of limited funding and resources. The Investment Framework for Environmental Resources (INFFER) is one such tool that the North Central CMA has used during the RCS development and more generally for environmental asset investment decision making. Although INFFER has been used in the development of the RCS, it should be recognised that there will also be other decision support tools and drivers for investment (i.e. irrigation modernisation in the north of the catchment).

INFFER[™] is a tool for developing and prioritising projects to address environmental issues such as reduced water quality, biodiversity, environmental pests and land degradation. It is designed to help environmental managers achieve the most valuable environmental outcomes with the available resources. INFFER assists decision makers to assess and rank environmental and natural resource projects, comparing aspects such as value for money, degrees of confidence in technical information and the likelihood of achieving stated objectives. INFFER aims to help determine whether the projects will deliver tangible results within budget; whether the tools and technical capacity needed to attain those results will be available to the project; and whether the people who need to come on board to make it happen will be there when the time comes for action.

INFFER:

- Provides a strong basis for preparing business cases for funding.
- Highlights the funding required to achieve particular environmental outcomes.
- Provides confidence about using public money more cost effectively through the choice of appropriate delivery mechanisms.
- Provides a robust, transparent basis to enable strategic direction setting, debate and discussion about the future of assets in question.
- Builds on existing knowledge, integrating biophysical, physical, social and economic factors with institutional political risks and costs to assess the cost effectiveness of actions.
- Helps to highlight and prioritise limitations in current knowledge.
- Provides internal logic and consistency, ensuring that actions funded by projects will be sufficient to deliver stated objectives.
- Reduces bias in decision making by making the assumptions about the process fully transparent."

Prioritisation of action will occur through project planning. For biodiversity, the decision support tools and products available via the Naturekit portal, notably SMP, will help biodiversity managers identify and prioritise the most costeffective management options that benefit the greatest number of species, within the priority areas identified (SMP can also inform approaches for individual species). **D.** Effectiveness: Decision support tools, such as SMP and Threatened Species Framework will be utilised to identify the most cost-effective approach to biodiversity management (see more on this under Section 2, Outcome 2). The CMA also draws upon relevant best practice, local knowledge and experience. The CMAs project planning MERI processes will address effectiveness of actions (refer section 8 for more on the CMAs MERI processes).

The North Central RCS provides an overview of the MERI process to be used in its implementation. See <u>Monitoring and</u> <u>reporting | North Central Regional Catchment Strategy (rcs.vic.gov.au)</u>. The information in the RCS is quote high level so the following case study has been included to demonstrate how this translates in practice.

RCS Action

The RCS is a high level Strategy and does not specify detailed actions for specific RCS priority assets. The NRM prospectus (<u>Prospectus | North Central Regional Catchment Strategy (rcs.vic.gov.au</u>)) highlights a number of priority actions identified in the RCS. The prospectus will be updated over the life of the RCS as new information and funding opportunities are made available. The RCS is the overarching NRM Strategy for the Region and is supported by sub strategies that provide detailed action information, these include:

- North Central Waterway Strategy 2014-2022
- North Central Regional Floodplain Management Strategy 2018-2028
- North Central Victoria Sustainable Agricultural Strategy 2015
- Loddon Campaspe Irrigation Region, Land and Water Management Plan 2020-2030
- Loddon Mallee Biodiversity Response Planning
- North Central Regional Landcare Support Plan
- North Central Climate Change Adaptation and Mitigation Plan 2015

The RCS informs priorities and action in these sub strategies.

Case Study – Plains for Wanderer (RLP Funded Project)

The primary project aim is to improve and enhance Plains-wanderer (PW) habitat on the northern grasslands in Victoria, which support one of two core populations nationally. Activities include placing covenants on grasslands to protect privately-owned high quality Plains-wander habitat, revegetation to replace lost Plains-wanderer food plants at key public grasslands, revegetation of Buloke woodlands, re-introducing populations of spiny rice-flower and turnip copperburr, Boxthorn control to improve habitat, rabbit control to protect revegetation and regeneration, field days to improve landholder knowledge of best practice management, Traditional Owner programs to deliver on-Country aspirations such as cultural burning and condition and population monitoring to guide project prioritisation and assumptions Key partners include Trust for Nature, DELWP, Traditional Owners, the Northern Plains CMN and Parks Victoria. A more detailed project description can be found in the Docs section.

Key threat(s)

Habitat loss through cultivation of grass lands, Inappropriate grazing, weeds particularly Boxthorn

Project Methodology

The project has had the input of project staff, grassland technical experts, agency staff, landholders, TOs and the Plains-wanderer Operations Group. This input captures a vast amount of experience which will ensure effective interventions. A project steering group will help guide project activities and identify high-priority sites for works. Works agreements will be signed with landholders when onground activities are delivered. Activities include:

Covenants on private land Landholders with high priority habitat will be offered a cash incentive to permanently protect their grasslands. Covenants are key to this project as they are the most secure type of protection mechanism available on private land, preventing poor biomass outcomes and cultivation.

Revegetation Seeds collected from key Plains-wanderer food plants will be seeded on existing public reserves where they are missing. Seeding will be by hand broadcast, a cost efficient and low impact way of replacing key species that has shown to be effective in previous projects.

Weeding Boxthorn and non-native tree species will be controlled at key grassland sites. Plains-wanderers need contiguous areas free of raptor roosts. This is a highly effective intervention as the removal of one shrub/tree can increase suitable Plains-wanderer area by a 200m radius, equating to 12.5 ha. Fencing Covenanted properties will generally require fencing to manage grazing as part of the management prescriptions.

Fencing to soil type allows greater grazing control and directly facilitates improved management. Spiny rice-flower and turnip copperburr Propagating and planting on covenanted sites. This has been successful in past projects and new populations will be established on these permanently protected sites providing source seed for future recruitment. Buloke woodlands Areas with remnant Buloke will be revegetated with irrigated tubestock and direct seeded. Rabbit control will be undertaken to promote natural regeneration and protect investment.

Monitoring - Spotlight surveys by a specialist consultant and installation of Plains-wanderers song meters will be undertaken to build baseline data. Undertaking of pre-works monitoring such as photo points and vegetation quality assessments to obtain baselines.

TO sharing days will be facilitated and knowledge of grasslands will be shared through yarns with Barapa Barapa, Yorta Yorta and Dja Dja Wurrung mob to help realise On-Country aspirations. Scholarships will be offered for TOs to attend the National Indigenous Fire Workshop, Jigija, or equivalent. Building skill and knowledge around fire management is essential to begin the process of introducing fire back to Country, which will be supported by the project. Annual field days will be held to share information about best practice grassland management, and the likelihood of participants to change their management will be recorded in surveys.

Results in 2019/20

118.73ha of good quality grassland habitat secured under covenant (with Management Plan) on Patho Plains; a farm where Plains Wanderers historically recorded.

5. RCS Project Delivery linkages to RLP Outcomes

Identify how the delivery of projects will contribute to RLP 5-year Outcomes and Investment Priorities for the Management Unit?

The RCS priority assets are intended to focus action and investment in the region. They capture significant values, including RLP Investment Priorities and are used to guide project planning. Key RCS priority directions and outcomes refer RCS priority assets, as described above.

In addition to the RCS biodiversity assets, the decision support tools and products available via the Naturekit portal, notably SMP, will help biodiversity managers identify and prioritise the most effective and efficient management options for the greatest number of species, within the priority areas identified. SMP can also be used to inform effective approaches for individual species.

Priority assets are not identified for the Land theme, but the priority directions for Land, address agricultural RLP Investment Priorities and will guide action and investment.

Current projects that contribute to RLP 5-year Outcomes and Investment Priorities are described below. RLP Projects develop their own Monitoring and Reporting Plan that ensures information is collected to describe how projects are contributing to RLP outcomes.

Threatened species

Australasian Bittern and Growling Grass Frog

Increase the extent and quality of wetland habitats to contribute to the recovery of the Australian bittern and growling grass frog.

During the reporting period an additional two sites have started the transformation into wetlands, which in time will be critically important habitat for Australasian bittern and growling grass frog. Works included earthworks and the installation of irrigation infrastructure. More than 20 ha of tall marsh revegetation was planted, 3 kms of fencing installed/replaced to protect habitat areas for Australasian bittern. Almost 900 ha of fox/cat control was completed at wetlands.

Australian Government - National Landcare Program

Threatened Grasslands Communities and the Plains Wanderer

Protects and enhances high quality plains wanderer grassland habitat on private land and in partnership with public land managers.

Delivered 3 km of fencing, 71 ha of revegetation, 5 ha of wetland establishing earthworks and watering infrastructure, 67 ha of weed control, 958 ha of pest control and 118 ha covenanted for permanent protection.

Australian Government - National Landcare Program

RAMSAR wetlands

Improves the ecological character of the Kerang Wetlands and the Gunbower Forest through traditional on-ground works such as revegetation and pest control.

This project will strengthen regional partnerships around monitoring and management. The Kerang Ramsar implementation project has been delivered for the past four years and over the reporting period a comprehensive and coordinated rabbit control program was undertaken that resulted in more than 800 ha treated across five wetlands. This work complemented two other rabbit control programs being implemented by Parks Victoria (60 ha) and the Loddon Plains Landcare Network (2,481 ha treated) encompassing eight wetlands within the Ramsar site. A comprehensive woody weed control program was also carried out resulting in more than 260 ha being treated across five wetlands.

Victorian Government - Water Program Investment Framework

The Living Murray 'Flooding for Life'

Provides environmental flows to Gunbower Creek and restores regular flooding to Gunbower Forest through a combination of environmental watering, engineering works, monitoring, Indigenous partnership programs and community engagement.

Approximately 21 GL of water for the environment was delivered to Gunbower Creek to support aquatic biota including native fish. An additional 3.5 GL was delivered to high priority wetlands in Gunbower Forest to provide habitat for waterbirds, fish, turtles and frogs and support the growth of wetland vegetation. Cultural values and Traditional Owner aspirations for management of water on Country were also supported through these deliveries.

Australian Government - The Living Murray

Regenerative Agriculture

Increases the capacity of north central Victorian agricultural communities to achieve practice change adoption for soil, biodiversity and vegetation improvements.

75% of participants have increased knowledge/ awareness in building and maintaining soil carbon on farm and 72% are trialling new practices to achieve project outcomes. Five community groups delivered 17 activities to 395 landholders, managing approx. 83,000 ha, to address knowledge gaps in managing soil and practices required to increase soil carbon and protect the soil from wind erosion. Collaborative partnerships have been formed with Agriculture Victoria and industry leaders participating in events providing skills and knowledge to support outcomes.

Australian Government - National Landcare Program

Regional Agricultural Landcare Facilitator

Directly supports rural, regional and urban communities, including Indigenous Australians to improve ecological conditions, farm sustainability and build resilience around changing climate and market demands.

Support to Landcare groups by attending meetings to provide updates on upcoming events, funding opportunities and relevant information. Social media is used frequently to inform the farming community about workshops, field days, webinars, research, and publications. More than 40 agricultural social media posts with a reach of more than 50,000 people. Facilitated a 'Holistic Management Communities of Practice' and other regenerative agriculture groups.

Australian Government - National Landcare Program

6. RCS Collaborative Implementation

Identify how the NRM Plan(s) will be implemented with comprehensive Community participation?

Describe key collaborations and how they relate to the delivery of 5-year Outcomes? For example, key collaborations could include partnerships between the Service Provider, industry and/or Community groups.

Each of the RCS priority directions and outcomes specifies those involved/targeted. Key government partners were engaged to finalise these priority directions/outcomes and confirm roles for delivery, to improve accountability for RCS implementation. The organisations with lead role/s, will be involved in initiating (including to source investment) and leading, but in order to succeed, the participation and support of many others is needed, including:

- Rural landholders, associated community-based NRM groups, volunteers and the broader community
- Non-government organisations, industry and research organisations
- Traditional Owners to speak for Country and participate/partner/lead (self-determination) in the delivery of RCS directions and outcomes.

On the Partners page <u>Partners | North Central Regional Catchment Strategy (rcs.vic.gov.au)</u>, RCS partners are listed and their roles described.

The Regional NRM Prospectus 2020 <u>Prospectus | North Central Regional Catchment Strategy (rcs.vic.gov.au)</u> developed by the North Central Catchment Partners Forum highlights some shared priorities and opportunities for collaboration.

North Central Catchment Partner Agreement and Forum

The primary purpose of the North Central Catchment Partners Forum is to bring catchment management partners with a key role in managing land, water and biodiversity assets across the north central region of Victoria together at a strategic level and in a collaborative environment. In doing so the Forum creates better, far sighted, integrated and practical natural resource improvements for our organisations and the community. In operating at a strategic level, the Forum complements the existing and effective collaboration between our organisations on more operational matters.

The Catchment Partners forum is supported by the Catchment Partners Agreement which formalises the approach is aims to strengthen coordination, collaboration and accountability, reduce duplication, and provide clarity on roles and responsibilities between key catchment management partners.

The North Central Catchment Partners Agreement will help to achieve the following outcomes for the community and environment:

- 1. Healthier and more productive land, biodiversity and water assets, and ecosystems
- 2. Improved regional economic wellbeing and liveability
- 3. Greater community ownership and stewardship of our natural assets
- 4. Shared understanding of our impact
- 5. Better value for money from investment in natural resource management

6. Strengthened implementation of Regional Catchment Strategies and other key state and regionally relevant policies as required

Each Catchment Partnership will:

- Identify regional priorities that need cross-organisational collaboration to be successfully implemented
- Account for legislative responsibilities, and describe and clarify policy implementation and regionally specific roles of the partners
- Support development and implementation of the Regional Catchment Strategy and monitor progress
- Identify any relevant regional issues and develop options for resolving them
- Review new relevant government policies to identify those that will require cross-organisational cooperation and collaboration for implementation

• Ensure that all relevant partners may be signatories and are involved in all relevant issues, decisions and policy implementation in a timely and collaborative manner

A good example of a collaborative approach to project delivery is the Regenerative Agriculture Project

The Regenerative Agriculture Project involves a collaborative approach, aligning with the RCS priority direction *"Deliver community-based participatory programs that build the capacity of land managers/holders, to improve land health.*

The Regenerative Agriculture in north central Victoria project provides a robust approach to work with communities (including Traditional Owners) and industry groups to understand the operating environment and develop plans and processes to mitigate against the risks and ensure the ongoing viability of agriculture within north central Victoria. Engagement methods and farm practices used by the project are underpinned by science, meet farmer needs (fit-for-purpose) and promote the creation of peer support networks amongst the farming community. The project also supports the testing of new and innovative farm practices at the local scale through on-farm demonstration sites. Adaptive management will be employed by the project to maintain the relevance of project activities in an environment of constant change (e.g. climate, markets, technology).

Please refer to the case study for the Regenerative Agriculture project on Page 17 & 22 for more detail.

7. First Nation Peoples Aspirations and the RCS

Identify the inclusion of Indigenous peoples' land and sea management aspirations for the Management Unit, including how these relate to the RLP 5-year Outcomes and what plans and strategies are in place to include / implement these aspirations?

Identify that the Service Provider has, where appropriate, incorporated traditional ecological knowledge, in accordance with agreed protocols of the Indigenous custodians of the knowledge with prior approval?

The North Central CMA region includes the traditional lands of Dja Dja Wurrung, Taungurung, Yorta Yorta, Barapa Barapa, Wemba Wamba, Wadi Wadi and clans represented by the Barenji Gadjin Land Council.

For the purposes of this RCS, the North Central CMA offered to sign an Intellectual Property Commitment with each group engaged, to cover the potential sharing of any intellectual property during RCS engagement and its use.

Traditional Owners acknowledged there is a lot to learn from each other but expressed frustration that traditional knowledge is not respected in the same way as western science, and when this knowledge is shared, it is not well integrated into management. Bridging tools that enable a respectful integration of knowledge systems and practices were suggested to better facilitate this.

The individual Traditional Owner pages (accessed via the map on the Traditional Owners page) include traditional knowledge and reference the use of Traditional Ecological Knowledge in future management.

Those Traditional Owner priority directions which mention knowledge generally or Traditional Ecological Knowledge specifically are:

- Support and enable opportunities for inter-generational connection to Country, to share knowledge and maintain culture.
- Support the assessment and documentation of cultural values (tangible and intangible), traditional ecological knowledge and practices.
- Collaborate to protect and enhance cultural values (tangible and intangible), through integrated management, including the use of traditional ecological knowledge and practices.
- Build capacity both ways, respecting the value of traditional knowledge, and the right of its custodians to determine if/how it is shared and used.

Specific Traditional Owner aspirations are presented in the RCS in the following links:

Dja Dja Wurrung | North Central Regional Catchment Strategy (rcs.vic.gov.au)

Taungurung | North Central Regional Catchment Strategy (rcs.vic.gov.au)

Yorta Yorta | North Central Regional Catchment Strategy (rcs.vic.gov.au)

Barapa Barapa and Wamba Wemba | North Central Regional Catchment Strategy (rcs.vic.gov.au)

Wadi Wadi | North Central Regional Catchment Strategy (rcs.vic.gov.au)

Barengi Gadjin Land Council | North Central Regional Catchment Strategy (rcs.vic.gov.au)

Traditional Owner Aspirations linked to RLP Outcomes

A description is provided below on how Traditional Owner Aspirations articulated in the RCS are linked to the 5 RLP Outcomes.

By 2023, there is restoration of, and reduction in threats to, the ecological character of Ramsar sites, through the implementation of priority actions

Yorta Yorta have identified Upper Gunbower Forest and the broader Dhungalla (Murray River) corridor as having particular significance to Yorta Yorta people. Yorta Yorta peoples' aspirations include Self-determined participation, Connecting to Country, Caring for Country and Monitoring outcomes, species recovery and sharing knowledge. Refer to <u>Yorta Yorta I North Central Regional Catchment Strategy (rcs.vic.gov.au)</u>

The Barapa Barapa Wamba Wamba Water for Country Committee have identified the following places of cultural value including Wetlands that form part of the Kerang Wetlands (Lower Avoca Marshes, Lake Bael Bael, Lake Tutchewop, Lake Cullen, Hird Swamp, Johnson Swamp, Reedy Lakes) and the Gunbower Forest. The Barapa Barapa Wamba Wemba Water for Country committee identify Cultural mapping, Connection to County, acknowledges of rights, water, governance and employment as aspirations and priorities. Refer to Barapa Barapa and Wamba Wemba | North Central Regional Catchment Strategy (rcs.vic.gov.au)

The Barapa Country Aboriginal Corporation aspirations are to manage and improve the overall health of our waterways and environment including all Lakes, wetlands and Swamps). The priority of the Barapa Country Aboriginal Corporation is to support the self-determination of Barapa Barapa people by providing resources and knowledge for the effective management of the country and waters, culture, and heritage. Refer to <u>Barapa Barapa and Wamba Wemba | North</u> <u>Central Regional Catchment Strategy (rcs.vic.gov.au)</u>

By 2023, the trajectory of species targeted under the Threatened Species Strategy, and other Environment Protection and Biodiversity Conservation Act 1999 priority species, is stabilised or improved

By 2023, the implementation of priority actions is leading to an improvement in the condition of EPBC Act listed Threatened Ecological Communities

RCS Overall priority direction articulate links to threatened species and includes:

- Continue to build partnerships with Traditional Owners towards self-determined participation and leadership in biodiversity planning and management.
- Support and enable opportunities for Traditional Owners to return species of importance to the landscape.

Please refer to Traditional Owners | North Central Regional Catchment Strategy (rcs.vic.gov.au) for more information.

There are many examples of how Traditional Owners have identified Threatened species and broader landscapes in the RCS, these include:

- The Bayadherra (Broad Shelled Turtle) pictured above, is a Yorta Yorta totem. Protection and enhancement of Bayadherra habitat is important because of its spiritual significance to Yorta Yorta people and also because it is an endangered species. Refer to <u>Yorta Yorta | North Central Regional Catchment Strategy (rcs.vic.gov.au)</u>
- The landscape that is Djandak is of great importance to Dja Dja Wurrung. The returning of Murrup (spirit), practice and people to landscapes is vital to enable Dja Dja Wurrung to lead the decolonisation of the landscape to allow for reconciliation to occur. Important Murrup to return to Country are those that are connected with our Stories and identity, Gal Gal (Dingo) has a named connection to clans which were dispersed from the southern section of Djandak, including the Gal Gal Balug and Gal Gal Gunditj. Lalgambook (Mt Franklin) the 'Emu's nest' is conspicuous with the absence of Barramul (Emu). Yung Balug in the Boort landscape have spiritual connections to the Yung (Quoll). To return Dja Dja Wurrung to the landscape we must ensure that we return the people and their Murrup to enable these landscapes to heal again. Refer to Dja Dja Wurrung | North Central Regional Catchment Strategy (rcs.vic.gov.au)
- Taungurung have identified Healing Country as a key aspiration and specifically Cultural landscape management: healing and management of important landscapes, places and species. Taungurung have also identied being the leading group in monitoring our threatened species. Refer to <u>Taungurung | North Central</u> <u>Regional Catchment Strategy (rcs.vic.gov.au)</u>

• Barengi Gadjin Land Council State Integrated catchment management will be a platform for activities that contribute to self-determination and nation-building by First Nations communities. Wotjobaluk People share rights and interests in the living cultural landscapes, rich in values and heritage. We share kinship across the region and continue to shape the landscape to support cultural continuity, renewal, and revitalisation. A statement is provided *"That's the importance of the landscape for us as Traditional Owners, as Wotjobaluk people. What you've captured is the strong connection. It's part of our identity. That landscape and cultural heritage has a significant meaning to us all. It touches us and has a significant meaning to us all. That's special."*

By 2023, there is an increase in the awareness and adoption of land management practices that improve and protect the condition of soil, biodiversity and vegetation

RCS Overall priority directions articulate links to improved land management practices and includes:

- Continue to build partnerships with Traditional Owners towards self-determined participation and leadership in water planning and management.
- Continue to build partnerships with Traditional Owners towards self-determined participation and leadership in biodiversity planning and management.
- Support the assessment and documentation of cultural values (tangible and intangible), traditional ecological knowledge and practices.
- Collaborate to protect and enhance cultural values (tangible and intangible), through integrated management, including the use of indigenous biocultural knowledge and practices.
- Support and enable opportunities for Traditional Owners to return species of importance to the landscape.
- Support the integration of Traditional Owner-led cultural fire management.

Please refer to Traditional Owners | North Central Regional Catchment Strategy (rcs.vic.gov.au) for more information.

A good example of Traditional Owner aspirations linked to improved management practices is highlighted on the Dja Dja Wurrung RCS page <u>Dja Dja Wurrung | North Central Regional Catchment Strategy (rcs.vic.gov.au)</u> and is presented below

'Walking Together' to Care for Country

Dja Dja Wurrung describe 'Walking Together' as the roles and ways in which they are comfortable to work or would like to work with partners.

Dja Dja Wurrung would like to be participating at a level of 'Collaborate' or Empower' (IAP2 spectrum). They see a need for more Dja Dja Wurrung people in leadership roles, mentorship and capacity building of Jaara youth to work in caring for Country roles, for roles on advisory groups relating to RCS delivery, and roles in monitoring.

Connecting to Country, Talking to Country,

...there is a need to first and foremost reconnect Jaara with land and to reconnect stories and knowledge to place. Our knowledge is stored in our stories, in our landscape and in our Murrup.

As we continue to return to Djandak we need to be enabled time to talk to Djandak to understand what are all the places that need to be cared for and what are the steps we need to take to begin the healing Journey with these places.

Enabling practice

To enable the return of Dja Dja Wurrung practice to Country including the intangible connection to Country and the practices that have been passed down through our Elders we need to ensure that there is a supportive and enabling environment. This environment needs to not only allow Dja Dja Wurrung to return practices in a culturally safe way but implement a measurable approach to allow us to celebrate with partners and stakeholders who actively and systematically look to overcome barriers.

Cultural values, healthy Country

Our cultural places need to be adequately protected for us to truly be able to call a landscape 'healthy'. This includes Cultural sites that may not be considered a priority under the current ecological Western-based frameworks. Things that are considered healthy to us, are not the same things that CMAs, water corporations consider healthy. This perception

needs to change and cultural values protected the same way that ecological values are, in order for us to be able to truly call a landscape 'healthy'.

Stop looking at the system in isolation 'If you take the landscape away – there is no culture. It is all intermingled. If we are only taking care of pieces, we are not properly caring for Country'

<u>Knowledge</u>

Our knowledge has been built up over generations of observation and management and passed down. We are gardeners of the environment. We care for the land and it provides for us. We use Lomandra and matt rush to weave baskets. We hunt wallaby, emu and goanna. We eat the eels, mussels, crayfish and yellow belly from our streams. We gather bardi grubs and duck eggs, nardoo and yam daisies and wattle seeds for food and medicine. We use buloke and red gum timber for our tools and ceremonies.

We know the place where Mindi first emerged. It is still a sacred place, but sadly it is a desecrated space. We know the places where our waterbirds nest, and what Bunjil's other creatures need to breed and thrive. We remember when the rivers were once mighty – our Elders hold memories of their crystal clear waters with an abundance of platypus, water plants and good fish.

We know where to go to collect our medicine, food plants and weaving grasses – many of these can still be found in the landscape today. We know where these plants will flourish and thrive, and we the best ways to harvest them. Many species require harvesting at specific times of the year or in specific ways, and others will not grow without certain seasonal conditions such as rainfall. These are the things we continue to pass down to our children.

Regarding sharing of intellectual property, there is a constant battle between fear that information may be lost forever (as much already has) vs the fear that it may be stolen or misused.

...there needs to be a levelling of the knowledge fields between Western Science and Dja Dja Wurrung knowledge. There is currently a high level of bias towards western science-based decision support tools with little active and or resourcing to support the development of Dja Dja Wurrung knowledge-based tools.

Until this relationship becomes equal, the risk to Dja Dja Wurrung people of sharing knowledge remains significant and unfair.

Education is required on both ends, to be able to understand one another, particularly the more complex components of Aboriginal culture, so therefore we must work together to learn from each other, using past experiences as a guide to shape the future.

Jaara want to build partnerships, including with private landholders and engage with the broader community to raise cultural awareness.

"We feel a moral responsibility to care for our Country as it binds us to the past, present and future. Our ancestors looked after this Country and we are duty bound to look after it for the next generation. We believe we are an integral part of the ecosystem and place strong value the balance of natural resources and their management. When the Country is sick, we are sick. We must do better. "

By 2023, there is an increase in the capacity of agriculture systems to adapt to significant changes in climate and market demands for information on provenance and sustainable production

Agricultural systems ability to adapt is not a specific aspiration for traditional owners in the North Central RCS, climate change has been identified by some. For example, Dja Dja Wurrung have stated

"The Dja Dja Wurrung Country Plan 2014-2034, Dhelkunya Dja, outlines the strategic direction for the Dja Dja Wurrung Clans Aboriginal Corporation (DDWCAC) and Djandak Enterprises as well as the rights and aspirations of Djaara peoples. Dhelkunya Dja provides a critical framework and policy context for the region in which to implement climate change mitigation and adaptation strategies. Climate change is not new to Djaara peoples – cultural practices of land management including fire, forest care and water health have been utilised to adapt and mitigate past climate change events. These practices are recognised in Djaara peoples' current rights to heal and manage Djandak, or Country. The recognition and ability given to DDWCAC and Djandak Enterprises to implement those rights have far-reaching regional benefits to the environment and communities to mitigate and adapt to contemporary, human-induced climate change."

8. Monitoring, Evaluation, Reporting and Improvement (MERI)

Identify and ensure monitoring and reporting process are in place

Identify and if necessary, outline any required updates to the monitoring and reporting processes in place to ensure the Service Provider measures the achievements and the effectiveness of the NRM Plan(s)?

The Catchment and Land Protection (CaLP) Act 1994 requires CMAs to identify procedures for monitoring the implementation of their Regional Catchment Strategy (RCS).

To provide consistency in monitoring and reporting of RCS implementation across Victoria, an RCS Outcomes Framework has been developed (Refer to Figure 7 over page). The framework identifies a set of standard indicators that align with statewide policies, thereby improving the way RCSs reinforce, promote and support government policy and objectives. Improved consistency in reporting across the state will also help demonstrate how local and regional-scale contributions achieve statewide outcomes.

Standard indicators include, monitoring the condition of resources and measuring the progress towards achieving outcomes (SMART targets). Guidance notes for each indicator provide guidance regarding the method and data source to ensure consistency of reporting. The framework also identifies linkages between RCS monitoring and reporting and existing reporting mechanisms such as CMAs' Annual Reports.

In addition, CMAs can develop outcome indicators specific to their region, which we have done, , ensuring that data to measure progress is readily available.

As the overarching strategy for CMA activities progress against RCS implementation is reported regularly in accordance with the North Central CMA's Monitoring, Evaluation Reporting and Implementation (MERI) strategy; policies; procedures, and systems and via corporate and investor reporting. A mid-term and final review of the RCS also provide robust processes to track and reflect upon implementation. Further information can be found under the Strategy review section.

Refer the following pages for general information regarding MERI for the RCS:

Monitoring and reporting Monitoring and reporting | North Central Regional Catchment Strategy (rcs.vic.gov.au)

Strategy review Strategy review | North Central Regional Catchment Strategy (rcs.vic.gov.au)

Tracking Progress Tracking progress | North Central Regional Catchment Strategy (rcs.vic.gov.au)

RLP Projects

All RLP project are required to develop comprehensive Monitoring, Evaluation, Reporting and Improvement (MERI) Plans. These plans set out the overall outcomes, project description, rationale and monitoring methodology. There are requirements to report regularly as part of project delivery, on how each project is delivering on each MERI Plan.

WATER	LAND	BIODIVERSITY	COASTS & MARINE	COMMUNITIES	INTEGRATED CATCHMENT MANAGEMENT
The Victori	an Governments has de	fined the following high	level outcomes relevant	t to Regional Catchment	Strategies
afe, sustainable and productive rater resources. he environmental condition of raterways supports environmental, ocial, cultural and economic values.	Land use and management is sustainable with the condition of soil, biodiversity and vegetation improved. Victoria's agriculture systems have adapted to significant changes in climate and markets.	Victoria's biodiversity is healthy, valued and actively cared for.	A healthy, dynamic and biodiverse marine and coastal environment that is valued in its own right benefits the Victorian community now and in the future.	Effective community engagement and citizen participation in catchment management.	Healthy, sustainable and productiv land, water and biodiversity maintained by ICM that is strongly community based, regionally focus and collaborative
			5 /	he Aboriginal community to drive based, regionally focused and col	1
Increase in Victoria's water security Protect the condition of Victoria's groundwater resources Increase in the number of river reaches/wetlands with maintained or improved environmental condition	 An increased number of farmers have adopted practices needed to reduce the risk of soil and nutrient loss and addification, improve carbon retention and biodiversity protection on-farm Increase in area of agricultural lond mapped that has improved biodiversity protection in place A demonstrable increase in the number of farmers using new technologies to support their climate related farm decisions 	Net gain of the overall extent and condition of habitats across terrestrial, waterway and marine environments On average) % Change in Suitable Habitat expected over 50 years from sustained improved management for threatened species On average) % Change in Suitable Habitat expected over 50 years from sustained improved management for culturally significant species Percentage of all species with positive % Change in Suitable Habitat expected over 50 years for suitable Habitate spected spect	 Vet gain in extent and condition of coastal habitats Improved catchment impact on marine environments through water quality of coastal rivers and estuaries Improved catchment impact on marine environments through improved water quality of coastal rivers and estuaries 	 Victorians are contributing to the health of Victoria's environment (biodiversity/catchments/ waterways) RCS include Traditional Owner cultural values in specific section/s, or weaved throughout Traditional Owners endorse how their values and priorities are incorporated in the RCS, or letters of support. Partnership and participation of Traditional Owners 	 Area under active stewardship to improve catchment health ar resilience ICM Stewardship Partnerships
	state-wide outcome and condi	tion indicators as well as region		nes they seek to achieve. We w dition measures that reflect regi	
Extent of protected or improved riporian land (ha) River flows Extent of wetlands (ha) Groundwater levels	 Percentage of exposed soils Agriculture (type, number of enterprises, area, value) Amount and change over time of land use 	 Extent of native vegetation (ha) Area (ha) of pest herbivore control Area (ha) of pest predator control Area (ha) of weed control Area (ha) of permanent protection 	 Extent of coastal vegetation (mangrove, saltmarsh and other regionally relevant species) Water quality 	 Community volunteering (Landcare / community NRM Groups – Group Health Score) Number of formal partnership agreements for planning and management between Traditional Owners and key NRM agencies 	Number of partnerships

Figure 7: Victorian RCS Outcomes Framework



9. Appendix

Appendix 1 - VBA records of priority threatened species

RLP Investment Priority threatened species

RLP Investment Priority Threatened Species	Total records	% within assets	Habitat Distribution Models identify this species as having more than 5% of their Victorian range within the following BRP Focus Landscapes*	Number of BRP Focus Landscapes where regional BRP stakeholders (Traditional Owners, stakeholders and community groups)
Australasian Bittern (Bird)	64	78%	0	5
Eastern Curlew (Bird)	12	75%	0	0
Mallee fowl (Bird)	20	80%	0	0
Plains-wanderer (Bird)	399		Patho Plains (20%) Leaghur (we call it Wandella) (7%) and Bunguluke (11%)	2
Red-tailed Black-Cockatoo (south-eastern) (Bird) no records in region				
Regent Honeyeater (Bird)	158	53%	0	4
Swift Parrot (Bird)	170 8		7 x landscapes (between 5- 12%)	11
Button Wrinklewort (Plant)	5	20%	0	0
Spiny Rice-flower (Plant)	448	22%	0	5
Turnip Copperburr (Plant)	309	10%	Patho Plains (11%)	1

* Regional Biodiversity Response Planning Focus Landscapes (which mostly align with RCS biodiversity assets) Fact Sheets draw upon data from SMP. These mention species with more than 5% of their Victorian range (from Habitat Distribution Models) as well as species mentioned by stakeholders for each landscape. Habitat Distribution Models are a component of the Strategy Management Prospects (SMP) model, noting that the number in this table may not be accurate for flora species, because in a few cases the document notes 'several flora species' rather than naming them.

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Appendix 2 - EPBC Fauna Records – Proportion of VBA Records within Biodiversity Assets

		Total number of records	Proportion within biodiversity assets
Alpine Tree Frog	Vulnerable	4	0%
Australasian Bittern	Endangered	39	64%
Australian Grayling	Vulnerable	1	0%
Australian Painted Snipe	Endangered	37	51%
Australian Painted-snipe	Endangered	32	50%
Curlew Sandpiper	Critically Endangered	106	47%
Eastern Curlew	Critically Endangered	9	67%
Eastern Hare-wallaby	Extinct	1	100%
Eastern Quoll	Endangered	3	33%
Eltham Copper Butterfly	Endangered	89	82%
Flat-headed Galaxias	Critically Endangered	14	57%
Golden Sun Moth	Critically Endangered	283	12%
Great Knot	Critically Endangered	6	0%
Greater Glider	Vulnerable	43	95%
Grey-headed Flying-fox	Vulnerable	29	48%
Growling Grass Frog	Vulnerable	228	36%
Heath Mouse	Endangered	1	100%
Long-nosed Potoroo	Vulnerable	3	100%
Macquarie Perch	Endangered	32	31%
Malleefowl	Vulnerable	19	79%
Murray Cod	Vulnerable	80	54%
Murray Hardyhead	Endangered	32	0%
Painted Honeyeater	Vulnerable	299	89%
Pink-tailed Worm-Lizard	Vulnerable	120	98%
Plains-wanderer	Critically Endangered	395	95%
Regent Honeyeater	Critically Endangered	151	51%
Regent Parrot	Vulnerable	5	60%
Silver Perch	Critically Endangered	35	83%
South-eastern Long-eared Bat	Vulnerable	1	0%
Southern Greater Glider	Vulnerable	43	84%
Spot-tailed Quoll	Endangered	8	50%
Striped Legless Lizard	Vulnerable	57	40%
Superb Parrot	Vulnerable	4	25%
Swift Parrot	Critically Endangered	1692	94%
Trout Cod	Endangered	10	10%
White-throated Needletail	Vulnerable	308	82%
Yarra Pygmy Perch	Vulnerable	1	0%
Grand Total		4220	76%

EPBC Flora Records – Proportion of VBA Records within Biodiversity Assets

			Total Number of records	Proportion within biodiversity assets
Basal	It Peppercress	Endangered	18	50%
Ben M	Major Grevillea	Vulnerable	37	3%
Black	Gum	Vulnerable	48	58%
Brillia	ant Sun-orchid	Vulnerable	25	100%
Butto	on Wrinklewort	Endangered	5	20%
Cand	y Spider-orchid	Vulnerable	6	100%
Chari	iot Wheels	Vulnerable	61	89%
Charı	ming Spider-orchid	Endangered	3	33%
Clove	er Glycine	Vulnerable	28	86%
Crim	son Spider-orchid	Vulnerable	5	60%
Easte	ern Spider-orchid	Endangered	11	82%
Erect	Peppercress	Vulnerable	39	90%
Fragr	ant Leek-orchid	Endangered	3	0%
Large	e-headed Fireweed	Vulnerable	2	50%
Little	Pink Spider-orchid	Endangered	3	33%
Lowly	y Greenhood	Endangered	1089	97%
Marc	oon Leek-orchid	Endangered	2	50%
Matt	ed Flax-lily	Endangered	20	75%
Mclv	or Spider-orchid	Endangered	26	96%
Orna	te Pink-fingers	Vulnerable	1	0%
Pale	Leek-orchid	Vulnerable	1	100%
Purpl	le Eyebright	Endangered	6	83%
Red S	Swainson-pea	Vulnerable	215	68%
Ridge	ed Water-milfoil	Vulnerable	14	100%
River	Swamp Wallaby-grass	Vulnerable	10	70%
Robu	ist Greenhood	Critically Endangered	9	22%
Slend	ler Darling-pea	Vulnerable	88	88%
South	hern Shepherd's Purse	Endangered	353	99%
Spiny	Rice-flower	Critically Endangered	448	22%
Stiff (Groundsel	Endangered	10	40%
Tawn	ny Spider-orchid	Endangered	1	100%
Turni	ip Copperburr	Endangered	309	10%
Whip	ostick Westringia	Endangered	78	97%
White	e Sunray	Endangered	2	0%
Wing	ed Peppercress	Endangered	18	89%
Yello	w-lip Spider-orchid	Endangered	21	100%
Gran	d Total		3015	71%

Appendix 3 - Strategic Biodiversity Values

As described under 'Priority Assets' on the Biodiversity theme page of the draft RCS <u>Biodiversity | North Central</u> <u>Regional Catchment Strategy (rcs.vic.gov.au)</u> - updates were made to the RCS priority biodiversity assets, by comparing areas identified through engagement, with Strategic Biodiversity Values (SBV) and Strategic Management Prospects (SMP). Where these aligned, and there was a concentration of values either; adjacent to an existing asset or large enough to constitute a new asset, they have been included as updates to the existing biodiversity assets.

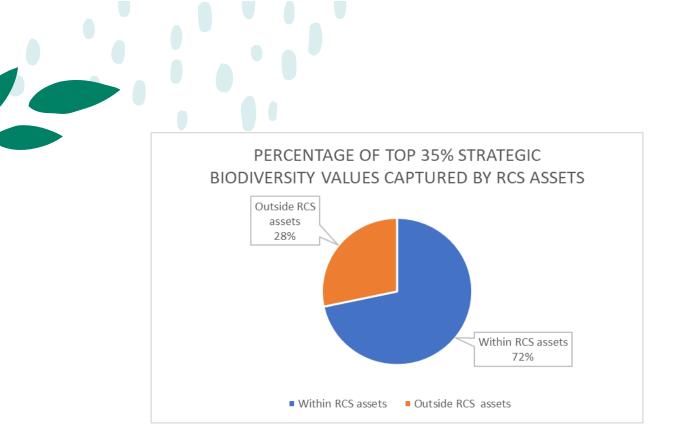
The top 35% SBV in the North Central region makes up 25% of the total land area – as shown here in bright colours

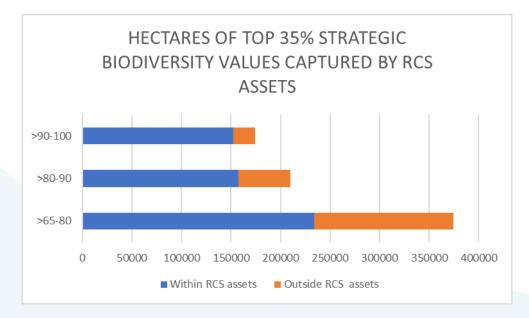
Analysis showed that 62% of the top 35% SBV were captured by 2013-19 RCS biodiversity assets.

Through review of our RCS biodiversity assets for RCS 2021-27, we have now captured 68% of the top 35% SBV (an additional 45,520 ha) – as shown in the graph below.

Additional areas of top 35% SBV are captured by our RCS priority wetlands and waterways, however adding these to the analysis without overlap is difficult. Fragmented areas of top value SBV which can't easily be captured in a catchment scale asset, can also be seen on the map.

Our assets include a greater percentage of the highest value SBV (>90-100) as compared to the >80-90 and >65-80 classes – as shown in the graph below.





Appendix 4 – EPBC Listed Fauna – VBA Records and Biodiversity Assets

Total number of records Proportion within biodiversity assets

Alpine Tree Frog Vulnerable 4 0% Australasian Bittern Endangered 39 64% Australian Grayling Vulnerable 1 0% Australian Painted Snipe Endangered 37 51% Australian Painted-snipe Endangered 32 50% Critically Endangered 106 47% Curlew Sandpiper Eastern Curlew Critically Endangered 9 67% Eastern Hare-wallaby Extinct 1 100% Eastern Quoll Endangered 3 33% Eltham Copper Butterfly Endangered 89 82% Flat-headed Galaxias Critically Endangered 14 57% Golden Sun Moth Critically Endangered 283 12% Great Knot Critically Endangered 6 0% Vulnerable 43 95% Greater Glider Grey-headed Flying-fox Vulnerable 29 48% Growling Grass Frog Vulnerable 228 36% Heath MouseEndangered 1 100% Long-nosed Potoroo Vulnerable 3 100% Macquarie Perch Endangered 32 31% Malleefowl Vulnerable 19 79% Murray Cod Vulnerable 80 54% Murray Hardyhead Endangered 32 0% Painted Honeyeater Vulnerable 299 89% Pink-tailed Worm-Lizard Vulnerable 120 98% Plains-wanderer Critically Endangered 395 95% Regent Honeyeater Critically Endangered 151 51% Regent Parrot Vulnerable 5 60% Silver Perch Critically Endangered 35 83% South-eastern Long-eared Bat Vulnerable 1 0% Southern Greater Glider Vulnerable 43 84%

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Spot-tailed Quoll Endangered 8 50% Striped Legless LizardVulnerable 57 40% Superb Parrot Vulnerable 4 25% Swift Parrot Critically Endangered 1692 94% Trout Cod Endangered 10 10% White-throated Needletail Vulnerable 308 82% Yarra Pygmy Perch Vulnerable 1 0% Grand Total 4220 76%

Appendix 5 – EPBC Flora Records – Proportion of VBA Records and Biodiversity Assets

Total number of records Proportion within biodiversity assets

Basalt Peppercress Endangered 18 50% Ben Major Grevillea Vulnerable 37 3% Black Gum Vulnerable 48 58% Brilliant Sun-orchid Vulnerable 25 100% Button Wrinklewort Endangered 5 20% Candy Spider-orchid Vulnerable 6 100% Chariot Wheels Vulnerable 61 89% Charming Spider-orchid Endangered 3 33% Clover Glycine Vulnerable 28 86% Crimson Spider-orchid Vulnerable 5 60% Eastern Spider-orchid Endangered 11 82% Erect Peppercress Vulnerable 39 90% Fragrant Leek-orchid Endangered 3 0% Large-headed Fireweed Vulnerable 2 50% Little Pink Spider-orchid Endangered 3 33% Lowly Greenhood Endangered 1089 97% Maroon Leek-orchid Endangered 2 50% Matted Flax-lily Endangered 20 75% McIvor Spider-orchid Endangered 26 96% Ornate Pink-fingers Vulnerable 0% 1 Pale Leek-orchid Vulnerable 1 100% Purple Eyebright Endangered 6 83% Red Swainson-pea Vulnerable 215 68% Ridged Water-milfoil Vulnerable 14 100% River Swamp Wallaby-grass Vulnerable 10 70% Robust Greenhood Critically Endangered 9 22% Slender Darling-pea Vulnerable 88 88% Southern Shepherd's Purse Endangered 353 99% Spiny Rice-flower Critically Endangered 448 22%

Stiff GroundselEndangered 1040%Tawny Spider-orchidEndangered1100%Turnip CopperburrEndangered30910%Whipstick WestringiaEndangered7897%White SunrayEndangered20%Winged PeppercressEndangered1889%Yellow-lip Spider-orchidEndangered21100%Grand Total301571%