

Managing dead carp after virus release

How effective is the carp virus likely to be in reducing carp populations?

CSIRO laboratory tests and modelling conducted for the National Carp Control Program (NCCP) indicate that the carp virus could reduce carp populations by 30 – 80%, depending on the local density of carp numbers, water temperature and other environmental conditions.

How was this estimate determined?

Epidemiological modelling was conducted to estimate the effectiveness of the carp virus in Australian waters. The modelling was informed by peer-reviewed science and tested in CSIRO's laboratories. The modelling assumes a range of mortality rates from 30 to 80%. The VFA has engaged the Arthur Rylah Institute for Environmental Research, in partnership with Charles Sturt University and the Wedge Group, to design a controlled trial to refine these estimates (refer Carp controlled trial fact sheet).

Are all the carp going to die at once?

Large scale mortality of carp is possible where carp aggregate in large numbers. Carp usually die within a few days once infected with the virus. The scientific evidence shows that skin-to-skin transfer is the primary pathway for the virus to be transmitted from infected carp to other carp, which is most likely to happen when carp aggregate in large numbers to spawn. Widespread carp mortality through water borne movement of infected carp tissue is less likely.

Will dead carp cause water quality issues?

Research undertaken for the NCCP shows that carp mortality events are unlikely to cause water quality problems in river channels with high water flows and

resultant higher levels of dissolved oxygen. Large numbers of rotting carp can temporarily reduce the level of dissolved oxygen in a waterbody, although the extent that this change occurs depends on local conditions. There is a higher risk of water quality issues arising in wetlands or stagnant waters with large carp populations (e.g. carp densities that exceed 300 kilograms per hectare). The NCCP identifies a range of strategies to reduce the risk of water quality impacts before, during and after the release of the carp virus, including fishdowns, temporarily increasing in river flows or removing dead carp.

Will carp fish kills create blackwater events?

No, blackwater events occur when flooding washes vast quantities of plant material into waterways, which then rot. The vegetation breaks down into carbon compounds, including tannins that cause the water to go black and reduce dissolved oxygen levels.

Can the need for a carp clean-up effort be predicted?

Yes, the first step is to establish a better understanding of the potential carp mortality rate for different densities of carp populations, which is the purpose of the VFA's proposed controlled virus trial (refer controlled trial proposal fact sheet). The trial results can then be combined with updated estimates of local carp populations to identify potential 'hot spots'. Action could then be taken to reduce the carp population via a fishdown to reduce the risk of water quality deterioration.

How feasible is it to remove large numbers of dead carp from waterways?

There are range of large-scale methods available that could be used to manage and reduce carp population 'hot spots' prior to deployment of the virus including electrofishing, mesh or seine netting depending on the suitability of the waterways for these methods. After the virus is released, removing carcasses can be achieved using commercial scale harvesting systems that may include the use of floating booms, portable vacuum pumps, modified rubbish removal boats, barges and netting. River flow manipulation can also be used to concentrate floating fish and improve water quality.

Where will all the dead carp go?

A range of carcass-disposal options are available and can be selected on a case by case, including burial, rendering, incineration, composting, ploughing into ground or commercial processing (carp fertiliser). These options will need to comply with relevant regulations. Carp removal is not necessary where the risks of carp decomposition do not pose a risk to water quality. Carp will decompose quickly and be absorbed within the food chain.

For more information, go to:

[Carp Biocon and water quality \(agriculture.gov.au\)](http://agriculture.gov.au)

[NCCP Lachlan Case Study \(agriculture.gov.au\)](http://agriculture.gov.au)

[NCCP Murray and Murrumbidgee case study \(agriculture.gov.au\)](http://agriculture.gov.au)

This fact sheet has been prepared by the VFA to provide brief and general answers to common questions raised by recreational fishing stakeholders on social media and at fishing related engagement forums. Our summary responses are drawn from detailed and lengthy published scientific investigations completed under the National Carp Control Plan.

We acknowledge our responses fall short of a detailed explanation and encourage those interested in finding out more about the work, to go to the source documents for more detail.