

Have you seen our Fluker posts?

"A what..?" A Fluker Post – it's a painted wooden post (named after its designer – Dr Martin Fluker) with a top that is cut at such an angle that any digital camera can be placed in the "camera cradle" so that the same perspective is recorded every time.

We've installed Fluker Posts so you can assist us with our ecological monitoring program. It's easy for you to join in. Simply use your own camera to take a photo from a Fluker Post and email it in. **Flukerpost NCCMA@gmail.com**



We've installed three Fluker Posts in Gunbower Forest – G1 on Nursery Track at stop 10 of the Gunbower Forest drive, G2 at Reedy Lagoon on Iron Punt Track and G3 at stop 10 on the Red Gum Forest walk (pictured below left).

Our fact sheet "The Fluker Post Project – join in" will be available in the Cohuna Gateway Information Centre. This provides more information about the Fluker Post Project, and details the locations and access to each of the Fluker Posts.

You can also visit the website www.flukerpost.com for more information and to access the photographs already taken at our Fluker Posts as well as those taken from the many other Fluker Posts installed around Australia and the USA.

To encourage your participation in this community based monitoring program, **we are offering a prize** to the first person to visit each of the Fluker Posts and send their photos in to the Fluker Post Project. So – get out there and get photographing!

CAMERAS STOLEN

It is disappointing that several monitoring cameras have been stolen from the forest over recent weeks. These cameras provide us with an insight into the birds, animals and water moving through the forest. If you have any information please contact the North Central CMA.

Official launch of the Hipwell Road Infrastructure

Over 100 people attended the official launch of the Hipwell Road environmental watering infrastructure on 8 August 2014. Senator Simon Birmingham and the Victorian Minister for Water Peter Walsh officially opened the regulator and were on-hand to present Certificates of Appreciation to past and present members of our Community Reference group.



L-R: Neville Goulding, Trevor Powis, Wendy Duckworth-Veitch, Sen. Simon Birmingham, John Cleave, Min. Peter Walsh, Andrew Brown & Stan Archard.

Newsletter authors: Anna Chatfield, Kathryn Stanislawski and Amy Russell.

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NORTH CENTRAL
Catchment Management Authority
Connecting Rivers, Landscapes, People

COMMUNITY NEWSLETTER

Edition 7: Spring 2014

Welcome to the spring edition of the 'Flooding for Life' community newsletter. Spring is a beautiful time of the year across Gunbower Island.

The weather is warming up, the days are getting longer and Gunbower Forest is coming to life as environmental water fills the flood runners, creeks and wetlands.

Water continues to flow into Gunbower Forest

Environmental water has been flowing into Gunbower Forest through the Hipwell Road Channel for over 110 days, flooding over 3,800 hectares.

North Central CMA Gunbower Forest project manager Anna Chatfield said "Fifty two gigalitres of environmental water has been delivered so far and has filled the flood runners, creeks and wetlands in the forest. As these areas have filled, water has spread out across the forest floor under the river red gums."

Native aquatic plants, such as nardoo and water ribbons have germinated in response to the flooding. Frogs are calling and waterbirds are being seen in larger numbers in the forest.

"It is great to see the forest's transformation as the water gradually moves through, we expect to see more aquatic plants germinating and waterbirds using the forest

wetlands as the weather warms up in spring." said Anna.

North Central CMA staff have been busy tracking the water as it moves through the forest, taking GPS points, reading gauge boards and measuring water quality over the past three months.

An important part of the first watering event has been to test the new structures. Greg Watkins, Goulburn Murray Water construction manager said "The new structures have been performing well with no significant issues. We have been able to deliver up to 780 ML/d through the channel."

Now that irrigation season has started, we are delivering lesser volumes as the environment shares capacity of Gunbower Creek with irrigators. Inflows will gradually be reduced over the coming six or so weeks and are likely to cease around the end of October.



A glorious winter's morning in the forest at Nursery track

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Is there such a thing as good blackwater?

Not all blackwater is bad for our rivers and wetlands. It is actually an important part of a healthy and functioning Gunbower Forest and Murray River!

Blackwater occurs when organic matter (leaves, bark and grasses) on the forest floor and in the wetlands is flooded and begins to decay. As the organic matter breaks down it releases carbon, nutrients and tannins into the water which turn the water a dark colour. Bacteria in the water consume the carbon in the water and when they do this they also use a lot of oxygen in the water at the same time.

When the nutrient and carbon rich water drains from the forest and wetlands into the Murray River and Gunbower Creek during natural and managed floods it provides a boost to the food web. The number of waterbugs in the water increases, which in turn act as food sources for fish, waterbirds and other aquatic animals.

Severe blackwater can sometimes occur during flood events which can cause stress to fish and other aquatic animals. These events are called **hypoxic** blackwater.

Hypoxic blackwater events are produced by high loads of organic matter on the forest floor and warm flood water creating very high levels of bacterial activity. The high levels of bacterial activity result in low dissolved oxygen levels.

When hypoxic blackwater occurs for long periods of time, and over large areas, fish and crayfish can die as they have no oxygen to breathe in the water. This is what occurred in the 2010-11 floods.

It is important to restore the balance of wetting and drying to our floodplains and wetlands, to reduce the frequency of hypoxic blackwater events.



Project officer, Kathryn Stanislawski monitoring water quality in the forest.

Five minutes with Thomas Chick

We recently caught up with Thomas Chick, Field & Game Aust (FGA) rep., and asked him why he joined the Gunbower Island Community Reference Group...



"The Gunbower Island is part of my heritage. My father was born in a slab hut near what is now the Wetlander mooring and my grandfather purchased land nearby on the creek in 1916. I saw the establishment of the group as a positive means of informing stakeholders of the projects being undertaken and also a conduit for community input into the management of the island for the benefit of all of its users.

"The current watering project is a good news story in terms of conservation of habitat and this is of vital interest to FGA members.

I also see my role as promoting the positive conservation work and experience of FGA to the group."

Favourite spots around Gunbower?

"Much of my Island experience is the north-end from Koondrook to Spence's Bridge. I love taking a flat bottom skiff out from the Little Gunbower regulator into the centre of the island when the flood waters are up. The forest is full of new life and it's great to just sit and watch the birds. The creek from the Koondrook weir back upstream will always be a special place. A boat trip at sunrise or sunset is the perfect start or end to a day. Some days my wife and I get to do both."

Blackwater and watering of Gunbower Forest

Each time environmental water is applied to Gunbower Forest the North Central CMA undertakes a risk assessment to determine the likelihood of a blackwater event.

The risk assessment involves collecting over 40 samples of leaves, bark and grass from the forest to calculate how much organic material is present. This information is then entered into a computer model along with information on the volume and timing of the proposed environmental watering event. The model uses this information to predict the dissolved oxygen level in the water. Results from the model can help inform the operations for a watering event to lower the risk of a severe blackwater event.

In completing the risk assessment for the Hipwell Road Channel operation in 2014 it was concluded that the risk of **hypoxic** blackwater (where dissolved oxygen is low and causes stress to fish) was low.

There are several factors that contribute to the low risk

rating of the Hipwell Channel operation in 2014/15;

1. the recent floods in 2010, 2011 and 2012 helped to break down and flush a lot of the organic material off the floodplain, resulting in lower loads.
2. the environmental watering event started in winter when water temperatures are low, allowing for a lot of the bacterial activity to occur in the colder months when the risk is much lower.
3. Hipwell Road Channel also operates as a through-flow system, with water continually moving through the forest, therefore allowing it to drain from the forest naturally. This reduces ponding on the forest floor and helps to oxygenate the water.

Although the risk of hypoxic blackwater is low, it is expected that there will be pockets of blackwater within the forest, including some that will be low in dissolved oxygen. However this is normal and these areas will be sources of nutrients and food for waterbirds, fish and yabbies'.

These areas are being monitored throughout the watering event by North Central CMA staff.

Ecological monitoring snapshot

In 2014-15 we are conducting some exciting research projects in Gunbower Forest. We will provide you with a snap-shot of these in our upcoming community newsletters. If any of these projects spark your interest, feel free to contact the Gunbower Forest project team for more information.

Carp Exclusion Trial

What is it? A trial to exclude carp from some parts of the wetlands and assess the difference in vegetation growth inside and outside of the exclusion plots.

Why are we doing it? Following the extensive 2010-12 flood events, the response of waterplants has been poor. Carp are considered to be a key contributor to the poor vegetation response.

This project isolates some of the vegetation and will test how much impact the carp are really having.

What do the exclusion plots look like? The exclusion plots are square cage structures (pictured right), and strategically located fencing on inlets to the wetlands.

Flood Extent Mapping

What is it? Regular mapping of where environmental water is flowing through Gunbower Forest.

Why are we doing it? Flood extent data feeds critical background data about forest conditions into research questions about birds, fish and vegetation. It also enables us to create maps of flood extent so we can map the area of the forest that is flooded.

How will the information be collected? Flood extent will be recorded using a combination of satellite imagery and on-ground assessments throughout the watering event.



Carp exclusion cage on Reedy Lagoon, Gunbower Forest