Factsheet

Hattah Lakes North

Project overview

The Victorian Murray Floodplain Restoration Project (VMFRP) is restoring some of the Murray River's most valuable floodplains, so they can stay healthy and resilient for future generations. One of the VMFRP project sites is Hattah Lakes North, situated within the internationally recognised Hattah-Kulkyne National Park.

Snapshot of expected benefits

- More frequent watering of the floodplain will help native trees, grasses and understorey plants regenerate, bringing 1237 hectares of floodplain back to health
- 189 rare and threatened species will benefit from improved habitat conditions
- The health of almost 10,000 large trees will improve, many of which provide hollows that birds, bats and reptiles depend on for nesting and shelter
- More water means more food and safe breeding places for waterbirds, freshwater turtles, native fish, frogs and other aquatic animals. Freshwater turtles will also be able to move more easily between the lakes and nearby creeks and rivers
- A healthier floodplain is more resilient, better able to withstand the hotter and drier conditions and more frequent droughts expected with climate change
- More frequent watering will stabilise sandy soils and reduce erosion, protecting culturally sensitive sites that can be exposed as lakes dry and sands shift

Hattah-Kulkyne National Park

Hattah Lakes North: an ecologically special place that needs our help.

A floodplain is one of nature's most productive ecosystems, where land and water create unique conditions for plant and animal life to flourish.

Hattah-Kulkyne National Park is home to a system of more than 20 freshwater lakes, ranging in size from 10 to 200 hectares. Twelve of these lakes are listed as internationally important Ramsar wetlands, recognised primarily for their value as waterbird habitat and their vital role in supporting the biodiversity of the broader region.

For thousands of years, the Murray River spilled naturally onto the Hattah Lakes floodplains in a rhythm of wet and dry that allowed this special place to thrive. That rhythm has been severely disrupted. Over the past century, the river has been regulated with weirs, dams and levees to support communities, agriculture and industry. While this has delivered benefits, it has significantly reduced how often and how far floodwaters spread across the floodplain.

Without enough water, trees weaken, food chains break down, and species that depend on flooding struggle to survive. This is especially true for the northern floodplains of Hattah Lakes, known as Hattah Lakes North, which sit at a higher elevation than the southern floodplains and are among the last areas to receive water when the river rises.

The VMFRP will reconnect the floodplains and the river by installing infrastructure to support the seasonal wetting cycles that native plants and animals depend on. Gated structures, or regulators, will help control the movement of water between the river and surrounding wetlands and containment banks will help direct and hold water in place.

Without intervention, the floodplains at Hattah Lakes North will not receive enough water to stay healthy in the long term

When natural flooding occurs, this infrastructure can help water travel further and stay on the floodplains for longer. And when natural flooding doesn't happen often enough to keep the floodplains healthy, the infrastructure can also be used to give the environment a timely top-up.

Hattah-Kulkyne National Park holds deep cultural, spiritual and historical significance for Traditional Owners. Protecting cultural heritage is a key consideration in the project's design and delivery. Returning water to the floodplain will help stabilise sandy soils, reducing erosion and protecting culturally sensitive sites that can be exposed as lakes dry out and sands shift.

Hattah-Kulkyne National Park

One connected system

The Hattah Lakes North project will build upon the successful outcomes of The Living Murray project in the southern lakes. The infrastructure from both projects will create a connected system to keep the floodplains healthy. Refer Image 1 for a map showing the existing The Living Murray infrastructure and the new VMFRP infrastructure.

Water can already be delivered to the southern lakes via Messengers Regulator, which was built under The Living Murray program. When Murray River water levels are too low to flow through the regulator, Messengers Pumps can also be used to pump water into the southern lakes.

When water fills this southern area of the park, either from natural flooding or a managed watering event, the new VMFRP Infrastructure at Hattah Lakes North will help that water travel further, reaching areas that would otherwise not be watered often enough or for long enough.

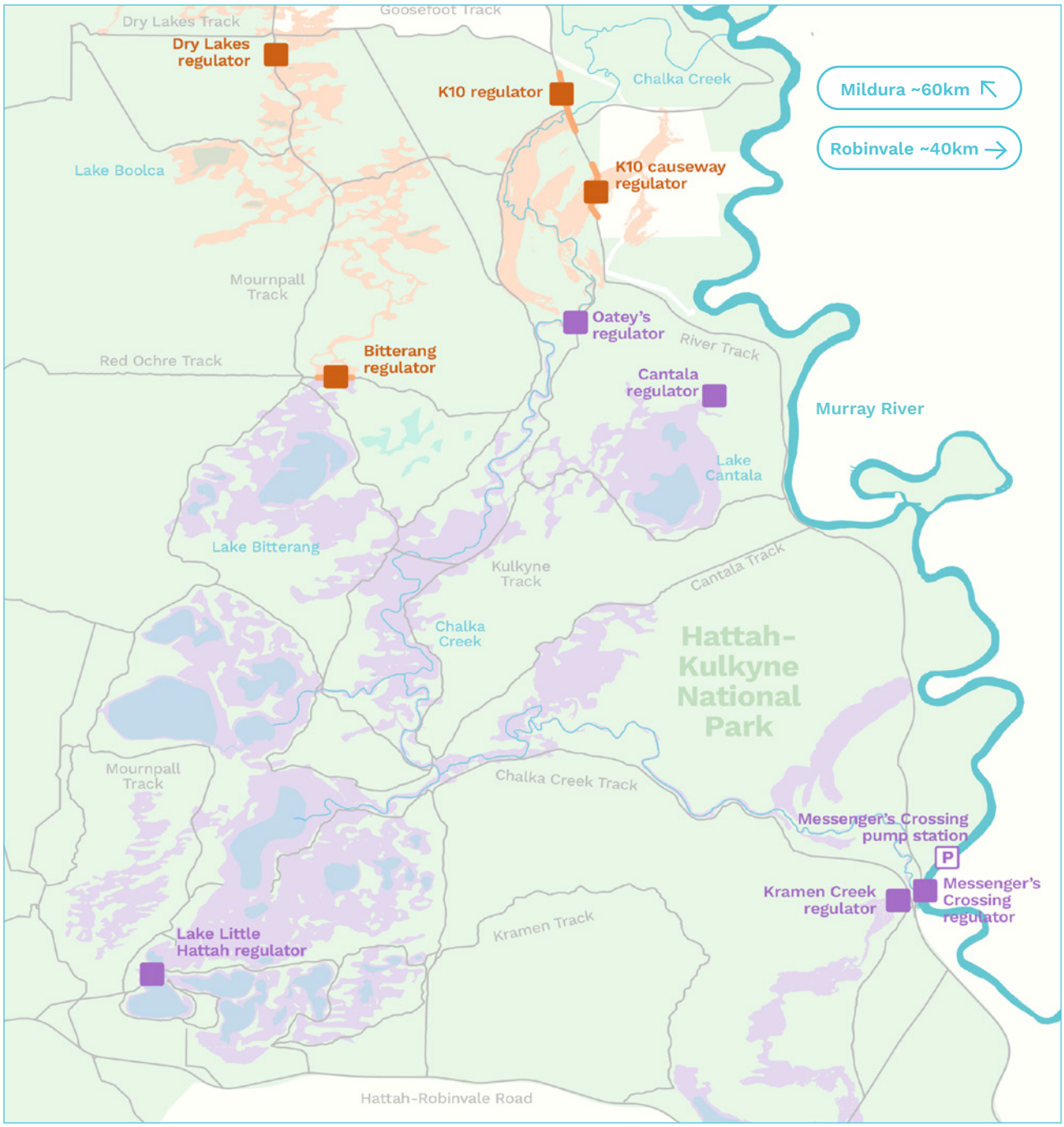


Image 1 – a map detailing how the new VMFRP infrastructure will work with the existing The Living Murray infrastructure.

Hattah-Kulkyne National Park

The Living Murray infrastructure

Can bring water from the Murray River into the Hattah Lakes system

VMFRP infrastructure

Helps that water reach the northern floodplains

The VMFRP project at Hattah Lakes North has two targeted areas

Chalka North floodplains

Under the The Living Murray works, water can travel north via the existing Oatey's Regulator and then up Chalka Creek. The new VMFRP infrastructure in this area (K10 regulator, K10 causeway and containment banks) will create a second tier of possible water inundation. When the ecological goals of the watering event have been achieved, the water can be released back into the Murray River via Chalka Creek North.

Lake Boolca floodplains

A new Bitterang Regulator will be constructed to allow water to travel north into the Lake Boolca floodplains and be held there. In future dry years, when water levels aren't high enough to pass through the Bitterang Regulator, a temporary pump can release water into the Lake Boolca floodplains. When the ecological objectives of the watering event have been achieved, the water will gradually recede through natural seepage and evaporation.

Flora and fauna in Hattah Lakes North

Much of the habitat in Hattah-Kulkyne National Park is flood dependent. Many native plants and trees, like river red gum, need regular flooding to thrive. Others, like black box woodland, still need periodic watering but can get by with less frequent inundation. This vegetation provides critical habitat for 189 rare and threatened species that will benefit from this project at Hattah Lakes North.

Rare and threatened species

The project at Hattah Lakes North will improve habitat for 189 rare and threatened species, including:

156	31	2	8	1
plant species	bird species	mammals	reptiles	amphibian species

Read more about some of these species below.

Sixteen waterbird species are known to breed at the lakes and more than 20,000 waterbirds have been counted when the lakes are flooded. Notable species include the regent parrot, which nests in the hollows of river red gums, and the Australian painted snipe, a wading bird that forages around the edges of flooded lakes.

Historically, some of Hattah's lakes held water for decades without drying out. These lakes have supported mature fish populations including eel-tailed catfish and fly-speckled hardyhead. The carpet python also shelters in river red gum hollows, black box branches and fallen timber. Ten bat species have been recorded at Hattah, including the greater long-eared bat. All of these animals need healthy habitat to survive.

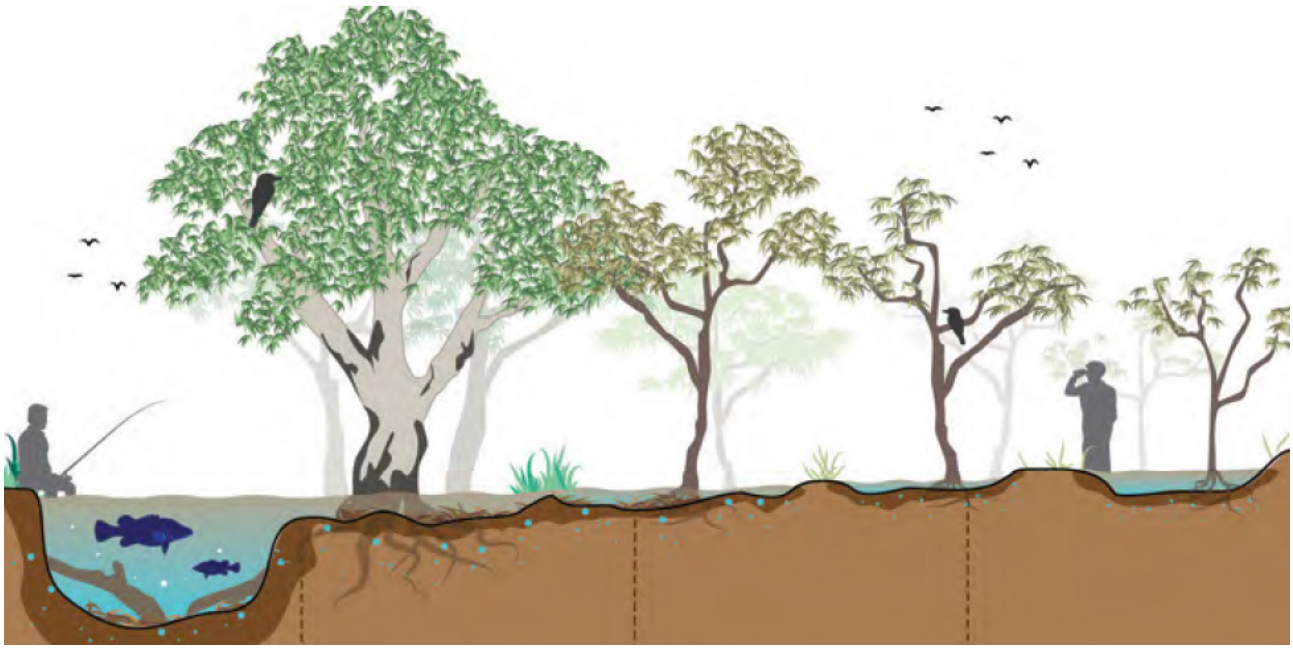
When water spills from the Murray River into the floodplains, lakes and creeks, it creates a mosaic of habitat, referred to as 'hydrological variation'. This means plants and animals can access both fast flowing water and slow-moving pools. Species like frogs, waterbirds and fish need access to still water for breeding and feeding. Additionally, plant seeds can spread across the site and increase habitat for animals over time.

The Hattah Lakes North floodplain has three distinct vegetation communities, each shaped by how often it floods, and for how long (refer Figure 1 on the next page).

As habitat improves, animal species will re-populate the area.

This project will enable water to reach the floodplain at a frequency more naturally in line with the watering patterns it would have seen before river regulation.

Hattah-Kulkyne National Park



The typical transition of vegetation from the wettest to driest parts of the floodplain

Murray River	Red Gum Forest & Woodland	Black Box Woodland	Episodic Wetland
	Ancient trees that line the river's edge, some hundreds of years old. Their hollows shelter parrots, owls, possums and bats. Their roots hold riverbanks together and help keep the floodplain stable. **Prior to river regulation**, received water 5.4 years out of 10. **Without VMFRP,** projected to receive water 2.9 years out of 10	Drought-tough trees that form the middle floodplain. Critical habitat for woodland birds, reptiles and small mammals. They can endure longer dry periods but do need occasional flooding to thrive. **Prior to river regulation**, received water 2.2 years out of 10. **Without VMFRP,** projected to receive water 0.7 year out of 10	Areas that flood only occasionally, but when they do, they provide important habitat and food resources. This benefits species such as invertebrates, frogs and waterbirds. **Prior to river regulation**, received water 0.4 years out of 10. **Without VMFRP,** projected to receive water 0.2 years out of 10

Figure 1 – Floodplain description

Rare and threatened species supported by healthier floodplains

This project will restore habitat and increase food, shelter and breeding opportunities for native wildlife.

This project will enable habitat improvement for native wildlife, including species listed as threatened under the Australian Government's Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), which recognises species at risk of extinction at a national level. It also supports species listed under Victoria's Flora and Fauna Guarantee Act 1988 (FFG Act), which identifies and protects species at risk within Victoria.

Australian Painted Snipe

Rostratula australis

Critically endangered (FFG Act)

Forages on mud-flats and in shallow water where it feeds on worms, molluscs and insects. Nests on the ground amongst vegetation such as grasses, tussocks or reeds.

Regent Parrot

Polytelis anthopeplus monarchoides

Vulnerable (EPBC Act)
Vulnerable (FFG Act)

Nests in hollow-bearing river red gums and feeds on seeds and native vegetation. Relies on healthy floodplain close to water for breeding.

Black Falcon

Falco subniger

Critically endangered (FFG Act)

Australia's largest falcon that hunts birds and small mammals over floodplains and woodlands, where it perches and nests. Relies on healthy, productive landscapes for abundant prey.

Major Mitchell's Cockatoo

Lophocroa leadbeateri

Critically endangered (FFG Act)

Lives in open woodlands and nests in large eucalypt tree hollows. Feeds on seeds, roots and bulbs on the ground. Often found in pairs or small groups and relies on large trees for nesting.

Carpet Python

Morelia spilota metcalfei

Endangered (FFG Act)

A large non-venomous snake species that shelters in tree hollows, hollow logs and dense vegetation. Feeds on small mammals and birds along the floodplain.

Freckled Duck

Sticktonetta naevosa

Threatened (FFG Act)

Freckled Ducks are considered to be one of the rarest waterfowl in Australia. They breed in swamps and then disperse to coastal wetlands when the swamps dry out. Nests are usually made at or near water level, from finely woven twigs and a layer of down.

Cultural heritage significance

Traditional Owners have cared for and sustainably managed the cultural landscapes of the Murray River and its floodplains for thousands of years. Hattah-Kulkyne National Park is a special place and holds deep cultural, spiritual and historical significance for Traditional Owners. Protecting cultural heritage is a key consideration in the project's design and delivery. Returning water to the floodplain and stabilising soils helps prevent erosion and protect culturally sensitive sites, which can be exposed as lakes dry and sands shift.

A Cultural Heritage Management Plan has been prepared for the Hattah site in consultation with Traditional Owners and specialist consultants. The plan assesses the potential impact on Aboriginal cultural heritage and outlines protections before, during and after construction. These plans are required under the Aboriginal Heritage Act 2006.

What will the infrastructure look like at Hattah Lakes North?

The infrastructure will be similar in design and scale to structures built under The Living Murray program. At Hattah Lakes North, the K10 regulators will be similar to the Horseshoe Lagoon Regulator at Wallpolla Island, while the Bitterang Regulator will be similar to Oatey's Regulator in the southern Hattah Lakes.

Raised track (containment bank) at Hattah Lakes

Horseshoe Lagoon regulator at Wallpolla Island

Oatey's Regulator at Hattah Lakes

How often will the infrastructure be used?

This will depend on rainfall and natural river flows, and the specific ecological needs of the floodplain. The examples below show how the infrastructure may be used.

Scenario	Description
Natural flooding	Regulators remain open to allow water to flow freely between the Murray River and the floodplain.
Flood capture	Regulators remain open during a natural flood and are then closed as water levels peak to hold water on the floodplain for longer.
Managed inundation	Environmental water is delivered through The Living Murray infrastructure and allowed to flow further north via VMFRP infrastructure.

When the infrastructure is built and operational, planning and delivery of environmental water operations will be coordinated through Mallee Catchment Management Authority, in consultation with stakeholders including Traditional Owners, Parks Victoria, Lower Murray Water and the local community. Watering decisions are based on seasonal conditions, river flows and monitoring of floodplain health, with flooding planned in advance to support ecological outcomes while managing safety, access and water quality risks.

The infrastructure might not be used every year. If sufficient natural flooding occurs, then it may go several years without being used. But in dry times, the infrastructure can get water into the floodplains to keep them healthy and thriving.

Watering decisions will be guided by ongoing ecological monitoring, adapting over time to what the floodplain and its wildlife are telling us. Long-term monitoring of ecological, cultural and social outcomes will be undertaken before, during and after flood events to ensure the intended benefits are realised. Where outcomes do not align with expectations, management approaches will be adapted over time, including adjustments to future watering plans, to ensure the project's objectives are achieved.

> Watering decisions are guided by the floodplain itself, adapting over time to what the land and its wildlife are telling us.

Hattah-Kulkyne National Park

Hattah-Kulkyne National Park

Managing construction impacts

Building infrastructure in a National Park requires careful management. The project has gone through detailed planning and approvals under relevant local, state and federal legislation. This included detailed technical investigations, environmental and cultural heritage assessments, and assessment of potential construction and operational impacts. Engagement with community and stakeholders was undertaken during this process to inform project design and ensure local knowledge and feedback were considered.

Protecting Aboriginal cultural heritage is a key priority. The project has followed requirements under the Aboriginal Heritage Act 2006, including on-ground assessments to document cultural heritage sites and consultation with Traditional Owners on the proposed works and their potential impacts. These outcomes are captured in a Cultural Heritage Management Plan, which outlines how cultural sites will be protected.

Construction will be guided by approved environmental and cultural heritage management plans, with controls in place to protect vegetation, wildlife, water quality and culturally significant areas. Works are carefully planned and monitored in collaboration with project delivery partners to minimise impacts during construction. Where possible, construction will take place on existing access tracks and areas that have already been disturbed.

Construction activities will adhere to the following conditions

Cultural heritage

Works will adhere to the controls contained in the approved Cultural Heritage Management Plan.

Hollow management

A Hollow Replacement Plan is in place to make sure animals still have safe places to shelter when trees with hollows need to be removed. The approvals process found that this project will result in a short-term loss of hollows, but thousands of hollow-bearing trees will benefit with the project providing greater likelihood of new hollows developing over time. In some instances, hollows from trees that need to be removed will be carefully cut out and moved into alternative locations nearby, so that they can continue to be used by wildlife.

Road condition

The tracks and roads that will be impacted as part of the construction must be left in same or better condition than prior to the project commencing. Some roads will be close during construction.

Minimise tree removal

To enable works to be carried out safely and effectively, a limited number of trees will be removed within the defined construction footprint. Tree removal has been carefully assessed though the project's environmental approvals process. The project is required to avoid and minimise tree removals to the greatest extent possible, with specialist arborists and ecologists engaged to oversee this. Animal habitat will also be inspected prior to any clearing activities to safely relocate any animals that are found.

Construction footprint

Works will be limited to the approved construction footprint, which has been approved by the Minister for Planning.

Construction dust and noise

These will be strictly monitored to ensure impacts to nearby residents are avoided where possible in accordance with the approved sub plans.

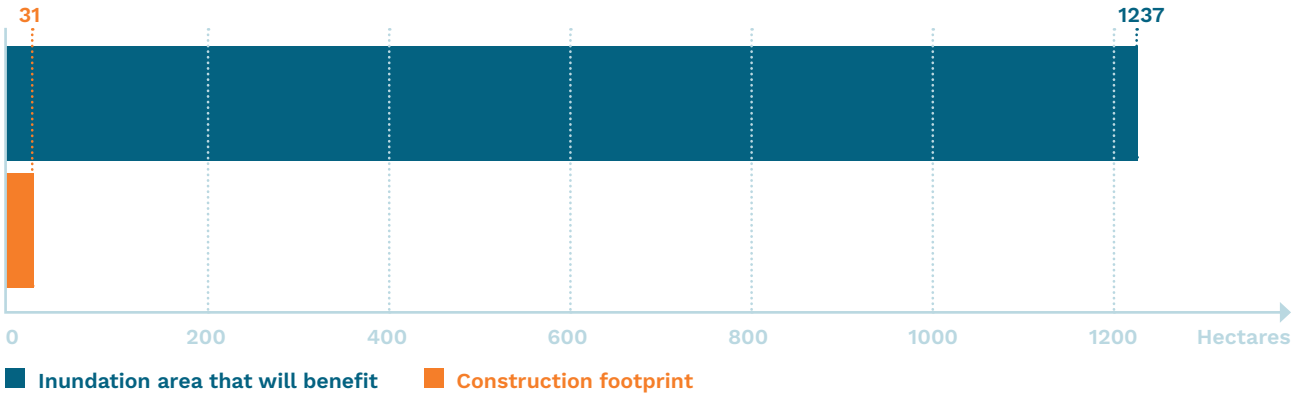


Figure 2 – depiction of construction footprint area, and the area that will benefit from improved watering.

Construction impacts will be carefully and consistently monitored before, during and after works. If unexpected impacts occur, management approaches will be adapted in response. Long-term ecological monitoring will continue after construction is complete to track the recovery of the floodplain and inform future watering decisions.

VICTORIAN MURRAY FLOODPLAIN RESTORATION PROJECT

HEALTHY LANDSCAPES, STRONG COMMUNITIES

vmfrp.com.au

Australian Government
Department of Agriculture

VICTORIA
State Government

LOWER MURRAY WATER

Goulburn-Murray WATER

mallee
catchment management authority

North Central CMA

Parks VICTORIA
Healthy Parks Healthy People