



NATIONAL CARP CONTROL PLAN
RESTORING NATIVE BIODIVERSITY

THE NATIONAL CARP CONTROL PLAN

PROGRESS REPORT - DECEMBER 2018



EXTENSION GRANTED FOR CARP PLAN

The Australian Government has approved the extension of the delivery date for the National Carp Control Plan (NCCP) to December 2019, an additional year from the original deadline of December 2018. This will allow important new research to address knowledge gaps that have emerged as a result of the projects being undertaken to inform the plan during the past two years.

The NCCP research program is an immense undertaking; it is multidisciplinary, operating at a continental scale across complex social, ecological and economic systems. With a research program of this size investigating a new scientific issue, it is not unexpected for new research questions to emerge.

It is vital to address these knowledge gaps in order to deliver a comprehensive plan to inform decision-making about future options to control carp in Australia. Delivery of the plan is the first step in a lengthy process that may or may not result in eventual release of the carp virus.

The purpose of the plan is to inform governments on the technical feasibility of releasing the carp virus, the associated costs, benefits and risks, and the views of communities and stakeholders. It will also identify whether further research is required to inform the release of the virus.

After the plan is delivered, several legislative approvals and government decisions on implementation will be required before the carp virus might be released. The operational planning required would also be significant.

All governments remain committed to the development of the plan and are supportive of taking the extra time to ensure that the plan, when completed, is robust, scientifically rigorous and addresses concerns raised by stakeholders and the community.

Stakeholders will be kept informed of the NCCP progress through the FRDC carp website. There will be further opportunities for formal public consultation. Through the remainder of 2018 and well into 2019, community and stakeholder engagement will continue to be a focus of the work being undertaken.

Emerging knowledge gaps

1. Carp biomass

Research underway will enable estimation of carp biomass based on fieldwork conducted during summer 2017—18. However, if carp biocontrol is approved for use it may be some time until it is eventually deployed.

Carp numbers are known to fluctuate markedly from year to year in response to changing environmental conditions – particularly flow. We therefore need to ensure that biomass estimates can be adjusted through time to reflect fluctuating carp densities in future years, as this may impact on virus transmission, risk and cost.

Research is proposed to link the habitat-specific carp biomass estimates generated by research already underway with a carp population model, providing the necessary predictive capacity.

We know that CyHV-3 herpes virus transmits most effectively in high-density carp populations. This makes understanding the density of carp populations in various aquatic habitats an essential precursor to accurately predicting virus-induced mortality rates. In turn, capacity to predict the timing and location of major carp mortalities enables formulation of appropriate clean-up strategies.

2. Virus transmission

Carp density is one important factor affecting transmission of the carp virus and subsequent mortality rates. However, virus dynamics are complex, and the carp virus's impacts on carp populations depend upon interactions between numerous factors. Some of these factors have only emerged as important drivers of viral dynamics through modelling conducted in recent months. A series of experiments is proposed to further clarify the influence of seasonality and different transmission pathways on disease dynamics. This work will inform epidemiological modelling to enable prediction of likely consequences of carp biocontrol.

Progress so far

The development of the NCCP includes:

- a large research program;
- work to inform the legislative approvals required before possible release could occur; and
- consultation to understand community and stakeholder views relating to the carp virus.

Since the program commenced nearly two years ago, much has been achieved.

- Researchers collaborating across several states and territories will release estimates of the total carp biomass in key habitats of Australia before the end of 2018. This information is vital to inform estimation of costs and risk, and will feed into computer modelling to predict likely impacts on carp populations.
- Computer modelling led by CSIRO to predict impacts to carp populations is generating a large number of simulations. Those with higher knockdown levels all share three important attributes: carp exhibiting schooling behaviour, optimal water temperatures for virus transmission, and virus concentrations appropriate to cause infection. This suggests that the virus may be able to be applied in a surgical targeted and strategic manner rather than everywhere all at once. This may present opportunities with respect to management of risks, and minimising cost relating to clean-up should the virus be released.
- Research exploring the risk of reduced water quality as a result of carp kill events is showing that some habitats may

be quite resilient to increased levels of organic matter from carp kill events, but that shallow, still-water habitats with high carp biomass are likely to require particular focus.

Local knowledge

So far the team working on the NCCP has hosted 73 events across 40 locations in carp-affected communities. Almost 1500 people participated in community meetings to share information, views, concerns and ideas. The unique characteristics and conditions of local waterways and their surrounding areas are important to inform release and clean-up operations at regional scales.

Local knowledge contributed through these and other activities has already proven to be a crucial component to complement the extensive research and expert advice informing the NCCP and release strategies.

Concerns about the species-specific nature of the virus has led to further investigations to demonstrate this and ensure research is best practice. Stakeholder concerns about the risk of harmful bacterial responses following carp kill events have prompted a targeted risk-assessment process on this issue to guide consideration of the need for additional trials. Concerns from the koi industry about risks posed by the virus to its fish has resulted in plans to engage relevant experts to develop a biosecurity plan to help manage this risk.

CARPMAP

Have you seen carp aggregating in your local waterways? Your help is needed!

When and where carp aggregations occur is a critical question for the research team working to understand the transmission of the virus. While there are many observations of carp aggregating, there is little hard data on exactly where and when carp exhibit this behaviour – and this is where we need your help.

If you have seen a carp aggregation (defined as more than 10 carp in a school), we need your help to document when and where this happened.

To assist, the FRDC has partnered with the Centre for Invasive Species Solutions, the New South Wales Department of Primary Industries and CSIRO to develop CARPMAP – a simple online tool that enables people to contribute information on when and where carp aggregate easily.

By sharing your knowledge you will be playing a vital role in this important national program, potentially contributing the key piece of information we need to work out if biological control might help us to tackle Australia's carp problem.

So jump on <https://carpmap.org.au> today!

HOW CAN YOU GET INVOLVED?

The NCCP has been consulting extensively with communities across areas affected by carp. This work will continue in 2019.

The project team wants to understand your local waterways, what's important about them and how you use them, and your concerns and questions so that they can be addressed in the plan.

For more information contact the National Carp Control Plan team at:
carp@frdc.com.au

To stay up to date with progress and submit comments online:



www.carp.gov.au