



# Gunbower Forest Ramsar Site

Citizen Science Project Snapshot  
Report 2022



WaterWatch  
Victoria

North Central WaterWatch supports people to actively care for their environment by participating in citizen science programs that monitor and report on the health of the region's land, water, and biodiversity resources.

The Gunbower Forest in northern Victoria is formally recognised as internationally significant through its listing under the Ramsar Convention on Wetlands. Wetlands are one of the most threatened habitats in the world; the Convention exists as a framework for international cooperation for their conservation and wise use.

The Gunbower Forest holds great significance to the Barapa Barapa and Yorta Yorta Traditional Custodians. As such, North Central WaterWatch see Traditional Custodians as best placed to monitor the health of the wetlands. We are providing training, employment and opportunities for Traditional Custodians to spend more time on Country while monitoring the health of these important wetlands. The information gathered and partnerships formed will help the North Central CMA how to manage the site through the Gunbower Forest Ramsar Site monitoring and management project 2021-24.



## Works and monitoring activities to date

The Gunbower Ramsar Site project has undertaken important work in the forest including turtle nest monitoring and threatened flora monitoring. The citizen science program has complemented these activities by conducting water quality, platypus, fish and pesticide monitoring activities.

## Threatened flora monitoring

### River swamp wallaby grass (*Amphibromus fluitans*)

- 2/5 populations assessed (other sites inaccessible due to flood waters)
- Growth of species was poor due to inundation during growing season
- Growth after smaller watering events (e-water) is much more prolific

### Winged peppergrass (*Lepidium monolocoides*)

- Monitored at 2/4 sites (other sites inaccessible due to flood waters)
- 100 per cent of plants assessed showed signs of reproduction
- More than 28,000 plants per hectare at Hudsons Track site
- More than 117,000 plants per hectare at Reedy Lagoon site (within a fenced area)

### Floodplain rustyhood (*Pterostylis cheraphila*)

- Spur Island population surveyed with 89 plants found (up from 81 the previous year and only 22 plants found in 2020)
- Higher numbers were predicted as access to site was restricted
- Those not guarded are very vulnerable to grazing pressures



### Stiff groundsel (*Senecio behrianus*)

- This rare species has been planted into Gunbower Forest to try and re-establish populations
- 42/51 of the known plants were recorded
- Reproduction was hard to monitor due to timing of survey (one was observed outside a guard)

### Turtle monitoring

- 130 fake turtle nests created (using chicken eggs) across 13 sites in Gunbower Forest
- Monitoring cameras installed at each site and monitored for 40 days
- Heavy predation noted with 89 per cent of eggs taken

### Waterbird surveys

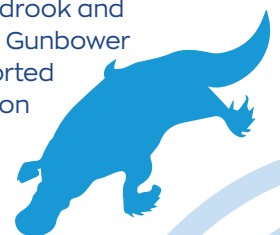
- 15,000 individual birds were observed over 69 surveys in the Gunbower Forest
- 41 species of wetland birds observed, 17 of which are listed as rare or endangered
- 21 of the wetland bird species were observed breeding, the most abundant being little pied cormorant and Australasian darter.

## The Great Australian Platypus Search

WaterWatch volunteers and Traditional Custodians took part in the Great Australian Platypus Search (GAPS); a citizen science project to map platypus populations across Victoria using the presence of environmental-DNA (eDNA) in water samples. North Central CMA staff supported Traditional Custodians from Yorta Yorta, Barapa Barapa and Wamba Wamba to collect samples from waterways within their respective countries during an engagement event in spring 2021. Results from the study were released in 2022 and have been included in this report.

The project identified two 'possible detections' – one in the Gunbower Creek near Koondrook and another in Black Charlie Lagoon in the Gunbower Forest near Torrumbarry. This is supported by the knowledge of a known population of platypus in the Gunbower Creek.

For more information and to see the Platypus Results Report, go to <https://www.thegreataustralianplatypussearch.org/>





## Water quality monitoring

Traditional Custodians have been employed to monitor water quality at two sites in the Gunbower Forest Ramsar site; Black Swamp and Green Swamp. Only a recent addition to the monitoring program, not enough data has been gathered as yet to enable accurate interpretation of results. This will however this will be included in the 2023 report.

Ongoing training and support has been provided while two way knowledge sharing has been an important aspect of the monitoring program. There is a desire among members to include cultural monitoring methods in the future. Current testing included in the monthly monitoring program are electrical conductivity (an indication of salinity), dissolved oxygen, pH, turbidity and reactive phosphorous. The addition of cultural monitoring methods would be complementary to this and would be hugely beneficial in increasing overall knowledge of the health of the forest.

North Central CMA is thankful to have regular monitoring being undertaken in the Gunbower Forest again and are pleased to have the knowledge and enthusiasm of Traditional Custodians to work alongside us in gathering this important information.

## River Detectives

River Detectives is an engaging education initiative that connects young people to nature by caring for their local waterway. Students learn about the importance of healthy waterways through water quality testing and the benefits to land, plants, animals and people. Participating schools are provided with equipment, support, training and teaching resources.

Participating schools in the local area include:

- St Joseph's Primary School Kerang
- Lake Boga Primary School
- Gunbower Primary School
- Koondrook Primary School
- Leitchville Primary School
- Lake Charm Primary School
- Kerang Christian College
- Boort District P-12 College

A flagship partnership event Going with the Flow: River Detectives Kids on Country was a major drawcard for more than 100 local primary school students for a day of discovery at Tree Tops Scout Camp in the Gunbower Forest. Students from St Joseph's Kerang, Gunbower, Leitchville and Koondrook primary schools were welcomed to Country in a smoking ceremony by Barapa Barapa Elder Uncle Ron Galway, before being treated to range of hands-on activities to learn more about the Gunbower Forest and cultural traditions. Partners Parks Victoria and Native Fish Australia were also in attendance, delivering hands-on activities to help students learn more about the waterbugs and native fish that call the Gunbower Forest home.

Clay creations produced by students on the day were exhibition at the Gateway to Gannawarra Visitor Centre in Cohuna to celebrate the watering of the Gunbower Forest floodplain over winter and spring. Artwork was returned to students as a memento of their day of environmental and cultural learning.



Barham



Platypus eDNA sampling



Turtle time. Going with the Flow event

in Gunbower Forest

**Black Swamp**  
Site Code: BLA001

BLA001



Murray River

GRE001



**Green Swamp**  
Site Code: GRE001

Gunbower Forest

Cohuna

Bullock Creek



River Detectives learn traditional weaving techniques



Waterbug studies at Cohuna

Bullock Creek

Gunbower

## Future monitoring

The Gunbower Ramsar Site project has undertaken important work in the forest. Some of these activities include turtle nest monitoring, pest plant and animal control, fencing, and threatened flora monitoring. The citizen science program has complemented these activities by conducting water quality, platypus, fish and pesticide monitoring activities.

One such technique that is being used more frequently is environmental DNA (e-DNA) monitoring. Many species living in or accessing the waterway can be identified from fragments of DNA. This project engaged La Trobe University's Department of Environment and Genetics Four sites to determine the presence or absence of 24 native and invasive fish species of interest. Traditional Custodians participated in this e-DNA monitoring at four sites across the Gunbower Ramsar site. Results will be presented in the 2023 report.

North Central citizen science programs have been supporting a study into the presence of pesticides in Australian waterways led by Deakin University. A pilot study for Pesticide Watch was conducted in the region during spring 2022 and is planned to be rolled-out across Australia throughout 2023. All citizen scientists and River Detectives schools in the north central region were offered the opportunity to participate in 2023, with findings due later in the year. Results are expected to give an indication of which kinds of pesticides are present in the catchment, as well as noting the legal status of their usage. Results will be included in the 2023 snapshot report.

## Acknowledgement of Country

The North Central Catchment Management Authority (CMA) acknowledges Aboriginal Traditional Custodians 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.

We thank and acknowledge Barapa Barapa, Wamba Wemba, and Yorta Yorta Traditional Owners for their interest, involvement and contribution to the program.

## Want to get involved?

We are looking for volunteers to help with monitoring our important Ramsar sites.

We're calling on the local community to help keep a watchful eye on the health of our priority waterways.

If you'd like to get involved and become a volunteer citizen scientist, please register your interest with one of our citizen science project officers at:

Email: [citizenscienceteam@nccma.vic.gov.au](mailto:citizenscienceteam@nccma.vic.gov.au)

Ph.: (03) 5448 7124

Office: 628-634 Midland Hwy, Huntly Victoria 3551



The Victorian Government is supporting community partnerships over the next four years through WaterWatch and other citizen science initiatives to address local waterway priorities. These priorities are being addressed as part of the Victorian Government's \$222 million Water for Victoria investment over the next four years to improve catchment and waterway health across regional Victoria.