

# Aussie Carp Fisho's

## Social Fishing Group

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To whom it may concern,

I am writing regarding the proposed release of the Koi Herpes Virus, also known as KHV, Carp Herpes Virus, Cyprinid Herpes virus 3 and CyHV-3.

I am not Scientist or expert on this matter and I do not claim to be, I have however read a lot of information put out by the National Carp Control Plan (NCCP) and by experts in the field from Australia and around the globe. I have had many discussions with those same people to see some very serious issues being raised by those outside of the NCCP, which remain either partly addressed or not at all.

I would like to touch on the CSIRO and NCCP claims that CyHV-3 does not infect any other species. Now while CyHV-3 has not been found to be fatal to any other species it has been found other species can be vector hosts of the disease assisting in the transmission and spreading of the disease. The fact this virus can live in other species raises concern of mutation of the virus into a form that may impact and become fatal to those species and species closely related. This also raises concerns of unintentional spreading of the disease (discussed later). Some of the species found to be vector hosts include Common Roach, Tench and European Perch (Redfin Perch), These 3 species are found in Australian waters and raise concerns of mutation.

“Six fish species, defined as potential vectors in koi herpes virus (KHV) transmission, namely: common roach, European perch, Tench, Eurasian ruffe, silver carp and grass carp were included in this study. The fish used to transmit infection originated from a fish culture facility where KHV had been diagnosed and prior to the beginning of the research study the presence of the virus genome was confirmed in each individual fish intended for cohabitation. Specific pathogen free (SPF) carp utilized in the experiment originated from the University of Wageningen. During a four-week period the SPF carp were exposed to infection through cohabitation with vector species previously confirmed as KHV carriers. The obtained results demonstrated the possibility of a horizontal transmission of KHV between selected species, even in the case of species showing no clinical signs of KHV disease (KHVD), while an average water temperature in the tanks ranged from 12°C to 16°C.” (Ref1)

Dr Paula Reynolds of the Lincolnshire Fish Health Laboratories and Research Centre mentions in her “Letter to the Senate” (The Lincolnshire Letter) (ref2) back in April that the virus is found to survive in numerous species including our natives and that it can be spread through those species. Dr Reynolds also mentions that many new strains of this virus have already emerged over time, again raising concerns of mutation into a form in which may impact our native species.

The CSIRO's own reports from 2013 (Ref7) and from 2016 (Ref8) show unexplained deaths in a range of Non-Target Species including Murray Cod, Perch and Trout. Although it is claimed these deaths are not

attributed to CyHV-3, the cause of death appears not to have been studied outside of basic CyHV-3 symptoms found in Carp. This begs the question as to why so many non-target species died in these tests. I feel further testing needs to be done to remove any possibility of those deaths being contributed to CyHV-3.

Results shown in CSIRO 2013 report summarised version ([ref7 link2](#))

Carp - 64% Bath Infected, 67% IP Infected (Only 40% of mature fish)

Silver Perch - 35% Bath Infected, 55% IP Infected (Levels of CyHV-3 found in 22% of IP infected fish)

Murray Cod - 22% Bath Infected (CyHV-3 found in 2 of 15 dead fish)

Golden Perch - no percentage but high mortalities

Rainbow Trout - 100% dead within 25 days

Galaxia - Again no numbers but high mortalities.

Additionally testing on saltwater species seems to be very minimal. I know the NCCP have tested species that share waterways with Carp such as Mullet, however as most if not all rivers and creeks end up flowing into our estuaries and therefore into a saltwater environment it is of great importance those species are tested against this virus. There so far seems to be no research showing that popular species such as Bream, Flathead, Mulloway, Kingfish etc are not affected by CyHV-3. What about our other marine life such as Starfish, Seahorse, Prawns, Crabs etc, what is the possible impact on them? Our Saltwater environments also provide a massive export market for seafood. (Discussed more later)

Dr Reynolds also discusses secondary infections such as Botulism and *E.Coli* forming in the decaying fish. These diseases can be dangerous or fatal not only to other wild life in the areas but to humans. With most fish sinking for up to 2 days after death, the decaying fish will have already started to build levels of these infections before they have floated to the surface where they can be collected. The virus causes the fish to decay before death. Before this virus kills, the fish start to form lesions on their skin, their gills rot and their eyes start to sink into their head. The risks of secondary infections into other animals and humans must fully be addressed but so far seems to largely be ignored by the NCCP.

This fear is echoed by Australian Ecologist Faith Coleman along with many others. ([Ref3](#))

At the NCCP Discussion meetings I personally attended (Penrith & Maitland in 2017) Matt Barwick made it clear that a full clean up would be impossible and that they intend to leave fish to rot in many areas while concentrating cleanup efforts closer to highly populated areas. Now although this may reduce the impacts on water quality in more important areas it will still cause anoxic results creating Blackwater events and impacting life around the area in which carp are left to decompose. In those areas we will have numerous native species which are already struggling in numbers such as Macquarie Perch and Murray Cod. The effects on water quality in these areas will spread as water flows down stream into more populated areas.

It has previously been reported that Carp will seek shelter and refuge at the onset of this virus. This means when they die they will not be in easily accessible areas. As mentioned by Peter Ingram on the ABC's Landline episode from 13<sup>th</sup> May 2018 ([ref4](#)), many of the fish will swim under low trees, snags, among reeds and eroded river banks at which point they will become trapped after death making clean up & removal impossible. This will happen in populated areas as well as those not so populated. The NCCP's own Jonathan Marshall mentions in the same episode that 40% of the waterholes in QLD are more than half a kilometre from any roads making it impossible to clean up decaying fish in these areas.

Along with the issue of cleanup is what will happen to the dead fish. Again Matt Barwick has said that many fish will be left to decompose in much of the Murray Darling Basin, he does also state that they can

be utilized for fertilizer & makes mention on Landline of use for power sources such as to power pace makers and LED Lights. Charlie Carp director Harold Clapham also mentioned in the Landline episode that they would be happy to take the Carp as long as they are not rotting. As mentioned above however this virus will cause fish to start to rot prior to death and many will sink for up to 2 days before floating to the surface where they can be collected. This will mean most of the fish will be already rotting & therefore will not be usable by Charlie Carp. The onset of secondary infections will also render the dead fish unsuitable for animal feed or human consumption. Most of the dead fish will be put into landfill as there will be no possibility for utilization of the decaying fish.

A recent article in the Murray Valley Standard (Ref5) again discusses utilizing Carp as fertiliser and a plan by Mid Murray Council to utilize the Cambrai Landfill site to set up a processing plant (although not yet approved by the EPA). It claims Charlie Carp converts 2.5 tonnes of dead Carp into 4000L of fertiliser. Although I'm sure they use much more than this through the year I am unable to find information to show just how much is used. If that is indicative of the amount used annually and we are looking at up to 2 million tonnes of dead carp then they would need to be producing approximately 320,000,000L of fertiliser. I'm sure this would then make their product value plummet dramatically. It then raises the question as to what will happen with so much of the product. Will it go to waste or be given at discounted prices to assist farmers for crops such as Cotton?

Is Charlie Carp good for farming?

Excellent results have been achieved on vineyards, lucerne, barley, oats, wheat, vegetables, cotton and cut flowers just to name a few. (Ref6)

Next issue we have is the spread of the disease. Now while Matt Barwick and the NCCP down play the risk of unintended spread with claims that the virus has a certain temperature range in which it is active and will cause problems and that it needs to be within a certain density of particles per litre we still have the very serious risk that it will spread. Throughout the UK and Europe they have implemented measures to stop the spread of CyHV-3 such as insuring all anglers wash and dip their equipment into a solution to kill any traces of the virus. They have found the virus to spread on things as simple as keep nets, fishing lines and other items used by anglers (ref15). Now although this may initially be a small infection, once the virus finds a suitable species to replicate in it then grows and spreads through other fish in larger proportions. Once water temperatures rise to a suitable range they are then faced with kills.

Additionally to the prospect of the virus being spread through fishing equipment we have the possibility of it being spread through droplets of water stuck to the feathers of water birds, birds such as Sea Eagles and Pelicans that happen to drop a fish outside of containment lines such as dams & weirs, water trapped inside boats and trailers or sadly though human interaction by people thinking they are doing the country a favour by spreading it. (I have seen comments on Facebook from people planning to do exactly this). This will then lead to fish kills in areas that are not intended for release and therefore have no clean up plans in place. By the time a kill is found, reported and a cleanup plan implemented it will be too late for that waterway.

Research by the Adelaide University has shown that a single dead Carp can deplete almost all of the oxygen from 800L of water within 48 hours, further research carried out by WaterNSW at Prospect Reservoir in NSW has shown a severe drop in dissolved oxygen. In most cases dropping to zero oxygen for up to 5 days. WaterNSW researcher Joe Pera has stated again on the Landline episode that for such a long period of low oxygen you will pretty much wipe out the rest of the ecosystem and that other species would not be able to survive a depletion of oxygen for a day.

This virus has spread through 33 countries due to the importation of Ornamental Koi and Carp for food. In each country it is currently found in CyHV-3 has caused devastation to the waterways and most of those countries now find the virus to be a much greater problem than the Carp themselves.

Many people associated with the NCCP claim that the release of CyHV-3 will be “Short term pain for long term gain”. However evidence from global outbreaks has shown that in many cases this virus reappears and causes fish kills year after year. Although this does not happen in all waterways it does happen in many of them. When questions at the NCCP Discussion meetings as to what will be done about surviving carp, Matt Barwick mentioned they will have to “Engineer” the virus to form a new, more virulent strain. Since then the NCCP have tried to deny this claim & have stated they will be sourcing a new strain rather than engineering it. Whichever the path taken this will cause a whole host of new problems for native species and to industries such as those that export carp. As discussed by Dr Jackie Lighten (ref10) the use of a new strain will have unpredictable results and being a possible new “Super Strain” will pose a massive threat to global food security.

I am aware the NCCP have been granted \$15million to research the best possible ways to release this virus and control its impacts. I am also aware Matt Barwick has mentioned to the Senate previously that the cost for roll out and clean up of this plan is expected to be 10X that amount equating to approximately \$150million. That is for the initial roll out and clean up, Not the ongoing ones each year and not for research into a new strain. It has recently been discussed that the actual costs of the initial clean up could look at reaching closer to \$500million.

Lastly regarding concerns over the proposed release of CyHV-3 is the impacts to global food security and impacts on local businesses exporting seafood. There are currently a number of commercial fishers utilizing Carp for a range of options including export to countries such as China and Germany as well as use here. Peter Ingram from Ingram Wild Caught Fisheries currently has a market in Germany for Carp Roe (Tarama) and in China for whole fish both live and dead along with fish sold to Sydney Fish Markets. Tracy and Glen Hill from Coorong Wild Seafood's also have a local & international market for Carp. The release of this virus would impact their businesses and in fact has already impacted the Ingram's as they had spent around \$1million to upgrade their facilities prior to the announcement from our Government of the proposed release (ref9)

The release of this virus will not only impact those targeting Carp but also those targeting other freshwater species caught from infected waters. It will also impact those targeting Saltwater species that share waterways with Carp (further discussed below) and using ice made from water that may be infected with CyHV-3. All these fishermen will now have to declare that there could be traces of CyHV-3 and surely this will impact on the value and market for those products. Again not knowing what impacts this virus will have on our Saltwater Species poses a serious risk to Saltwater export industries, An industry that is worth billions to our economy.

Further on Saltwater Species sharing waterways with Carp. Carp can inhabit waterways with rather high salt concentrations. Carp catches in the Hunter River NSW have been reported through members of my group as far down river as Raymond Terrace. Ingram Wild Caught Fisheries have also mentioned catching Carp in the same waters inhabited by Seal's and Coorong Wild Seafood's catching Carp from the Coorong area which again has very high salt levels. Flathead have also been caught as far up the Hunter River as Lorn NSW where I personally have caught Carp and had run a Social Day for my group last year with Carp being caught up to near 19.84lb.

Now while I do not support the release of this virus, I do support the reduction of Carp in areas in which they have become a problem. Please be mindful that they do not seem to pose any problems in many

waterways such as The Nepean River where they are caught at large sizes alongside native species such as Bass and Catfish and many others. The water in many sections of the Nepean River is also very clear with large weeded areas. Behind Nepean Rowing Club, Devlin Rd Castlereagh and Agnes Banks for example. Carp also helps to keep manmade stormwater catchments and duck ponds free from Mosquitoes and reduce the growth of weeds that would otherwise clog the waterways causing stagnated water which will not be pleasant for those in surrounding homes and raising the possibility of localised flooding. In fact that is the reason many farmers stocked them into private dams on their properties. Many of these duck ponds and stormwater catchments would not sustain other species of fish due to high levels of pollution and other factors. When looking at the impact Carp has on native species and on the waterways I would like you to consider the condition of places such as Prospect Reservoir, Warragamba Dam and the numerous other dams that have been used for town water supplies yet are free from human impacts such as over fishing, agricultural disturbance and high levels of pollutions. Many of these dams are full of large native species along with large carp with good water quality.

In terms of a reduction strategy that would not involve this virus and cost our country hundreds of millions of dollars year after year it is my personal opinion, given evidence from the information I have seen, that a controlled and coordinated plan utilizing Commercial Fishers to electro fish and net waterways could very well be the best possible option. This could create jobs for struggling communities along the Murray Darling. Commercial fishing would also create income and taxes while targeting areas with very high populations such as spawning aggregations to have the best impact on reducing the problem. With export options to China and other countries it could become a very viable option to reduce and utilize the species as they are after all the world's most eaten freshwater fish with some amazing health benefits (ref16). Carp could be utilized as part of our World Aid Package to feed starving countries or to feed our many thousands of homeless and starving families as discussed in the Carp Australian Resource Project (Ref11). Carp is the traditional ingredient in many dishes such as Gefillte Fish and Taramaslata (Greek fish roe dip).

Other options for utilization of Carp could also include such things as plastic products made using fish scales (ref13), Pet food to reduce the strain on our other species such as Pilchards (ref14)

Lastly I would like to make mention of the sporting side of Carp. Now although seen largely as a "Rubbish Fish" here in Australia, Carp angling is a multibillion dollar industry globally. In 2005 England and Wales alone reported Coarse Angling which is predominantly Carp angling equated to £980.4million towards Household income (ref12). The sport here in Australia is starting to grow with more Carp angling groups and clubs popping up such as Sydney Coarse Angler, Bank Angler Australia's angling clubs and of course the Aussie Carp Fisho's group.

In closing I would like to remind you that the possibility for Australia utilizing this valuable resource for a profitable return will not be possible if this virus is released. As mentioned above it cannot be used for fertiliser if decaying, It will not be exportable if diseased and there is a very real possibility that it will impact on other exports and it will impact any chance we have of a good sporting industry around Carp.

Thank you for taking the time to read this letter and I sincerely hope you give it your full consideration while discussing and deciding on the funding and release of the Koi Herpes Virus into Australian waters.

Micheal Graham  
Aussie Carp Fisho's

Ref1

Horizontal transmission of koi herpes virus (KHV) from.... Available from:

[https://www.researchgate.net/publication/235732844\\_Horizontaltransmission\\_of\\_koi\\_herpes\\_virus\\_KHV\\_from\\_potential\\_vector\\_species\\_to\\_common\\_carp](https://www.researchgate.net/publication/235732844_Horizontaltransmission_of_koi_herpes_virus_KHV_from_potential_vector_species_to_common_carp) [accessed Jun 10 2018].

Ref2

Letter to the Senate – Dr Paula Reynolds

[https://docs.wixstatic.com/ugd/37a174\\_e0ef11229f114dc28846b1a7d87c7494.pdf](https://docs.wixstatic.com/ugd/37a174_e0ef11229f114dc28846b1a7d87c7494.pdf)

Ref3

Murray Valley Standard – Faith Coleman

<https://www.murrayvalleystandard.com.au/story/5398682/coorong-ecologist-faith-coleman-says-no-to-carp-herpes-virus/?cs=1905>

Ref4

ABC Landline

<http://www.abc.net.au/news/2018-05-13/the-end-of-carp-the-efforts-to-rid-our-waterways/9756784>

Ref5

Murray valley Standard - Council Backs Carp Clean Up

<https://www.murrayvalleystandard.com.au/story/5467688/council-back-carp-clean-up-proposal/34962168/>

Ref6

Charlie Carp FAQ

<https://www.charliecarp.com.au/faqs/>

Ref7

CSIRO McColl & Crane report 2013

[https://www.pestsmart.org.au/wp-content/uploads/2014/07/McCollCrane2012\\_KHV\\_ResearchReport.pdf](https://www.pestsmart.org.au/wp-content/uploads/2014/07/McCollCrane2012_KHV_ResearchReport.pdf)

A summarised version of the results can be found here

<https://www.canberrafishos.com/news-and-articles/312-koi-herpes-virus-q-a>

Ref8

CSIRO Final Report 2016

<http://www.pestsmart.org.au/wp-content/uploads/2016/11/Final-report-Phase-3-of-the-carp-herpesvirus-project-CyHV-3.pdf>

A summarised version of the results can be found here

<https://nswaqua.com.au/australian-aquaculture-under-threat-by-proposed-carp-herpes-virus-release-by-nccp/>

Ref9

Weekly Times - Gippsland Fishers up the creek (Possible paid subscription)

<https://www.weeklytimesnow.com.au/sport/fishing/national-carp-control-plan-gippsland-fishers-up-creek/news-story/2b07a8266271c2564ff0eae073a86ed3>

Ref10

Dr Jackie Lighten – Correspondences to the Australian Senate Re NCCP

<https://www.researchgate.net/publication/320197929> Correspondences to the Australian Senate regarding the National Carp Control Program

Ref11

C.A.R.P – Carp Australian Resource Project

<http://www.bankangler.com.au/carp-australia-resource-project.html>

Ref12

Economic evaluation of Inland Fisheries

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/291109/scho0109bpgi-e-e.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/291109/scho0109bpgi-e-e.pdf)

Ref13

Treehugger - Designer Creates Plastic From Fish Scales

<https://www.treehugger.com/sustainable-product-design/designer-creates-plastic-from-fish-scales.html>

Ref14

SMH – Cats Eating Into World Fish Stocks

<https://www.smh.com.au/environment/cats-eating-into-world-fish-stocks-20080825-425x.html>

Ref15

Marine Science UK Blog

<https://marinescience.blog.gov.uk/2015/10/02/koi-herpesvirus-khv-disease-and-fisheries/>

Ref16

11 Health Benefits of Carp

<https://www.organicfacts.net/health-benefits/animal-product/health-benefits-of-carp.html>

