Study reveals the impact of carp on our wetlands

Results from the carp exclusion plots in the forest are helping us understand the impact of European carp on the growth of wetland plants.

Two trial sites were established in Reedy Lagoon and Little Reedy Lagoon early last year, before environmental water started to be delivered through the Hipwell Road Channel.

Gunbower Forest project officer Kathryn Stanislawski said a series of exclusion plots were built at Reedy Lagoon to keep large carp out of parts of the wetland to understand what effect this would have on vegetation.

“In addition to the plots, fences were constructed on the main flood runners at Reedy Lagoon to try to prevent adult carp from entering the wetland,” she said.

“These fences appear to have done their job as carp numbers in Reedy Lagoon were low compared to other wetlands.”

The absence of carp meant Reedy lagoon was protected from the mumbling impact of carp so the water was clear and wetland plants were able to germinate and flourish.

At Little Reedy Lagoon, where carp had unrestricted access to the wetland, the water was visibly turbid (muddy).

“Carp mumble at the wetland bed as they feed. This disturbs the sediments making the water muddy or turbid. Muddy water can limit the amount of sunlight that reaches the wetland bed, which can affect germination of the plants.”

“As carp feed they also uproot plants especially those that are submerged, such as the native ribbonweed and pond weed, preventing them from growing,” said North Central CMA project officer, Kathryn Stanislawski.

The difference between inside and outside the exclusion plots in Little Reedy was clear, with water plants, including the beautiful swamp lily, thriving in the absence of carp.

The study will continue in 2015 with a slight tweak to the exclusion plot design.

“The next step is to design a ‘lid’ for the exclusion plots to stop birds, such as swans and ducks, pulling out vegetation. This will ensure the results are focused on the impacts from carp and exclude other influences,” said Kathryn.

Unfenced fenced site with little vegetation, compared to a fully fenced site full of flowering swamp lily (Ottelia ovalifolia subsp. Ovalifolia, see inset). Little Reedy Lagoon, February 2015.

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CONTACT

North Central CMA
Reception
Ph: 03 5448 7124

Anna Chatfield
Gunbower Forest project manager
Email:
anna.chatfield@nccma.vic.gov.au

Kira Woods
Gunbower Forest project officer
Email:
kira.woods@nccma.vic.gov.au

NORTH CENTRAL
Catchment Management Authority
Connecting Rivers, Landscapes, People

COMMUNITY NEWSLETTER

Edition 10: Winter 2015

Welcome to the 10th edition of the ‘Flooding for Life’ community newsletter.

Winter is well and truly here. We hope you find somewhere warm to read about what’s been happening in our project areas and what we have planned for the next few months. We also welcome three new members to the Gunbower Island Community Reference group and spend five minutes with existing member, Audrey Dickens.

Winter respite for Gunbower Creek’s fish

Have you noticed that the water level in Gunbower Creek this winter is higher than normal?

Environmental water is being delivered through the creek to maintain connectivity and habitat to help native fish such as Golden perch and Murray cod survive the winter period.

Gunbower Forest project officer Kathryn Stanislawski explains. “In the past Goulburn Murray Water has drained the creek and lowered the weir pools at the end of the irrigation season. As there is no irrigation demand, no flow is delivered through the creek.

“This results in the creek receding to a series of shallow pools. These winter conditions are stressful for native fish, especially juvenile Murray cod.

“The lack of flow throughout winter increases the risk of fish being concentrated or stranded in pools. Fish are then vulnerable to predators.

“Water quality is also generally poor and there is a lack of food meaning a lot of fish simply don’t survive”.

An environmental water allocation of 6 GL provided by the Victorian Environmental Water Holder is providing a small flow through the creek in the off-irrigation season.

The flow creates connectivity throughout the creek enabling fish to move between habitats, seek shelter and access food sources.

“By maintaining some flow in the creek we hope to increase the survival of fish, especially the juvenile fish. We hope that over time this will result in an increase in the number of native fish in the creek,” said Kathryn.

The environmental flow will continue until the start of the irrigation season in mid-August.

Gunbower Creek near Garden Park, Cohuna June 2012. Large areas of the creek bed are exposed reducing the amount of habitat available for fish.

Gunbower Creek near Garden Park, Cohuna June 2015. Environmental water creates greater depth in the creek helping fish survive.

Walking on sacred ground

The Barapa Culture team followed in their ancestors' footsteps in April when they spent two weeks in Gunbower Forest.

Whilst the team focused on observing results from environmental watering they also identified and recorded traditional food, fibre and medicine plants and sites of cultural significance.

Archaeologist Colin Pardoe supported the team of 16 and noted scar trees and earth mounds. Colin also gave a presentation to the community on ancient Aboriginal societies, and spoke on his studies of 10,000 year old ancestral remains found near Kow Swamp, 90 years ago.

The 'Cohuna' skull was uncovered in 1925 by Leitchville farmer George Gray, whose daughter Mavis Hester met with Colin and the team during their field work.

Barapa Culture team member Dixie Patten presented Mavis with hand-made clap sticks.

Dixie said giving Mrs. Hester the sticks was a gesture that "not everything is about taking, but giving back".

Ms. Mavis Hester was presented with clap sticks by Dixie Patten.

The team finished their two weeks with children from Castlemaine's Aboriginal Program, 'The Meeting Place', visiting the forest. The Barapa team and ecologist Damien Cook showed the kids how to cook up staple food from plants such as water ribbons and cumbungi.

Upcoming event – Nutrient management workshop

Do you need assistance managing your effluent? Are you interested in reducing fertiliser inputs and maximising your soil health?

North Central CMA and Murray Dairy (Dairy Australia) have joined forces to present a 'Plan for Nutrients' workshop to be held **Wednesday August 5th** at the Gunbower Pub from 6.00pm.

The workshop will cover:

- Fert$mart nutrient management planning as an important tool to understand your farms nutrient levels and fertilizer requirements
- The selection of farm management zones in soil testing to improve the impact of fertilizers on particular areas of your farm
- Effluent as a key source of nutrients that can offset fertiliser costs
- Off farm benefits of nutrient planning

RSVP to North Central CMA is essential: Contact (03) 5448 7124 to book your place.

Planning commenced for Koondrook Weir fishway!

Concept designs are underway for a fishway on the Koondrook Weir thanks to funding from the Department of Environment, Land, Water and Planning (DELWP). Koondrook Weir is one of the five remaining barriers throughout the Gunbower and lower Loddon region and is a key on-ground action to recover the regions native fish populations.

The absence of fish passage at Koondrook Weir prevents the fish such as yellow belly, Murray cod and silver perch moving from the Murray River up into Gunbower Creek. These fish can accumulate below the weir where they are then vulnerable to predation by birds and anglers.

"We will be working closely with the design engineers, fish ecologists and Goulburn Murray Water over the next six months to design the fishway. Although funding to construct the fishway is not yet secured, having the concept design complete will be a major step forward," said Anna Chatfield Gunbower Forest project manager.

Flooding for Life
GUNBOWER FOREST

Forest to receive a drink – just in time for spring

Approximately 15% of Gunbower Forest, (or 3,000 ha), will be flooded during September and October as 20 GL of environmental water flows from the Hipwell Road Channel.

Anna Chatfield, Gunbower Forest project manager said the environmental water delivery complements last year's watering event.

"The 2015 environmental watering event will be shorter and shallower compared to the 2014 event. Inflows through the Hipwell Road channel will occur over a six to eight week period starting in early September.

"The spring flood will stimulate wetland plants to germinate, flower and set seed. Small native fish will also benefit with spring flooding stimulating their breeding in the forest wetlands. These small fish will provide food for waterbirds attracted to the forest.

"Water will flow through Spur Creek down into the middle and lower sections of the forest, filling the permanent and semi-permanent wetlands such as Corduroy Swamp, Little Reedy wetland complex and the Little Gunbower wetland complex.

These wetlands will most likely have residual pools come September. So this water will help top them up" said Anna.

Although some tracks in the forest will be impacted by the water delivery, the forest will be "open for business" with many great camping and fishing spots still accessible along Gunbower Creek and the Murray River.

Reedy Lagoon flourishing in response to environmental water, November 2014.

The Gunbower Island community reference group is pleased to welcome three new members to its group. Ron Galway, Debra Munzel and Nicholas Rowlands join our existing fourteen community members.

FIVE MINUTES WITH AUDREY DICKINS

We recently sat down with Audrey Dickins and asked her to share her love of the natural environment and her experience as a member on the Gunbower Island Community Reference group. The following is an extract from our interview.

"Growing up as an only child I spent a lot of time exploring the woodlands and hills near my home in Scotland where I began to appreciate the natural world. I learnt how to tune my senses; peripheral vision and hearing and how to go quietly; stealthily and patiently, as a result I have observed some amazing moments in nature and captured a few on my camera.

"I arrived in Australia in 1968 and was totally blown away by its landscape, flora, and fauna. I am devastated by the destruction of the land and the loss of species and habitat that has occurred since my arrival here forty seven years ago let alone the past 150 years since European settlement.

"Gunbower Forest is my back yard and I have covered most of it during the last 25 years and still go out into the forest almost every day, walking or bike riding.

"I do community volunteer work and sit on several committees, Secretary of Gunbower Landcare, Gunbower District Development Group and Treasurer of Northern Plains Conservation Management Network. I joined the CRG to instigate action on issues concerning Gunbower Creek /Lagoons and Gunbower Island forest.

"When it comes to land clearing to increase food production I find it difficult to justify when I see what supermarkets toss out in the way of food products every day of the week- most of it ending up as land fill. Are we producing too much?

"Every tree is a complete eco system that supports a variety of insects, birds, lizards and marsupials. It takes generations for hollows to form in trees. 70% of Victoria has been cleared of remnant vegetation. We need to have a good think of what we want left for future generations.

"I love every inch of Australia and wish that everyone could share my passion for the environment and the creatures we share it with".