



Submission by Australian Platypus Conservancy to DELWP:

Goulburn to Murray Trade Rule Review

The platypus's conservation status in Victoria has recently been upgraded to Vulnerable. Although the species remains reasonably widespread, numbers have certainly declined in many places. Along the Goulburn River, platypus reliably occupy most (possibly all) of the mainstem in the reaches upstream of Goulburn Weir and are also present (though in lower numbers) downstream of Nagambie.

To help prevent further contraction of the platypus population in the lower Goulburn, it is essential that future water trading is regulated with a view to achieving sustainable outcomes for this species and other wildlife dependent on the river's environment.

In the case of the platypus, it is known that animals avoid feeding at sites dominated by fine benthic sediment (Serena *et al.* 2001; Grant 2004) and require structurally stable banks as sites for both camping and nursery burrows, ideally in places where substantial overhanging shrubs and other low-growing vegetation occurs (Serena *et al.* 1998). Accordingly, water delivery practices which promote bank and/or channel erosion are predicted with a high degree of confidence to damage platypus foraging habitats and reduce the extent of suitable burrow habitat. Excessively high summer flows will also be detrimental insofar as they increase the amount of energy that must be expended by a platypus to find and secure its mainly benthic invertebrate prey (McLachlan-Troup *et al.* 2010; Marchant and Grant 2015). Furthermore, this added energetic cost is imposed at precisely the time of year when breeding females are subject to peak lactational demands (Grant *et al.* 2004) and small and relatively weak juveniles are first emerging from burrows and learning to forage (Serena and Williams 2012).

Following on from the above, we strongly endorse all of the following actions:

1. New operating rules should be put in place to ensure that sustainably low and variable flows are mandated along the Goulburn River (or any other Victorian river) through the summer-autumn irrigation period, in line with expert advice designed to minimise adverse environmental outcomes and allow the system to become healthier and more productive over time.
2. Interim restrictions on the transfer of tagged water from the Goulburn (or any other Victorian river) when water trade is otherwise closed should be made permanent.
3. As knowledge about the response of managed Victorian rivers to flow interventions remains far from perfect, geomorphological and biological monitoring should be funded as an integral component of managing Victorian rivers affected by IVTs. With respect to platypus, we also caution against relying much (if at all) on use of eDNA for this purpose. Because it generates presence-absence data, eDNA is well-suited to broad-scale population mapping but cannot register change in key population parameters such as adult sex ratio, physical condition or reproductive success which provide the best basis for evaluating population viability through time.

Literature Cited

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26 April 2021