



NATIVE FISH AUSTRALIA (Vic) Inc.

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PO Box 162 Doncaster 3108

Ms Phoebe Smith
Department of Environment, Land, Water and Planning
PO Box 500
East Melbourne Vic 8002

Via email: water.markets@delwp.vic.gov.au

Dear Phoebe,

Re: Submission to the Goulburn Murray Trade Rule Review

On behalf of Native Fish Australia (Vic) please consider this feedback to the Goulburn Murray Trade Rule Review.

Native Fish Australia is a non-government organisation consisting of conservation anglers that was established in the 1980s to lobby for the protection and conservation of Australian native freshwater fish as well as to promote angling for the larger bodied fish as sportsfish in a responsible and sustainable manner.

We have had several volunteer run hatcheries over the years with our current hatchery located at La Trobe University's Bundoora campus and have successfully bred multiple native fish species including the IUCN listed Vulnerable Trout cod (*Maccullochella maquariensis*) and Endangered Macquarie perch (*Macquaria australasica*). These fish on occasion have been given to the Victorian Fisheries Authority in the past to develop further breeding programs and have also been released into the wild to supplement remnant populations, in accordance with the appropriate permits and licenses.

As such we are acutely aware of the vital role flow regimes and water temperatures play as environmental queues for native fish to begin spawning and for their offspring to successfully survive.

The Middle and Lower Goulburn River contains several species of native fish of angling size including the iconic Murray cod (*Maccullochella peelii*) and Golden perch (*Macquaria ambigua*) as well as the aforementioned threatened species. Both the Trout cod and Macquarie perch have remnant populations in the Goulburn and its tributaries and as such a healthy river system is of vital importance for the preservation and recovery of those species.

Native Fish Australia Vic (NFA (Vic)) members over the years have attended and assisted in fish release events hosted by the VFA along the Goulburn river, including the release of Macquarie perch into the Goulburn River and its tributaries for the past 30 years. This has resulted in an endangered yet persisting population of Macquarie perch that reside in the Goulburn river itself and are occasionally caught as by-catch by anglers. This population has a mix of genetics from historic populations all around the state and is of ecological significance and must be protected and encouraged to flourish.

The Goulburn, particularly the lower reaches is also of great significance as a premier angling destination for those recreational fishers who target our native fish for sport, often employing catch and release measures when fishing to ensure the survival and recovery of our native fish from their almost hundred year decline since European colonisation adversely impacted their populations.

Impacts of high river flows on the Middle and Lower Goulburn during spring and summer months.

It has been reported that the last two irrigation seasons in particular have seen the Goulburn's spring and summer flows up to 3 times greater than the recommended flow for suitable environmental conditions of approximately 30GL per month.

These high flows have caused significant changes to the ecology of the Lower Goulburn river in particular that have had adverse effects on the resident native fish populations on several levels.

At a physical level the sustained high flows have eroded the high water marks along the main Goulburn river channel, causing bank erosion and also inundating streamside vegetation for a significant enough duration to cause it to die which can further destabilise the banks. In addition, during natural minor flooding in later spring the submerged streamside vegetation can play a vital role in providing a refuge from predators for juvenile native fish.

However, NFA (Vic) is more concerned with the high flows of cold water from the bottom of Lake Eildon and the negative effect it has on native fish spawning. Murray cod in particular tend to spawn once the average water temperature reaches 18C°. Trout cod and Macquarie perch are more specialised for slightly colder climates and can spawn when water temperatures reach 16C°, however even in late spring and summer times the water flowing from the bottom of Lake Eildon can be below 14C° which we believe and research from the Arthur Rylah Institute corroborates will suppress the spawning of these threatened native fish species.

NFA (Vic) would also like to note that unseasonably cold water does not just affect the direct spawning of native fish, but also their juvenile offspring. High flows of cold water in the later spring and early summer months suppresses the life cycle of phytoplankton and zooplankton which the young of year fish feed on at that time. Suitable conditions for optimum planktonic production are slow flowing warmer waters that are conducive to rapid growth in juvenile native fish, leading to increased survivorship and recruitment.

Proposed Goulburn Murray IVT rule changes

NFA (Vic) is very pleased to see that DELWP recognises the damage done to the Lower Goulburn river as a result of the artificial high flow events and applauds the interim maximum cap of 50GL/month for the 2019-2020 season.

Our position is that as the later spring and the summer months are so crucial to native fish spawning and recruitment, we as an organisation would like to see a permanent cap of 40GL/month of Goulburn flows during the Spring and Summer months, as it would be the closest flows that mimic historic natural flows. We accept that this may impose restrictions on trade opportunities of water licenses yet believe that there are possibilities to still have trade opportunities without damaging the ecology of the Lower Goulburn. Perhaps such water trades might need to occur during winter and early spring months and it is up to irrigators to provide suitable storage facilities for their water requirements over the later spring and the summer months.

As such we believe that a modified version of the Dynamic Rule outlined in the consultation paper would be the most appropriate rule to protect native fish and the health of the Lower Goulburn and yet also provide water trade opportunities for irrigators. A dynamic rule that encompasses the months of May through to the end of September would be ideal to create suitable water conditions for native fish spawning, as well as good recreational fishing opportunities in the summer months.

If you require clarification on any of the viewpoints in this document expressed on behalf of Native Fish Australia (Vic) please feel free to contact me directly.

Kind Regards,

Mark Adams

Vice President

Native Fish Australia (Vic)

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