2026-2036







WIMMERA WATERWAY STRATEGY

IMPLEMENTATION PLAN

VICTORIA State Government Australia

Wimmera CMA



UPPER CATCHMENT

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Upper Catchment local area - overview

About the Upper Catchment

The Upper Catchment local area comprises the upper catchment of the Barringgi Gadyin (Wimmera River), the northern section of the Gariwerd (Grampians National Park) in its west and the Pyrenees ranges in its east. The population of the region is over 9,000 people across more than 372,770 hectares.

Nature conservation makes up 20% of the region with extensive areas of public land in the Gariwerd (Grampians National Park), other parks and reserves and beside waterways. Agriculture makes up the majority of the region's land use with the greatest use being the grazing of modified pastures (42%) and dryland cropping (18%). (6; 30)

Legislation to create new national parks was introduced into Victoria's parliament on 10 September 2025, including Mount Buangor National Park, which includes a portion of the current Mount Cole State Park and Mount Buangor State Park; and the Pyrenees National Park, made up of Landsborough and Landsborough Hill nature conservation reserves and the Pyrenees State Forest.

The Upper Catchment local area is a living cultural landscape with deep and continuing connections for Wotjobaluk Nations Peoples and Eastern Maar Peoples. The *Victorian Aboriginal Heritage Act 2006* recognises two Registered Aboriginal Parties, Barengi Gadjin Land Council Aboriginal Corporation and Eastern Maar Aboriginal Corporation, as the primary guardians, keepers and knowledge holders of Aboriginal Cultural Heritage for sections of the Upper Catchment local area.

The area includes the southern portion of Northern Grampians shire, north-western section of Pyrenees Shire and northern sections of Ararat Rural City Council to the east and west of Ararat (see Figure 5).

Rivers and streams

The Upper Catchment includes the headwaters of the Barringgi Gadyin (Wimmera River) - the heart of the Wimmera catchment. The river begins at Mount Cole in the Pyrenees Ranges and is fed by many tributary streams arising in the steep hill country around Navarre, the Black Range Scenic Reserve, northern sections of the Gariwerd (Grampians National Park) and the western Pyrenees ranges.

Many Upper Catchment streams flow into large water storages vital for the catchment's water supply. For example, Fyans Creek feeds Lake Bellfield, providing a regionally important source of water for a vast network of towns and farms distributed via the Wimmera Mallee Pipeline. Several streams also provide water for townships like Elmhurst, Buangor and Moyston.

Upper Wimmera River Flagship Waterway

Flagship waterways are large-scale, long-term priority areas identified by the Victorian Government for coordinated investment and rehabilitation to improve catchment and waterway health across regional and urban areas. [31]

The Upper Wimmera River Flagship Waterway project is a large-scale river restoration initiative focused on the Barringgi Gadyin (Wimmera River) and its tributary streams in the upper Wimmera catchment upstream of the Glenorchy township (see Figure 6). The project is led by Wimmera CMA in partnership with Traditional Owners, public and private land managers and community and Landcare groups.

The Upper Wimmera catchment is a critical source of water for towns, agriculture and the environment. It supports important aquatic and riparian ecosystems, providing habitat for native fish and aquatic invertebrates, while also holding significant cultural heritage and recreational values.

However, the health of the river system is being impacted by erosion in upper catchment tributaries. Eroding streambeds and banks contribute sediment and salts to waterways, reducing water quality and increasing turbidity. The accumulation of sediment in waterways also degrades aquatic habitat, reducing the diversity and abundance of native plants and animals.

The project's vision is that by 2040, much of the Upper Barringgi Gadyin (Wimmera River) and its tributaries will be stabilised and protected through restoration works, healthy native vegetation and sustainable, fit-for-purpose land and waterway management practices.

To achieve this vision, the project will deliver large-scale waterway restoration, riparian protection and enhancement works that improve waterway stability, increase the extent and quality of riparian vegetation, strengthen habitat connectivity, enhance water quality and protect the region's high-value Chain of Ponds systems.

Key activities include:

- **Waterway restoration works** to stabilise the beds and banks of highly eroding tributaries. These works will help reduce sediment movement, improve water quality, protect downstream environmental values and prevent the loss of productive agricultural land.
- **Riparian protection and enhancement activities** that support private landholders to improve the health and condition of waterways on their properties. Activities may include fencing, revegetation and improved land management practices to protect and restore riparian vegetation and habitat.
- **Complementary pest plant and animal control activities** on adjoining public land along priority areas, delivering a coordinated, landscape-scale approach to improving river health, ecological connectivity and catchment resilience.

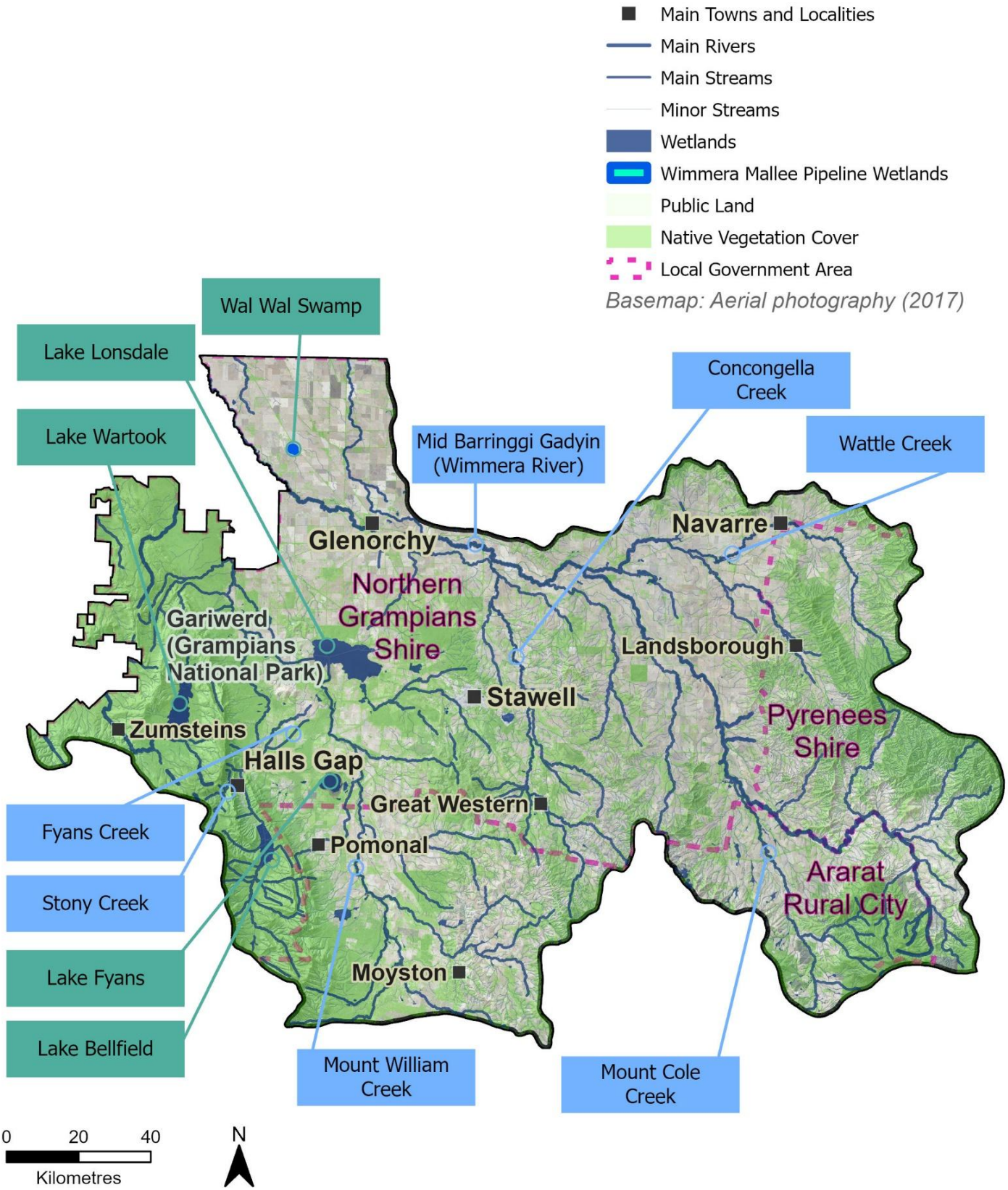


Figure 5. The Upper Catchment local area including municipal boundaries. Information boxes are colour-coded by feature type: blue for rivers and streams and teal for wetlands.

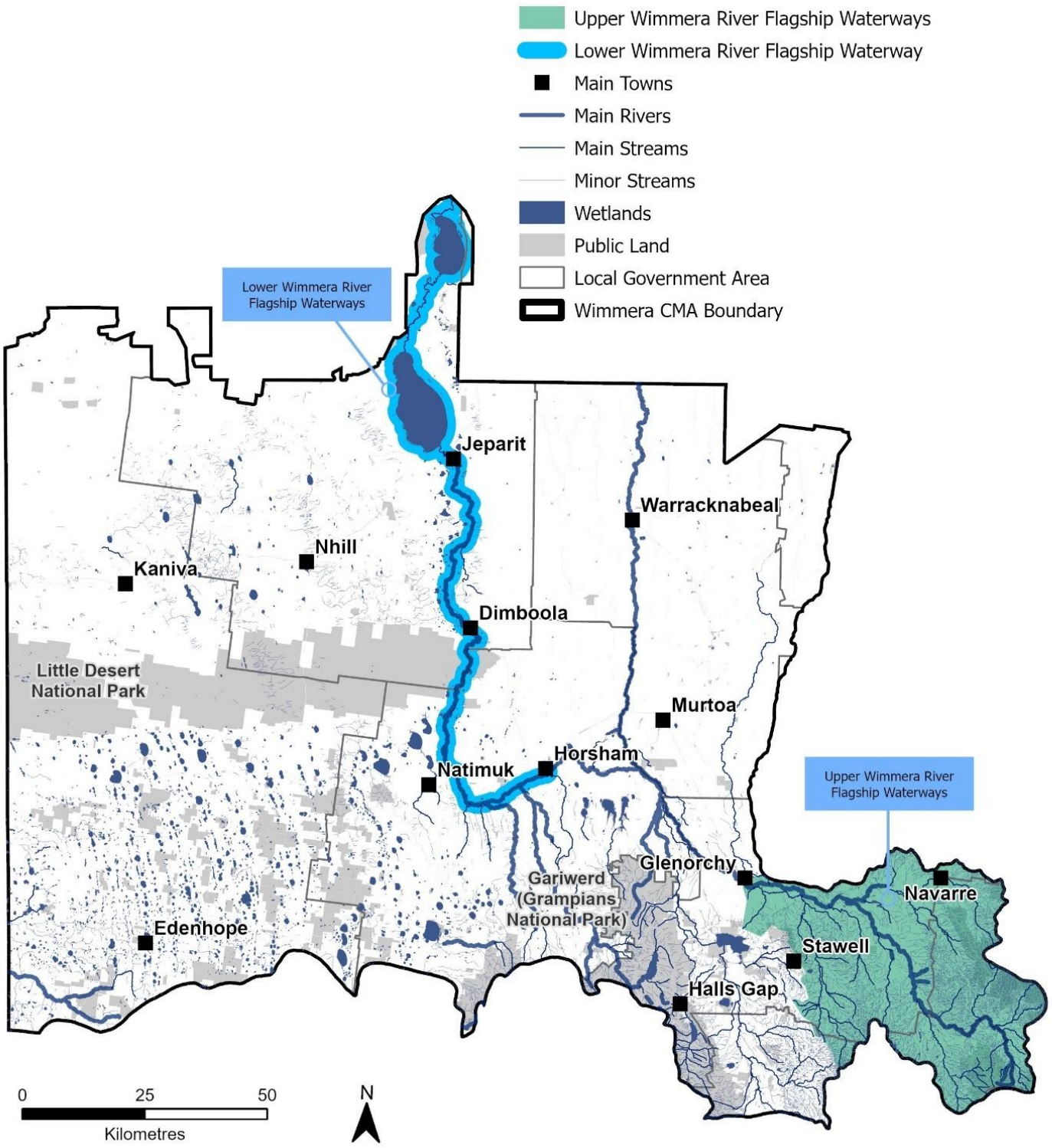


Figure 6. Flagship waterways in the Wimmera, including the Upper Wimmera River Flagship Waterway.

Wetlands

The Upper Catchment local area includes approximately 220 wetlands. Deep or large lakes including Lakes Wartook, Bellfield, Lonsdale and Fyans, are important water-supply storages with high social, economic, environmental and cultural values.

About two-thirds of the area's wetlands are shallow and seasonal. Many are associated with rivers, either in a floodplain or connected to a stream channel where they fill from stream flow and overflow to a downstream channel. There are also several non-riverine shallow freshwater wetlands, particularly on the fringes of the Gariwerd (Grampians National Park).

Wetlands range in size from less than one hectare to large water storages that are generally more than 200 hectares in area. Relatively shallow Lake Lonsdale is the largest, covering an area of 1,700 hectares. [32]

Upper Barringgi Gadyin (Wimmera River), Mount Cole Creek and Tributaries

River and stream values

Environmental values

Creeks with their headwaters in the Gariwerd (Grampians National Park) and the Pyrenees ranges support considerable environmental values. These creeks stretch over large public land reserves and are sources of water for stock and domestic purposes and for irrigating vines or perennial pastures. In combination with adjacent agricultural land use, the creeks' environmental values can diminish.

Glenlofty Creek, an upper Barringgi Gadyin (Wimmera River) tributary arising in the Pyrenees range, continues to hold environmental value within its geomorphologically rare 'chain of ponds' and fish, bird and macroinvertebrate communities.

Most streams and creeks throughout the Upper Catchment support threatened Ecological Vegetation Classes. This includes Endangered Plains Grassy Woodlands, Alluvial Terraces Herb-rich Woodlands (Nine Mile Creek), Creek Line Grassy Woodlands and Vulnerable Red Gum Swamp. The Barringgi Gadyin (Wimmera River) supports extensive endangered and rare Riparian Woodlands. Heifer Station Creek additionally has endangered and geographically rare Swampy Riparian and Creekline Sedgy Woodlands.

Threatened fish species in the Upper Catchment, from surveys commissioned by Wimmera CMA since 2014, include: western swamp crayfish (*Gramastacus insolitus*), in Mount William, Mount Cole and Burnt creeks; River Blackfish (*Gadopsis marmorata*), in Fyans and Mount William creeks; and southern pygmy perch *(Nannoperca australis),* in Burnt, Mount Cole and Mount William Creeks and the Barringgi Gadyin (Wimmera River).

Other threatened or endangered waterway-dependent species across the upper catchment include rakali *(Hydromys chrysogaster)* and growling grass frogs *(Litoria raniformis)*.

Platypus *(Ornithorhynchus anatinus)* were widespread before the Millenium Drought but are now believed to be restricted to the Mackenzie River of the Horsham local area. There are occasional anecdotal reports of sightings elsewhere in the region, but up to 2025 none had been confirmed.

Cultural values

Barengi Gadjin Land Council Aboriginal Corporation and Eastern Maar Aboriginal Corporation are recognised as the primary keepers and knowledge holders of the local area's Aboriginal Cultural Heritage. Connections between First Nations Peoples and Country are reflected in many ways including artefacts, rock art, culturally significant trees and creation stories featured around Gariwerd (Grampians National Park) and surrounds, the Pyrenees range, Lake Lonsdale, Lake Fyans and other waterways.

Social and recreational values

Streams across the Upper Catchment, particularly in and near the Gariwerd (Grampians National Park) and Pyrenees ranges, help form the atmosphere that attracts many sightseers.

Camping, picnicking and hiking facilities available across the park where these streams often feature, such as Fyans Creek, enhance the environmental experience that attract many people. Streams beyond the Gariwerd (Grampians National Park) also carry high value for their amenity and streamside uses when flowing.

Angling is popular in the Barringgi Gadyin (Wimmera River) and Mount William and Fyans Creeks. Some fish species here include introduced natives golden perch (*Macquaria ambigua)*, Murray cod (*Maccullochella peelii peelii*), freshwater catfish (*Tandanus tandanus*) and silver perch (*Bidyanus bidyanus*) and native Wimmera yabbies (*Cherax destructor).* Exotic species include redfin (*Perca fluviatilis*), brown and rainbow trout (*Salmo trutta and Oncorhynchus mykiss)*. [20]

Seasonal duck hunting is permitted along specific sections of the Barringgi Gadyin (Wimmera River) on public land in accordance with Game Management Authority guidelines.

Economic values

Streams within the Gariwerd (Grampians National Park) are important for directing water into water storages and large recreational lakes. These supply water for towns across the catchment for domestic and stock use in addition to water for the environment.

Tourism along Upper Catchment local area streams is also valuable for the region's economy. The natural environment of the Gariwerd (Grampians National Park), supported by waterway attractions such as the Venus Baths near Halls Gap and numerous waterfalls, attracts over 800,000 visitors per year.

River and stream condition

A 2010 Index of Stream Condition assessment recorded most streams as being in 'moderate' condition.

The majority of 'good' condition waterways were those with their headwaters in public reserves. This includes Golton Creek in the Gariwerd (Grampians National Park) and small tributaries in the Pyrenees ranges.

Stream condition declines as neighboring land use becomes agricultural or degraded. The Index of Stream Condition assessment classed 77.5 km of Mount William Creek as being in poor condition. It also classed Fyans Creek, as it passes through the tourist town of Halls Gap and Miller's Creek, going through agricultural land, as poor. Both waterways terminate at Lake Lonsdale. Smaller tributaries on the northern side of the Barringgi Gadyin (Wimmera River) in the eastern part of the local area, where erosion risk is greatest, were also classed as being in poor condition.

Threats and drivers of change

Erosion

The steep gradients and soil types in the Upper Catchment's hill country are prone to water erosion, particularly when water runs at speed down the steep slopes over exposed soil. This erosion incises and widens creeks, often creating deep gullies with downstream impacts. Eroded sediment can settle in deep pools in the Barringgi Gadyin (Wimmera River), reducing habitat and increasing water turbidity and nutrient levels. Wimmera CMA erosion-control works during the two decades before 2025 improved many highly eroded streams and their riparian zones. Works are targeted at sites with the greatest potential to reduce sediment loads into streams. [33] The extent of waterways protected from livestock in the upper catchment currently is 41.5%, compared with 92% in the Barringgi Gadyin (Wimmera River)'s lower catchment, indicating a need for further works.

Reducing livestock access to waterways has been a priority for upper-catchment erosion control, where over 700 km of waterway frontage remains unprotected. [12] Landcare groups, the Perennial Pasture Systems group and landholders have provided complementary work to buffer waterways from livestock access, protect riparian vegetation and retain ground cover on neighboring paddocks.

With predicted high-intensity rain and reduced regularity with climate change, degraded land will be at a heightened risk of erosion from such events - slowing water down during a flood and stablising soils with vegetation will be important.



Erosion in a tributary of Salt Creek in the Upper Catchment local area.

Water Quality

There are domestic and large irrigation dams that capture water high upstream in the catchment. These dams, mainly used for viticulture and stock watering, can reduce waterway flows and compound water-quality problems in parts of the catchment.

Saline groundwater trickling into creeks during dry conditions also contributes to poor water quality in some streams, although this impact is much reduced in recent times with groundwater levels dropping following successive dry years. Pest fish species, including carp *(Cyprinus carpio),* also impact water quality.

Hydrology - Climate change and dry conditions

The Wimmera's future climate is set for reduced rainfall, storm events, variability and increases in average daily temperatures. This is likely to contribute to reduced flows in waterways.

Landscape modifications have altered natural water flow into creeks and streams. Farm dams exacerbate the removal of water from the system. Many landholders value them for their amenity and there is some Landcare interest in enhancing them as wildlife refuges in the highly modified and drying landscape.

Weeds and pest animals

The Wimmera Invasive Plant and Animal Management Strategy identify the 'Grampians-Pyrenees Arc' as a high-priority area for invasive plant and animal control. Priorities include:

- Improvement of water quality in tributary streams for the Barringgi Gadyin (Wimmera River) through the reduction in rabbit numbers on steep hill sides and in stream banks and through the removal of weeds that harbour rabbits such as gorse *(Ulex europaeus),* blackberry, *(Rubus)* broom *(Cytisus scoparius)* and boneseed (*Chrysanthemoides monilifera* subsp. *monilifera*).
- Associated improvement in the quality of remnant native vegetation through the removal of these weeds.
- Improvement of quality of riparian vegetation through the removal of blackberry from streams.

Gorse, blackberry, bridal creeper, (*Asparagus asparagoides*), broom and boneseed are target plant species for removal in the Upper Catchment. Priority areas for weed control are on public land and along high-value streams. Similarly, controlling rabbit and deer *(Cervidae)* populations in these regions is important for protecting fragile stream banks from erosion. [22]

Carp are present in some waterways, requiring ongoing management to protect water quality and native species.

Upper Catchment Wetlands

Wetland values

Environmental values

Waterway-dependent threatened and endangered birds recorded in the area include the Australasian shoveler *(Spatula rhynchotis),* hardhead duck *(Aythya australis),* musk duck *(Biziura lobata),* glossy ibis *(Plegadis falcinellus),* brolga *(Antigone rubicunda),* great egret *(Ardea alba),* freckled duck *(Stictonetta naevosa)* and royal spoonbill *(Platalea regia).*

Wal Wal Swamp south of Murtoa receives water for the environment via the Wimmera Mallee Pipeline network. Locally, it provides a biodiversity refuge in a highly agricultural landscape for rare, endangered, or poorly known species. Some plant species present include: winged water-starwort (*Callirtriche umbonate);* ferny small-flower buttercup *(Ranunculus pumilio var. politus),* annual bitter-cress (*Cardamine paucijuga s.s.)* and river swamp wallaby-grass (*Amphibromus Fluitans*). [34] Threatened birds include the eastern great egret *(Ardea modesta),* spotted harrier *(Circus assimilis)* and square-tailed kite *(Lophoictinia isura).*

Cultural values

Connections between Eastern Maar and Wotjobaluk Nations Peoples and Country are reflected in many ways including artefacts, rock art, scar trees and creation stories featured around Lake Lonsdale, Lake Fyans, Wal Wal Swamp and other wetlands within Gariwerd (Grampians National Park) and the Pyrenees range. [35]

Protection and respectful management of cultural values associated with Upper Catchment wetlands is a focus of ongoing collaboration and the Upper Catchment continues to be a place of cultural learning, renewal and responsibility for Wotjobaluk Nations Peoples and Eastern Maar Peoples.

Social and recreational values

Lakes Lonsdale, Wartook, Bellfield and Fyans closely associated with the Gariwerd (Grampians National Park) and major tourist destinations, are recreational assets, particularly for fishing, camping, boating and wilderness experiences. Organisers of major events in the catchment often integrate the terrain and vistas as well as facilities associated with the area's lakes into planning. Access to the lakes' natural areas improves regional liveability and wellbeing by providing opportunities for people to participate in various forms of outdoor recreation.

All the lakes differ in their appeal. Lake Lonsdale, near Stawell, is renowned for its fish and yabbies when holding water. Neighbouring Lake Fyans also has angling appeal and is a highly attractive camping and water-skiing holiday destination. Lake Fyans' 9.6 km walking track around its perimeter is also a recreational feature in addition to its many nature tracks.

Lake Bellfield at Halls Gap and Lake Wartook in the heart of the Gariwerd (Grampians National Park), are also renowned angling destinations and are major features of the Gariwerd (Grampians National Park) wilderness-holiday experience.

Economic values

Many wetlands have high economic value based on their water-storing role. The Upper Catchment is home to most of the region's main water storages which supply domestic, stock and water for the environment. The largest water storage is Lake Bellfield which can hold 78,500 megalitres. Supported by Taylors Lake near Horsham, it is the main storage for the Wimmera Mallee Pipeline system and supplies water for towns including Halls Gap and Pomonal, farms, recreational lakes and water for the environment for wetlands across the Wimmera and Mallee.

Lake Fyans supplies water to Stawell, Ararat and Great Western. Lake Wartook is an important water resource for the city of Horsham and township of Natimuk. At maximum capacity it holds 29,300 megalitres and also provides environmental flows for the MacKenzie River, Burnt Creek and Bungalally Creek.

Recreational lakes support the local economy. Lake Fyans attracted about 20,500 recreational users in 2022-23, providing an estimated economic contribution of $2.9 million. [9] Lake Fyans is one of the most important recreational lakes in the region, hosting several recreational activities including sailing, jet skiing, hunting as well as walking and caravanning opportunities.

Lake Lonsdale also has high recreational value.

Wetland condition

Pipeline wetlands

Wal Wal Swamp was ranked as 'Good' in a 2012 Index of Wetland Condition (IWC) Survey and 'Moderate' for the IWC Biota Rating. [34]

Native vegetation

Wetlands within the Gariwerd (Grampians National Park) are least affected by modification and damage to their neighboring vegetation. Some small reaches of their perimeters support threatened Ecological Vegetation Classes including Wet Heathlands around Lake Wartook; and Valley Grassy Forest/Heathy Woodland Complex, Grassy Dry Forest and Herb-rich Foothill Forest Complex around Lake Bellfield.

Exiting the confines of public land in the Gariwerd (Grampians National Park), Lake Fyans, surrounded by agricultural land, has endangered vegetation communities including Deep Freshwater Marsh and Plains Grassy Woodland. In addition, it has vulnerable Shallow Sands Herb-rich Woodland and Lateritic Woodland.

Endangered Plains Grassy Woodlands also surround most of Lake Lonsdale, with some portions including Deep Freshwater Marsh. Vulnerable vegetation communities include Heathy Woodland Mosaic, Damp Sand Herb-rich Woodland and Shallow Sand Woodland.

Threats and drivers of change

Hydrology - Climate change and dry conditions

A drying climate with increasing water extraction and reduced water availability minimises available habitat for native species and waterways' ability to support economic, cultural and social values. There are challenges to providing water for some wetlands.

Dry vegetation and hot weather conditions increase the threat of bushfires which remove ground cover, increasing the risk of erosion if major rain events occur before vegetation re-establishes. Rain events can wash ash and sediment into waterways, heightening the risk of 'black water' events and fish deaths.

Excess nutrients also promote toxic algal blooms which particularly affect the recreational use of larger lakes. An example is at Lake Lonsdale where high evaporation losses, increases in salinity and blue-green algal outbreaks impact on recreational activities and environmental flows.

Weeds and pest animals

Weedy grass species such as Wimmera rye-grass (*Lolium rigidum*) and Toowoomba canary grass (*Phalaris aquatica L*) are often prevalent in wetland areas.

Rabbits and foxes (*Vulpes vulpes*) are attracted to wetlands given they provide a ready source of food and drinking water. [34]

Carp, goldfish (*Carassius auratus*), tench (*Tinca tinca*) and mosquitofish (*Gambusia affinis*) threaten native species and overall wetland health across the catchment.

Modifications

Lower regions of the Upper Catchment were highly channelised for water delivery. Natural water flow was modified as a result, directing water away from natural wetlands to man-made dams, or wetlands have been excavated for increased water storage.

Impacts of recreation

Due to the high use of lakes for recreation, it is important to manage access so it is safe and does not impact on biodiversity, water quality and amenity of natural areas. This has been a focus area for Wimmera CMA, councils and recreational user groups.

Stakeholder and community feedback

During development of the Strategy and Plan, Wimmera CMA invited input from stakeholders and the community. Participants from the Upper Catchment local area identified the following waterways as particularly important:

- Barringgi Gadyin (Wimmera River)
- Mount William Creek
- Mount Cole Creek
- Fyans Creek
- Concongella Creek
- Wattle Creek
- Stony Creek
- Pleasant Creek
- Three Mile Creek
- Lake Lonsdale
- Lake Fyans
- Lake Bellfield
- Lake Wartook
- Seasonal wetlands

Stakeholders provided a wide range of suggestions to guide future waterway management across the local area. Key themes included:

- **Habitat improvement and erosion control:** Support for enhancing instream and riparian habitat through fencing, off-stream watering points and measures to reduce bed and bank erosion. Landcare interest in enhancing farms dams to provide habitat for water-dependent native species.
- **Biodiversity and species protection:** Interest in identifying locations of threatened species, understanding potential habitat benefits and strengthening weed and pest-management efforts targeting carp, serrated tussock, rabbits, cats, foxes and kangaroos.
- **Mount Cole Creek:** Strong community and Landcare support for waterway improvements, including providing environmental flows to enhance ecological values and protect drought refuge pools. Stakeholders highlighted the water quality and values supported, with declines observed due to water stored upstream in Mount Cole Reservoir.
- **Seasonal freshwater wetlands:** Support significant biodiversity. There may be opportunities to remove barriers and enhance flows to these areas as well as improving their protection on private land.
- **Sustainable land and water management:** Calls to engage farmers in nutrient-retention practices and improve stormwater-fed creek water quality from the Stawell township.
- **Connectivity and resilience:** Support for linking remnant vegetation and increasing natural disaster-resilience, including identifying high-risk areas and exploring the use of virtual fencing for managing stock in areas tricky to fence or prone to flood and fire.
- **Recreation and amenity:** The area has terrific recreational lake assets. There is a need to continue to manage them for these values, while managing risks and impacts.
- **Community participation:** Strong interest in growing Landcare membership and increasing community education on waterways including wetlands, biodiversity, threats and climate change.

Priority areas for management

The Strategy identified the Upper Catchment's priority areas for management:

- Upper Barringgi Gadyin (Wimmera River) and tributaries
- Mount Cole Creek and tributaries
- Mount William Creek and tributaries
- Wal Wal Swamp (pipeline watered wetland)
- Wetlands with high environmental value
- Wetlands with high social and economic value, including:
  - Lake Fyans
  - Lake Lonsdale
  - Lake Bellfield
  - Lake Wartook
  - Mount Cole Reservoir

Together, these areas hold the highest ecological, cultural and recreational value and face the greatest management needs. Details of the prioritisation process are described in a supporting document to the Strategy.



An upper catchment waterway affected by stock access.

Upper Catchment local area – Implementation plan

The following tables outline management actions for the Upper Barringgi Gadyin (Wimmera River) and tributaries, Mount William Creek and tributaries and Upper Catchment wetlands. These actions are intended to be implemented over the ten-year period from 2026 to 2036 to help achieve desired environmental, cultural, social and recreational outcomes for the Upper Catchment local area. Management actions are shaded green for high priority and orange for medium priority. Actions with no shading are low priority. Unless otherwise specified, actions are currently funded through the Environmental Contribution Levy and other funding sources until 2028. For the purposes of the Strategy, funding is assumed to continue at current levels through to 2036.

This Plan is a living document that will be updated over time to reflect changes in funding, resources and other factors influencing catchment condition and management.

Implementation plan - Upper Barringgi Gadyin (Wimmera River) and tributaries and Mount William Creek and tributaries

This Implementation Plan provides a coordinated framework to protect and enhance the ecological values of the Upper Barringgi Gadyin (Wimmera River) and tributaries and Mount William Creek and tributaries. A key focus is enhancing riparian habitat, strengthening landscape connectivity and improving ecosystem resilience through targeted on-ground works, partnership programs and long-term stewardship. Actions will support the restoration and protection of native vegetation, improve habitat linkages along waterways, and build the capacity of landholders and communities to contribute to waterway health. Many of these management actions are being delivered through the Upper Wimmera River Flagship Waterway Project.

The recent establishment of a pipeline enabling water delivery to drought refuge areas within Mount Cole Creek presents an important opportunity to enhance the resilience of these refuge habitats and support biodiversity outcomes by providing water for the environment, when available, during future drought events.

Management actions are grouped in this Plan according to management themes:

Management theme	Table number
Enhancing riparian habitat, landscape connectivity and resilience.	Table 18
Reducing the impacts of erosion	Table 19
Water for the environment.	Table 20
Drought refuge area management.	Table 21

Appendix 1 contains the logic framework outlining the medium-term outcomes, values, threats and management actions that underpin this Plan. The key values supported and threats addressed by the Plan are summarised below.

Key values supported by this implementation plan
High environmental values, including obscure galaxias, frogs and native vegetation.
Threatened species, including western swamp crayfish and southern pygmy perch.
High quality and threatened native vegetation communities in sections.
Strong cultural connections and values for First Nations Peoples.
Unique geomorphology, including chains of ponds in some waterways.
Contributes to landscape connectivity, for the Grampians to Pyrenees Biolink vision.
Town water and irrigation supply, landscape amenity and recreational values.
Strong community connection to waterways, with high level of stewardship.

Key threats addressed by this implementation plan
Reduced flows from climate change, drought and altered water regimes.
Poor ground cover enabling erosion, contributing to sediment moving downstream, impacting on water quality and instream habitat.
Grazing by stock.
Invasive plants and pest animals.
Impacts of floods and bushfire.

Enhancing habitat, landscape connectivity and resilience

Table 18. Management actions associated with maintaining or improving riparian areas.

Priority area	Medium-term outcomes (MO)	Contribution to the medium-term outcomes (What the management action seeks to influence to achieve the outcome).	Management action	Amount by 2036	Responsible parties (Lead organisations are **bold**).	Connection with other plans or strategies	Status
Upper Barringgi Gadyin (Wimmera River) and tributaries. Mount William Creek and tributaries.	**MO2.** Priority areas have improved management to enhance habitat, landscape connectivity and resilience. **MO7.** Healthier waterways enable more On Country activities for First Nations Peoples. **MO10.** Stewardship increases, with more people taking action to care for waterways.	Sediment generation and movement into the Barringgi Gadyin (Wimmera River) is reduced through improved bed and bank stability, erosion control and riparian protection, consistent with Upper Wimmera Flagship outcomes. Riverbeds and banks are stabilised to improve instream channel condition. Riparian vegetation condition and extent are improved to support more diverse and connected riparian zones, including the Gariwerd (Grampians) to Pyrenees Biolink.	Support private landholders to protect and manage riparian areas on their properties by managing stock access and controlling weeds, foxes and rabbits.	75 km. 240 ha of grazing management.	**Wimmera CMA.** Private landholders. Trust for Nature.	*Upper Wimmera River Flagship Waterway Project.* *Wimmera Proportion of Waterways Protected – Stage 2 (2024).* *Wimmera Invasive Plant and Animal Management Strategy (2019).* *Trust for Nature Statewide Conservation Plan 2021-2030.* *Waterway Action Plans for creeks including: Concongella, Glendhu, Glenlofty, Glenpatrick, Millers, Mount Cole, Seven Mile, Shays, Six Mile, Spring, Tuckers, Wattle and the Wimmera River (reaches 2, 3, 4, 5, 6.1, 6.2).*	Part of the Upper Wimmera River Flagship Waterway Project. A proportion of the identified action amounts are funded until June 2028. Continuation of work under the previous regional waterway strategy.
			Enhance riparian vegetation by revegetating with native species.	70 ha.	**Wimmera CMA.** Landcare groups. Private landholders.		
			Reduce the impact of problem invasive fauna on riparian vegetation by controlling rabbits.	50 ha (annually) of pest animal control.	**Wimmera CMA.** Public land managers. Agriculture Victoria. Landcare groups. Private landholders.		
			Reduce the impact of weeds on riparian vegetation by controlling problem weeds.	50 ha (annually) weed control (woody and non-woody).			
			Monitor for new incursions or spread of pest plants and animals. Treat populations to prevent new, or greater, establishment where feasible.	1 partnership per year in collaboration with land managers.	**Wimmera CMA.** Public land managers. Agriculture Victoria. Private landholders.		

Priority area	Medium-term outcomes (MO)	Contribution to the medium-term outcomes (What the management action seeks to influence to achieve the outcome).	Management action	Amount by 2036	Responsible parties (Lead organisations are **bold**).	Connection with other plans or strategies	Status
Upper Barringgi Gadyin (Wimmera River) and tributaries. Mount William Creek and tributaries.	**MO2.** Priority areas have improved management to enhance habitat, landscape connectivity and resilience. **MO9.** Net rates of streamflow interception from water extraction and storages are stabilising in the Barringgi Gadyin (Wimmera River) catchment.	A reduction or stabilisation of the impacts of water extraction and farm dam storage on stream flows in upper catchment waterways, as increased access to piped water supplies reduces the need to capture rainfall runoff, easing pressure on stream flows and supporting healthier waterways.	Where there is a strong case for environmental and community benefits, support water efficiency initiatives such as piped water supply from the Grampians Headworks Storages, to reduce direct extraction from waterways and reliance on farm dams that limit runoff from reaching waterways.	As opportunities arise.	**Wimmera CMA.**		Continuation of existing processes.
			Trial incentive programs to decommission and use farm dams for environmental purposes in areas where water supply pipelines are being built and/or release water from them.	To be determined, depending on funding.	**Wimmera CMA,** GWMWater Landholders		New action.

Reducing the impacts of erosion

Table 19. Management actions associated with reducing erosion to prevent impacts on downstream waterways and habitat.

Priority area	Medium-term outcomes (MO)	Contribution to the medium-term outcomes (What the management action seeks to influence to achieve the outcome).	Management action	Amount by 2036	Responsible parties (Lead organisations are **bold**).	Connection with other plans or strategies	Status
Upper Barringgi Gadyin (Wimmera River) and tributaries. Mount William Creek and tributaries.	**MO2.** Priority areas have improved management to enhance habitat, landscape connectivity and resilience. **MO7.** Healthier waterways enable more On Country activities for First Nations Peoples. **MO10.** Stewardship increases, with more people taking action to care for waterways.	Sediment generation and movement into the Barringgi Gadyin (Wimmera River) is reduced through improved bed and bank stability, erosion control and riparian protection, consistent with Upper Wimmera Flagship outcomes. Riverbeds and banks are stabilised to improve instream channel condition.	Install erosion control structures to reduce bed and bank erosion and movement of sediment downstream.	30 structures.	**Wimmera CMA.** Private landholders.	*Upper Wimmera River Flagship Waterway Project.* *Wimmera Proportion of Waterways Protected – Stage 2 (2024).* *Waterway Action Plans for creeks including: Concongella, Glendhu, Glenlofty, Glenpatrick, Millers, Mount Cole, Seven Mile, Shays, Six Mile, Spring, Tuckers, Wattle and the Wimmera River (reaches 2, 3, 4, 5, 6.1, 6.2).*	Part of the Upper Wimmera River Flagship Waterway Project. A proportion of the identified action amounts are funded until June 2028. Continuation of work under the previous regional waterway strategy.

Water for the environment

Table 20. Management actions associated with providing water for the environment to support instream and riparian values.

Priority area	Medium-term outcomes (MO)	Contribution to the medium-term outcomes (What the management action seeks to influence to achieve the outcome).	Management action	Amount by 2036	Responsible parties (Lead organisations are **bold**).	Connection with other plans or strategies	Status
Barringgi Gadyin (Wimmera River) and tributaries. Mount William Creek and tributaries.	**MO2.** Priority areas have improved management to enhance habitat, landscape connectivity and resilience. **MO5.** Risks to water quality in Wimmera waterways are managed where possible to reduce impacts on values. **MO7.** Healthier waterways enable more On Country activities for First Nations Peoples.	Native fish populations in the mid Barringgi Gadyin (Wimmera River) and Mount William Creek are maintained or improved, supported by suitable flow conditions and aquatic habitat. The species richness and spatial extent of in-channel aquatic vegetation are maintained or improved and the abundance of aquatic vegetation is increased. The availability and quality of refuge habitats for native fish species are maintained or improved, with channel capacity preserved and sediment accumulation minimised. Riparian habitat extent and the condition of river red gum communities are maintained or improved. The connectivity of riparian habitat is maintained or improved, enabling the movement and dispersal of terrestrial species. Geomorphic habitat quality is maintained or improved through the preservation of channel form, clean substrates and an open stream bed. The connectivity of instream habitat between river reaches is maintained or improved, enabling the movement and dispersal of native fish. The availability and quality of refuge habitats for native fish species are maintained or improved, with channel capacity preserved and sediment accumulation minimised.	Develop annual seasonal watering proposals for the Barringgi Gadyin (Wimmera River).	10 proposals (comprised of 1 proposal annually).	**Wimmera CMA.** GWMWater. Victorian Environmental Water Holder. Commonwealth Environmental Water Holder. Northern Grampians Shire Council.	*Environmental Water Management Plan - Wimmera River, Yarriambiack Creek and their terminal lakes (2024).* Annual seasonal watering plans.	Continuation of work under the previous regional waterway strategy.
			Deliver water for the environment to the mid Barringgi Gadyin (Wimmera River) in line with the Victorian Environmental Water Holder's annual seasonal watering plans.	The volume (ML) of water delivered and extent of river watered depends on annual watering entitlements.			
Mount William Creek. Lake Lonsdale.			Increase community understanding of the management of the Lake Lonsdale and Mount William Creek system.	To be determined.	**Wimmera CMA.** GWMWater. Victorian Environmental Water Holder.		Continuation of previous work.
Lake Lonsdale			Investigate the current operation of Lake Lonsdale and develop potential recommendations to GWMWater Storage Management Rules: Wimmera - Mallee System Headworks for Lake Lonsdale to improve management of water for the environment.	To be determined.	**Wimmera CMA.** Victorian Environmental Water Holder. GWMWater. Northern Grampians Shire Council. Friends of Lonsdale.	*Environmental Water Management Plan - Wimmera River, Yarriambiack Creek and their terminal lakes (2024).*	New action.

Priority area	Medium-term outcomes (MO)	Contribution to the medium-term outcomes (What the management action seeks to influence to achieve the outcome).	Management action	Amount by 2036	Responsible parties (Lead organisations are **bold**).	Connection with other plans or strategies	Status
			Increase community understanding of management of Lake Lonsdale and Mount William Creek to build informed awareness of why management actions occur and how they contribute to environmental, social and broader catchment outcomes.	To be determined.	**Wimmera CMA.** **GWMWater.** Victorian Environmental Water Holder.		New action.
			Establish a more functional dam wall and outlet at Lake Lonsdale that maximises social, environmental and economic values and enables improved management of water for the environment.	One dam wall and outlet improved.	**GWMWater.** Wimmera CMA.		Planning underway.

Drought refuge area management

Table 21. Management actions associated with managing drought refuge areas, including providing water for the environment and complementary measures.

Priority area	Medium-term outcomes (MO)	Contribution to the medium-term outcomes (What the management action seeks to influence to achieve the outcome).	Management action	Amount by 2036	Responsible parties (Lead organisations are **bold**).	Connection with other plans or strategies	Status
Mount Cole Creek.	**MO2.** Priority areas have improved management to enhance habitat, landscape connectivity and resilience. **MO4.** Drought refuges support native species' survival and resilience during dry periods.	During and after dry conditions and drought, waterway habitat, environmental values including native fish, riparian and aquatic vegetation, frogs and waterbirds and recreational values are maintained at drought refuge areas. Drought refuge areas consistently hold water and provide habitat during dry periods.	Develop annual seasonal watering proposals for Mount Cole Creek's drought refuge pools.	10 proposals (comprised of 1 proposal annually).	**Wimmera CMA.** Victorian Environmental Water Holder. GWMWater. Local government.	Victorian Environmental Water Holder's annual seasonal watering plans.	Watering connection completed in 2026, enabling environmental watering of drought refuges when needed during dry periods.
			Deliver water for the environment to drought refuge areas during dry periods, in line with the Victorian Environmental Water Holder's annual seasonal watering plans.	The volume (ML) of water delivered and number of pools receiving water depends on stream conditions and annual watering entitlements.	**Wimmera CMA.** Victorian Environmental Water Holder. GWMWater. Barengi Gadjin Land Council.	Annual seasonal watering plans. *Wimmera CMA's Dry Conditions Action Plan (2025).*	New action.
			Prepare site management plans for drought refuge areas, identifying measures to enhance habitat and reduce threats to environmental values, complementing provision of water for the environment.	1 plan.	**Wimmera CMA.** Victorian Environmental Water Holder. GWMWater. Barengi Gadjin Land Council.		New action.

Implementation plan - Upper Catchment Wetlands

This Implementation Plan outlines actions to protect, restore and enhance wetlands in the Upper Catchment local area. Recognising that many wetlands occur on private land, key management actions focus on supporting landholders to care for wetlands on private land through education, technical advice, incentives and stewardship opportunities. The plan also prioritises the control of pest animals and invasive weeds that threaten wetland condition and biodiversity values on public land. By working collaboratively with landholders, these management activities will help reduce environmental threats, improve habitat quality, and support the long-term resilience of wetland ecosystems.

Management actions are grouped in this Plan according to management themes:

Management theme	Table number
Water for the environment	Table 22
Reducing threats to wetlands and maintaining values.	Table 23
Supporting recreational access in balance with environmental and cultural values	Table 24

Appendix 1 contains the logic framework outlining the medium-term outcomes, values, threats and management actions that underpin this Plan. The key values supported and threats addressed by the Plan are summarised below.

Key values supported by this implementation plan
Critically endangered wetland community, Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains.
Support high biodiversity, particularly wetland plants, frogs, birds and invertebrates.
Support threatened plants and animals.
Strong cultural connections and values for Wotjobaluk Nations Peoples.
Community values and stewardship, including active community groups.
Recreational opportunities including walking, fishing, yabbying, camping, bird watching, water sports and duck hunting.
Economic values, including water supply, tourism and community events centred around wetlands.

Key threats addressed by this implementation plan
Reduced flows and inundation from climate change, drought and altered water regimes.
Changes to hydrology such as channels, drains and dams in the wetland basin and surrounds.
Invasive plants and pest animals.
Habitat degradation, including overgrazing and recreation impacts.
Introduction of nutrients from cropping practices in or beside the wetland.
Lack of connectivity, with narrow buffer areas generally surrounded by agricultural land.

Water for the environment

Table 22. Management actions associated with maintaining or improving the values of wetlands connected to the Wimmera Mallee Pipeline.

Priority area	Medium-term outcomes (MO)	Contribution to the medium-term outcomes What the management action seeks to influence to achieve the outcome.	Management action	Amount by 2036	Responsible parties (Lead organisations are **bold**).	Connection with other plans or strategies	Status
Wimmera Mallee Pipeline Wetlands including Wal Wal Swamp. (Pipeline wetlands are also present in the Hindmarsh and Yarriambiack and Buloke local areas).	**MO2.** Priority areas have improved management to enhance habitat, landscape connectivity and resilience. **MO4.** Drought refuges support native species' survival and resilience during dry periods.	Wetland vegetation and riparian habitat condition are maintained or improved. The condition of Wimmera Mallee Pipeline wetlands to function as refugia for water-dependent flora and fauna and terrestrial fauna is maintained or enhanced, particularly during drought and dry conditions.	Develop annual seasonal watering proposals for the Wimmera Mallee Pipeline Wetlands, including Wal Wal Swamp.	10 proposals (comprised of 1 proposal annually).	**Wimmera CMA.** GWMWater. Victorian Environmental Water Holder. Northern Grampians Shire Council. Mallee CMA. North Central CMA.	*Environmental Water Management Plan – Wimmera Mallee Pipeline Wetlands – Wimmera CMA Region (2016).* Annual seasonal watering plans issued by the Victorian Environmental Water Holder.	Continuation of existing arrangements.
			Deliver water to Wimmera Mallee Pipeline Wetland, Wal Wal Swamp, on behalf of GWMWater and in line with annual seasonal watering plans.	The volume (ML) of water delivered and timing of deliveries depends on annual watering entitlements and seasonal watering plans.	**Wimmera CMA.** GWMWater. Victorian Environmental Water Holder.		
			Improve one internal pipeline outlet into Wal Wal Swamp to allow more efficient and effective supply of water.	1 outlet improved.	**Wimmera CMA.** Parks Victoria. GWMWater. Victorian Environmental Water Holder.		New action.

Reducing threats to wetlands and maintaining values.

Table 23. Management actions associated with reducing threats to wetlands with high environmental value and maintaining environmental and other values.

Priority area	Medium-term outcomes (MO)	Contribution to the medium-term outcomes What the management action seeks to influence to achieve the outcome.	Management action	Amount by 2036	Responsible parties (Lead organisations are **bold**).	Connection with other plans or strategies	Status
Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains. Wetlands with high environmental value.	**MO3.** Wetland modification, loss and deterioration of condition occurs at a declining rate. **MO10.** Stewardship increases, with more people taking action to care for waterways.	The rate of wetlands impacted by modifications including drainage changes, dam construction, cropping and new land development slows or stabilises over time. Wetland buffers, wetland vegetation communities and wetland physical form are maintained or improved on private and public land.	Implement community education activities to increase awareness of cropping, grazing and drainage impacts on wetlands, the values of wetlands and appropriate conservation management techniques.	To be determined based on funding.	**Wimmera CMA.** Landcare. Trust for Nature.	*Wimmera Wetland Asset Strategy.*	Continuation of work under the previous regional waterway strategy.
			Support private landholders to protect and manage wetlands on their properties by controlling stock access, reducing the impact of weeds and pest animals, and maintaining natural hydrology.	To be determined based on funding.	**Wimmera CMA.** Trust for Nature. Private landholders.	*Trust for Nature's Statewide Conservation Plan 2021-2030.* *Wimmera Wetland Asset Strategy.*	Continuation of work under the previous regional waterway strategy.
Public wetlands.	**MO3.** Wetland modification, loss and deterioration of condition occurs at a declining rate. **MO7.** Healthier waterways enable more On Country activities for First Nations Peoples. **MO10.** Stewardship increases, with more people taking action to care for waterways.	Wetland buffers, wetland vegetation communities and wetland physical form are maintained or improved on private and public land.	Control pest animals in priority areas to reduce their impact on key wetland values.	100 ha.	**Parks Victoria.** Wimmera CMA.	*Wimmera Invasive Plant and Animal Management Strategy 2019.*	Continuation of work under the previous regional waterway strategy.
			Control weeds in priority areas to reduce their impact on key wetland values.	100 ha.			
			Monitor for new incursions and spread of pest plants and animals. Treat problem populations to prevent new or greater establishment, where feasible.	1 partnership per year in collaboration with land managers.	**Wimmera CMA.** **Parks Victoria.** **Local Government.** Landcare.		

Supporting recreational access in balance with environmental and cultural values

Table 24. Management actions associated with supporting recreational access and amenity while minimising impacts on environmental and cultural values.

Priority area	Medium-term outcomes (MO)	Contribution to the medium-term outcomes (What the management action seeks to influence to achieve the outcome).	Management action	Amount by 2036	Responsible parties (Lead organisations are **bold**).	Connection with other plans or strategies	Status
Lake Fyans. Lake Lonsdale. Lake Bellfield. Lake Wartook.	**MO6.** Waterways identified as high priority for recreation and amenity provide enhanced recreational opportunities and community benefits, while minimising impacts on their environmental values.	High-priority recreational waterways provide safe, inclusive and well-maintained access that supports a range of recreational activities. Visitor impacts are effectively managed through infrastructure, site design and access controls that prevent environmental damage. Community members increasingly use and enjoy waterways for recreation, relaxation, cultural activities and connection with nature.	Upgrade boating facilities in Wimmera catchment storages, for example by lengthening boat ramps.	To be determined.	**GWMWater.** **Fishing, Hunting and Outdoor Victoria.**		Continuation of existing arrangements.