

“The carp virus is now found in over 33 countries worldwide, and through discussions with fish farmers, ornamental koi carp breeders and hobbyists in many of those countries, we have learned that simple measures including quarantining new fish, using safe sources of water and food, and use of sterilisation and disinfection where appropriate can completely protect fish collections,” he said.

“Many highly-respected Koi breeders in Japan’s Niigata district, considered birthplace of Koi, have not endured a single outbreak of the virus in their captive populations, and attribute this to application of these simple practices, which we should all be doing to protect our fish from all manner of diseases and pathogens anyway.”

DOES THE VIRUS HAVE AN ANTIDOTE?

A vaccine is available in some other countries that can protect carp from the carp virus. Mr Barwick said a live attenuated vaccine was developed and has been used in Israel on farmed carp both for ornamental and consumptive purposes since 2004, and was later approved for importation and use in Indonesia and the United States, with plans to make the vaccine available more broadly.

“There are no plans to make a vaccine for the carp herpesvirus available for use in Australia at this time. This is because availability of a live attenuated vaccine in Australia would present an unacceptable risk that vaccinated fish might escape or be released into the wild, and result in establishment of a large population of carp that were resistant to the biocontrol agent in the wild,” he said.

Mr McDonald from the Koi Society Australia also raised concerns over



whether countries that Australia currently exports fish and shellfish to will accept shipments that are potentially infected with a notifiable disease.

“Under the National Carp Control Plan, we will be working in partnership with globally recognised risk assessment specialists to characterise environmental, economic and social risks,” said Mr Barwick. “We are currently obtaining legal advice to improve our understanding of any trade considerations - one of several risks being considered.”

VIRUS MUTATION AFFECTING OTHER FISH

Another concern for the pet industry is that while the virus currently only affects carp, it could mutate and impact other fish, such as Goldfish.

“Goldfish are the most popular ornamental fish and most widely kept species in Australia, known for their attractive bright colours. Should the virus affect these fish, the impact to the aquarium industry would be detrimental,” said Dr Pit.

Mr Barwick said scientific evidence shows that the carp virus is safe for Goldfish and many other species.

“CSIRO has conducted research demonstrating safety of the carp virus in a wide range of native fish, lampreys, amphibians, reptiles, birds, mice and yabbies. Importantly, this work showed that the carp virus does not multiply, let alone cause disease, in any of the tested species other than carp,” said Mr Barwick. “It is known that when viruses do jump into new species, it is invariably into a closely-related species. However, even native catfish - the group of native Australian fish species most closely related to carp - were unaffected in CSIRO studies.”

In fact, in the 20 years since its recognition, the Carp virus has never been shown to infect any other species in the world, he added. And perhaps most importantly, there is no evidence for any fish virus causing disease in humans, according to a report to the European Commission by the Scientific Committee on Animal Health and Animal Welfare**.

According to the CSIRO, whenever a virus is used as a biocontrol agent, the virus

kills large numbers of the target for the first couple of years. CSIRO scientists expect the herpesvirus to initially kill 70-80% of the carp population in river systems. But, gradually the virus and host come to a state of equilibrium that allows both to survive. The virus then continues to cause a lower level mortality in the target and such that the target numbers never recover to their original levels.

“The carp herpesvirus is not a silver bullet. There is no such thing in pest control,” said Mr Barwick. “We will be looking carefully at the best suite of combined control measures under the NCCP, including new broad-scale technologies to bias the sex ratio within remaining populations (ie the ‘daughterless’ carp gene), as well as traditional regional methods such as trapping, the commercial collection of carp, and controlling access of carp to breeding grounds.”

WOULD CARP CLEAN-UP BE A DISASTER?

The pet industry’s other major concern is the impact on the river ecosystem of an undetermined and significant volume of dead carp that will result when releasing the virus.

“CyHV-3 Virus will kill millions of carp in a very short space of time. So the clean-up campaign will be immense and costly, and in many areas, impossible,” said Mr McDonald.

Dr Pit said the decaying dead carp would use up large amounts of oxygen, which may significantly impact on native species resulting in possible deaths to the fish the project is intentionally trying to save.

“There will be the need for significant clean up teams which we believe the Government has underestimated,” he said.

Mr Barwick said ecological monitoring in the Murray-Darling Basin by NSW Department of Primary Industries, funded by the Invasive Animals Cooperative Research Centre, is analysing the present condition of Australia’s waterways, and will provide a baseline for comparison if the virus is eventually released to help to track recovery of waterway health.

Scientists from the University of Technology Sydney and University of Adelaide are also investigating how different biomass levels of dead carp

