



the Australian Recreational Fishing Foundation, the Australian Conservation Foundation, the Invasive Species Council and the National Farmers' Federation - welcomed the release of the virus if it is supported by river recovery actions.

"Releasing this virus is a very important step in aiding native fish to recover, however we need multiple management approaches, such as restocking programs to bring native fish back to these rivers once conditions are right," said Allan Hansard, Managing Director of the Australian Recreational Fishing Foundation.

Some other industry groups and international researchers, however, are questioning the safety of the virus. In the scientific journal *Nature, Ecology and Evolution*, researchers argue the possibility of mutation, whether clean-up activities can be done successfully and how to prevent immunity building up over time⁴.

They wrote: "Invasive species pose a significant threat to Australian biodiversity, but the proposed biocontrol of common carp with (Cyprinid herpesvirus 3) is an irreversible, high-risk proposal. We fear serious ecological, environmental and economic ramifications, whilst its long-term objective to control carp is at best uncertain."

Mr Barwick welcomed international discussion around the NCCP and said it was vital to understand and manage the risks associated with the possible release of the virus into Australia's waterways.

The NCCP/CSIRO addressed the concerns in the journal correspondence with references to CSIRO research, adding that the combination of control measures (ie carp traps, commercial harvesting, electrofishing and environmental controls) to complement the activity of the virus will help ensure long-term success⁵.

"Based on lessons learnt from past use of viral biocontrol agents for invasive vertebrates and computer modelling conducted by the CSIRO, we know that an integrated approach is required for long-term results," said Mr Barwick. "This is not a sign of failure – indeed, it is a pathway to success if we are to achieve enduring reduction in carp impacts that we aspire to on a continental scale."

PET INDUSTRY CONCERNS ABOUT RELEASING THE KOI HERPES VIRUS

The Pet Industry Association of Australia (PIAA) supports the concept of removing the invasive common carp from Australia's waterways, but is also questioning the impact of the virus on other fish species and the environment, not to mention its effectiveness as a long-term solution.

"The PIAA does not support the proposed method of releasing the Koi Herpes Virus into the waterway as a mechanism of killing the carp," said Dr. Josiah Pit, PIAA Director of Suppliers and Manufacturers, and Operations & Supply Chain Manager at Aquarium Industries. "Australia's history of introducing non-native animals and pathogens has had some very negative effects on our flora and fauna."

The PIAA has a number of concerns about the Koi Herpes Virus:

- > The virus could mutate and impact other fish, such as Goldfish
- > Carp could build immunity to the virus over time
- > Tonnes of herpes-poisoned carp could impact heavily on the river ecosystem.

Additionally, a major concern of the PIAA

is that the virus will wipe out Australia's ornamental Koi hobby and industry. Whilst Koi are the same species as common carp, Koi have been bred for centuries into various colourful strains and are kept by hobbyists and as pets, often commanding a very high price tag.

"A vaccine will not be available for these fish which can be worth up to \$10,000," said Dr Pit.

The Koi hobby and industry in Australia is estimated at approximately \$150 million, according to the Koi Society of Australia (KSA). Releasing the carp control virus will undoubtedly impact severely on the Koi hobby, said KSA President Gerard McDonald.

Mr McDonald said the Koi hobby is relatively small compared to Europe, United States and Asia (notably Japan) mainly due to a ban on importing Koi for more than 50 years, and that Koi keeping is only permitted in New South Wales and Western Australia.

"Whilst Koi Society of Australia members are justifiably proud of our pet Koi, we appreciate that our hobby and industry is small and perhaps not overly significant compared to the problem of feral carp in our waterways," he said. "Evidence shows low numbers of Koi are in some waterways and the Koi Society of Australia are strongly opposed to inappropriately released Koi. But more importantly, we support eradicating the far more significant numbers of feral European carp that plague our rivers, lakes and dams. Far more environmentally sustainable methods of controlling carp already exist. Trapping, commercial fishing and drainage have a proven track record in Australia".

Mr Barwick said he recognises that some people in Australia keep Koi as pets, and as someone who also keeps fish, he appreciates the importance of being able to protect pet fish from harm.



The latest news on carp control, including results of all research commissioned under the National Carp Control Plan, will be available on www.carp.gov.au