

# Rivers, the veins of our Country

Six case studies of First Nations involvement in managing water for the environment in the Murray-Darling Basin  
2021-22



IMAGE: FPMMAC and Mallee CMA staff assessing the condition of Lignum.  
Photo credit: Sheridan Stephens - Lindsay-Mulcra-Wallpolla Icon Site.

## Vegetation, fish and waterbird monitoring in the Mallee

**An opportunity for First Nations to learn about scientific sampling techniques in the southern Basin**

*Authors: Mallee Catchment Management Authority*

As part of The Living Murray (TLM) Condition Monitoring program, an opportunity was provided by Mallee Catchment Management Authority (CMA) to staff from the First People of the Millewa-Mallee Aboriginal Corporation (FPMMAC) to learn ecological monitoring methods. Under the guidance of Ecology Australia, the training days focused on practical, hands-on opportunities for FPMMAC staff to learn scientific methods currently used for undertaking sampling of vegetation, fish and waterbirds.

Each training session covered around five hours of practical work on Country, focusing on different monitoring components and skills. Delivery occurred across five different sessions, with two focusing on different vegetation monitoring components, two on different aspects of fish monitoring and one specific to waterbird monitoring. Up to ten FPMMAC staff attended each session, along with a Mallee CMA Project Officer and two expert ecologists from the service provider.

After multiple false starts (COVID and rain) the first training session was held on 27 January 2022 and covered practical components of tree condition and demographic method and floodplain vegetation sampling.



The session was a great success, providing a fantastic platform for learning and sharing and a catalyst for culture and story-telling conversations.

The second training session was held at Lilyponds on Wallpolla Island on 11 March 2022, covering wetland understory vegetation and lignum sampling methods. The session was continued in the same vein as the first, with a very positive atmosphere. The third session was held on 31 March at Dedman's Creek on Wallpolla Island, introducing boat electrofishing for fish, and included aspects such as measuring, weighing and tagging of predominantly large-bodied fish. The unique nature of these sampling techniques created a high level of interest and led to some great discussions.

The fourth training was held on 13 April 2022, with a focus on small-bodied fish sampling methods including fyke netting, backpack electrofishing and seine netting. The final training session held on 5 May 2022 covered waterbird survey methods.

Overall, feedback from FPMMAC staff was overwhelmingly positive. There was a very high level of interest in the monitoring that Mallee CMA is undertaking across TLM. Many of the FPMMAC staff are currently undertaking their Certificate 3 or Diploma in Conservation and Ecosystem Management, and enjoyed being able to link learnings from this study into practice. FPMMAC have expressed interest in further collaboration opportunities with Mallee CMA in the future, particularly around sharing knowledge and understanding of the surrounding landscape and how it is currently managed.



**IMAGE: FPMMAC rangers discussing vegetation assessment methods with ecologists from Ecology Australia and Mallee CMA staff. Photo credit: Sheridan Stephens - Lindsay-Mulcra-Wallpolla Icon Site.**



**IMAGE: Ecologists from Ecology Australia and Centre for Freshwater Ecosystems demonstrating the methods of electrofishing in Dedman's Creek, Wallpolla Island. Photo credit: Sheridan Stephens - Lindsay-Mulcra-Wallpolla Icon Site.**



## **Testimonials from FPMMAC River Rangers and staff on the training**

### **Ebony Lawson FPMMAC River Ranger**

*"I was able to learn about the plants we have and how they monitor them. My favourite part was being out bush and learning. It was a fun and exciting experience".*

### **Baden Moore Jnr FPMMAC River Ranger**

*"I learnt the process of netting and tagging. I learnt electrofishing skills and about different types of plants and special features of plants. I also learnt how to record plant species in quadrats. My favourite part was being out on Country and learning how to record data. I gained more knowledge about the recording and use of data."*

### **Kayla Bowden FPMMAC River Ranger**

*"I learnt about monitoring the girth and density of the foliage and how to give a score on plant health. Also, how to complete the collection in which I enjoyed and I thought how intriguing it would be to watch those types of flora grow overtime. My favourite part was the data collecting and measuring the stumps. The experience enabled me to learn the importance of monitoring for our land and the environment and the importance of keeping data alive with patience."*

### **Sheridan Stephens FPMMAC Nursery Manager**

*"I learnt how consistent data is collected using GPS transects and quadrats. I learnt how trees are measured for growth – Diameter at breast height (dbh) and how to score a tree for its foliage density and percentage of living foliage. I was able to learn how monitoring is a useful tool for assessing the health of a system which can then be used for recommendations of priority areas that require possible interventions for survival of ecosystems – repairing and restoring Country. Also learnt a lot about the significance of lignum (Duma florulenta) in ecosystems i.e., for waterbird and mammal habitat and its ability to survive many years without flooding. Also heard wonderful stories about First Nations people's childhood memories of lignum for games and as a parent tool to get action out of children."*



*My favourite part was the exchange and sharing of knowledge between Traditional Owners and botanists, connecting with culture and being on Country.*

*From the experience, I was able to learn more about local native revegetation and what is required for its survivability and why it's so important. Learning how to better use the features of apps for plant identification and distribution.*

*It was so great to see how much Traditional Owner knowledge was shared between everyone, not just about plants but about hearths and stones, games they played and why this land is so important to First Nations people."*



IMAGE: A FPMMAC ranger measuring a Golden Perch.  
Photo credit: Sheridan Stephens - Lindsay-Mulcra-Wallpolla Icon Site.

### **Mikaela Dolan FPMMAC River Ranger**

*"I learnt transects are really cool and a great way to map multiple areas. My favourite part was meeting new people and introducing myself to other like-minded people."*



IMAGE: FPMMAC learning data entry and vegetation transect condition monitoring.  
Photo credit: Sheridan Stephens - Lindsay-Mulcra-Wallpolla Icon Site.



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