

*Ripples* is the quarterly newsletter of the Australian Platypus Conservancy. It provides updates on research in progress and other APC news. Members of *Friends of the Platypus* automatically receive each edition of *Ripples*.

# **Ripples**

## **Newsletter of the AUSTRALIAN PLATYPUS CONSERVANCY**

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### **AND THEN THERE WERE NONE**

The process by which a species or population goes extinct is most often blamed on chronic threats (such as progressive habitat loss or over-hunting). However, as populations shrink they also become less able to survive unlucky chance events, such as droughts or bushfires. Biologists have coined the term "minimum viable population" to describe the smallest number of animals that are expected to persist on their own, despite year-to-year variation in survival.

In practice, computer models suggest that an isolated platypus population will need to comprise at least 50-60 adults to ensure that the population has a reasonably high probability of surviving for 100 years or more. Smaller populations are progressively more likely to go extinct-or, put differently, less likely to survive adverse environmental pressures when combined with bad luck.

The results of recent platypus surveys along the Curdies River-undertaken on behalf of the Corangamite Catchment Management Authority-perhaps reflect a case in point.

The Curdies River is located in southwestern Victoria, about midway between the regional centres of Colac and Warrnambool. The catchment generally receives ample rainfall and supports many productive dairy farms. The down side is that pastures have often been established right to the edge of the river, with little or no cover provided by native vegetation on the banks. Comments by local residents also suggest that the amount of summer flow in the river and its tributary streams has declined in recent years, so that sections of streams which were once reliably perennial-providing year-round habitat for aquatic animals-now regularly cease flowing in dry seasons.

Importantly, the Curdies is also quite a small river, measuring just 2-6 metres wide in most places. Accordingly, it is likely that the entire Curdies catchment supported at most a few hundred platypus at the time of European settlement.

The APC set platypus survey nets in the Curdies system on two occasions in March 2002, providing replicated sampling of 31 kilometres of the river between Cobden and Timboon. Platypus were not encountered on either night.

The absence of animals at survey sites was mirrored by the pattern of platypus sightings reports-received through articles placed in the local newspapers and direct discussions with landowners along the river. In brief, only seven reports of sightings were obtained. Several

persons born in the area stated that they had never seen a platypus nor heard of anyone else ever seeing one. The only reports of frequent sightings in any part of the catchment date back to the 1950's, with just two reports of platypus seen in the 1990's.

Based on the above, while it is possible that a few platypus survive in the Curdies system, it seems highly unlikely that enough individuals remain to comprise a viable population.

The restoration of platypus as an integral part of the Curdies ecosystem may well require that problems relating to river productivity and health be addressed across the catchment. Happily, the Corangamite CMA is currently developing a plan to achieve those ends in partnership with the local community. In this context, the reinstatement of platypus may best be viewed as both a worthy long-term goal and a biologically appropriate benchmark for catchment-wide improvement.

## **KNOWING ABOUT NETS**

Platypus are air-breathing animals which can stay submerged for just a few minutes before drowning - especially when actively swimming. Accordingly, nearly any type of one-way net set to capture fish or other edible freshwater fauna (e.g. drum nets, "opera house" or other folding frame nets, or yabby pots) can potentially kill platypus if the animals live in the area.

A horrifying example of the slaughter that can be caused by misusing these nets was reported to the APC last summer by a landholder living in coastal Victoria. While walking with her children along a forest stream, she spied a derelict eel net set in the channel. After being retrieved from the water, the net was found to be full of bones-including a minimum of 17 confirmed platypus skulls!

While nothing can be known for certain about the circumstances surrounding the net's history, it was not found in an area where nets of this type are allowed to be set legally. Furthermore, given that the stream holding the net was quite small, it is likely that the net had been abandoned for some time - perhaps the best part of a year or even longer - for so many animals to become trapped and die.

Because each platypus typically feeds along many kilometres of waterway, it is also likely that the net decimated platypus numbers over a very large area upstream and downstream. When flows increased in winter, platypus entering the net would have drowned. In summer, when the netting was partly exposed above the surface, they would have starved.

Even when nets are checked on a regular basis, fishermen report that two or more platypus may sometimes drown overnight in a single yabby pot. In turn, it is possible that platypus - whose natural diet includes yabbies - may go out of their way to enter traps holding a source of food.

To limit the potential for platypus (and other air-breathing animals, such as freshwater tortoises) to be killed accidentally by commercial fishermen, all of the states where platypus regularly occur place restrictions on such commercial operators. For instance, eel fishermen operating under licence in Victoria can only set their nets in a limited number of locations - chosen in part because they represent habitats where platypus are unlikely to be found, such as river estuaries.

To protect their own interests as well as non-target wildlife, it is important that recreational anglers also make sure that they understand and comply with state regulations designed to conserve natural populations. In Victoria, for example, yabby pots or other permitted folding frame mesh traps are only supposed to be set in dams or ponds on private land - as of September 2001 it is illegal to set such nets in streams and rivers.

More generally, it is vital that people be aware that fish and yabby nets alike may kill a range of other wildlife. From the viewpoint of air-breathing animals in particular, the only way to ensure that the traps are completely safe is to provide an air space at the top of the non-return chamber when setting a net in the water.

### ***Did You Know That....***

***The platypus has scent glands located just beneath the skin of the upper shoulders. The glands of adult males are most active during the breeding season, when they secrete a pale yellow, slightly sticky fluid onto the skin-providing males with a strong and distinctively musky aroma at this time of year. By comparison, female scent glands are both smaller and less active year-round.***

### **THE INTERNATIONAL PLATYPUS**

The amazing platypus has long fascinated people around the world. The extraordinary hold which the species can have on the imagination is well illustrated by the case of Winston Churchill. At the height of World War II, the British Prime Minister asked that a consignment of live platypus be sent to London. Sadly, the male selected to make the journey to England died just four days from his destination when anti-submarine depth charges were detonated under the ship. The platypus was subsequently stuffed and mounted to become a prized display on Churchill's desk.

The world-wide interest in the platypus continues to this day. The Conservancy's website ([www.totalretail.com/platypus](http://www.totalretail.com/platypus)) is flooded by international visitors seeking information on platypus biology and conservation. The species is a favourite topic of study in many overseas schools and colleges, with student projects sometimes leading to a class fund-raising drive to sponsor a platypus through the APC's program.

In fact over 60% of supporters of the platypus sponsorship scheme are from overseas. Most of these live in the United States, but people from Canada, the United Kingdom, Germany, France, Sweden and the Netherlands have also become involved. A similar story pertains to membership in Friends of the Platypus. Nearly 25% of those who support the work of the Conservancy by becoming Friends are from outside Australia. Americans are again best represented among overseas members, though many others have joined from a wide range of countries.

Relatively few overseas visitors participate in Conservancy fieldwork, particularly as the APC tries to accommodate numerous volunteers from Australian universities and local conservation

groups. Nevertheless, enthusiastic participants have recently included persons hailing from the UK, USA, Netherlands, Denmark, Austria, Norway and Japan.

The APC's *Platypus Insights* program is also of great interest to overseas visitors. With no platypus found in foreign zoos, a trip to Australia provides the only way to see this remarkable mammal. Accordingly, an *Insights* tour, offering an exceptional opportunity to observe a platypus in the wild, is a popular experience for many tourists.

Clearly, although the platypus is a uniquely Australian animal, it also qualifies as a genuine "World Heritage Species".