

Ripples

Newsletter of the **AUSTRALIAN PLATYPUS CONSERVANCY**

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YOU CAN COUNT ON PLATYPUS

In 1994, the APC and Melbourne Water started working collaboratively to develop the Melbourne Platypus Research Program. The program focused initially on mapping where platypus occur and how many are found across the Yarra River catchment.

By the end of the 2006/07 field season, 223 overnight live-trapping surveys had been completed in this system. More than 99% of this netting activity was based on the use of fyke nets, which—when properly set and checked at regular intervals through the night—provides a very safe technique for capturing the species.

However, no field technique is perfect from every point of view, and one disadvantage of using fyke nets is that they do not capture platypus efficiently in water that is more than about knee-deep. In turn, this has limited their use in the Yarra catchment mainly to streams, with just a few survey sites located along the Yarra itself (mainly in the shallower upper reaches around Warburton).

Hence, most of what we know about the platypus population occupying the Yarra River channel has been extrapolated from sightings of the species reported to the APC by local human residents.

The sightings database has served to confirm that platypus are regularly seen along the Yarra River to at least as far downstream as the middle Melbourne suburbs of View Bank and Lower Templestowe, with courtship behaviour (animals following or circling each other in an amicable manner) occasionally observed in these areas. In turn, this suggests that local habitat quality is good enough to allow platypus to raise young successfully, at least in favourable years.

Intriguingly, some evidence also suggests that platypus have been moving farther downstream along the Yarra in recent years, with sightings made within 10 kilometres of Melbourne's CBD (as the river flows) by four reliable observers in the period from 2005-2007. By comparison, no platypus sightings were reported for this area from 2002-2004.

While one-off reports of platypus sightings can provide interesting and valuable information, their usefulness as a population monitoring technique is limited by the unstructured nature of the data.

Accordingly, the Conservancy is launching a new program—*Platypus Count*—as an integral part of the Melbourne Water Platypus Research Program.

The program will rely on volunteer participants who agree to watch for platypus on a systematic basis when they go for a walk or are otherwise engaged in quiet contemplation of the Yarra in their neighbourhood. Platypus sightings (or lack of sightings) will be recorded on standardised data sheets and handed in at quarterly intervals so regular feedback on the study's findings can be provided.

Given the very high level of interest in platypus evident among Melbourne's human population, and the fact that the animals can be seen with reasonable regularity along many parts of the Yarra, we believe that *Platypus Count* will be a rewarding as well as useful way for people to assist platypus conservation in the metropolitan area.

Persons wishing to become involved in *Platypus Count* are strongly encouraged to contact the APC to register their interest.

Did You Know That....

When viewed from above, platypus are dark brown, apart from a white spot located just in front of each eye. The spots make it appear that a platypus's eyes (which normally are tightly shut when diving) remain open underwater. This may fool some predators into thinking that a submerged platypus will see their approach and flee, reducing the likelihood of an actual attack.

CAUGHT IN THE TRAP

The APC is pleased to receive several hundred reports of platypus sightings each year. Sadly, these records also describe many examples of unnecessary and avoidable platypus deaths, quite often related to fishing or yabbing.

For example, drowned platypus were recently discovered on two occasions in folding "opera house" yabby nets in a river near Jenolan Caves in New South Wales, despite the fact that use of such traps has been banned in eastern New South Wales rivers since 2003.

These nets can be used to the west of the Newell Highway (where platypus rarely are found), after modifying the net entrance by adding a wire circle to discourage entry by other air-breathing species such as cormorants and turtles.

Likewise, since September 2001 the use of "opera house" nets and similar enclosed yabby traps have been banned in public waterways in Victoria, with a \$500 on-the-spot fine applicable.

Unfortunately, many people remain unaware of current fishing regulations, and opera house nets can be purchased in many outdoor recreation shops with no labels or signs warning of the risk they pose for platypus.

Other types of illegal fishing activities also continue to cause problems for the animals, as illustrated by a recent report from a canoeist who found two dead platypus in an abandoned gill net floating in the Aire River in southern Victoria.

Legal angling practices can also contribute to platypus mortalities. For example, we've received many reports of a platypus carcass being recovered with a fishing hook embedded in the animal's bill or a webbed front foot. Unfortunately, if an angler simply cuts the line after a platypus has become inadvertently hooked, the animal is likely to lose condition and die due to difficulties in feeding, or else drown when the trailing line snags on an underwater object, such as a submerged tree branch or root.

The number of platypus deaths which occur annually as a by-product of fishing and yabbing is difficult to estimate exactly.

However, a previous analysis of platypus sightings reports received by the APC from 1995 to 2002 revealed that 3% of all reports mentioned that the animal had been hooked on a fishing line or was seen carrying a fishing hook and line, and an additional 3% described platypus found dead in nets of various descriptions (including many cases of multiple mortalities). In the same period, around 2% of platypus captured and handled by APC researchers had loops of discarded fishing line caught around them, in many cases causing severe lacerations to develop.

What can be done to improve these grim statistics?

1. If you happen to notice a platypus feeding near you while you're angling, move a short distance upstream or downstream to reduce the risk of catching the animal on your hook.
2. If you do accidentally snag a platypus, make every sensible effort to reel the platypus in and remove the hook from its mouth or foot—taking care to avoid the poisonous spurs present on the heels of adult males.
3. Make it your habit to pick up fishing line left along a stream or river and dispose of it properly—including line left by others.
4. Report illegal nets ASAP to the relevant wildlife management authority (in Victoria, contact Fisheries Victoria on 13FISH or 133474).

MORE TRANSLOCATION NEWS

In the last issue of *Ripples*, we reported that the results of a live-trapping survey carried out in March confirmed that at least three juveniles were recruited this year into the recently established Cardinia Creek population. This brought the total number of marked animals in the population to sixteen: ten individuals translocated from other catchments plus six home-grown juveniles.

More recently, a fourth juvenile female (christened "Pamela") was encountered in a monitoring survey carried out in September. The unmarked animal was captured farther upstream than the other three juveniles recorded in 2007, at a site located about 1.5 kilometres west of Cardinia Reservoir in the suburb of Beaconsfield Upper. She weighed 840 grams, was judged to be slightly above average in terms of her physical condition, and was otherwise lively and healthy.

Along with the new female, juvenile female "Patty" (whose photo appeared in the last issue) was recaptured at the same site where she was first recorded in March. Her weight had increased from 925

to a robust 980 grams in the intervening 23 weeks, while her body length had grown from 307 to 335 millimetres.

Two adult males were also recorded in the September monitoring session: “Berwick” and “Beaconsfield” were both released along Cardinia Creek as juveniles in April 2005, and so were nearly three years old when most recently recaptured.

Importantly, all three of the males translocated in 2004 and 2005 are now known to have survived to at least 2007. Similarly, while just one of the three females released in 2004 and 2005 actually entered a survey net in 2007, the survival of all three females has been confidently inferred based on the number and distribution of juveniles marked this year.

PLATYPUS SIGHT AND SOUND

For unknown reasons, the APC has recently received a large number of emails asking for information about platypus vision and hearing. In case some of our readers may also be curious about how the platypus’s senses differ from our own, we thought we would share what we know about this topic.

The platypus’s eye is small (just 6 millimetres in diameter) and comes equipped with an eyelid and a round pupil. The eye’s internal structure is typically mammalian in most respects but does include some reptilian features, such as the presence of double (as opposed to single) retinal cone cells used to perceive colour. Intriguingly, while a platypus rarely if ever opens its eyes when submerged, the structure of its lens—curved on the inner surface and quite flat on the outer surface—is most similar to that of aquatic mammals such as sea lions and otters that rely on sight to help capture underwater prey. The most obvious explanation is that the platypus’s ancestors may have used underwater vision much more regularly than the modern animal.

In contrast, there is no evidence that platypus hearing is in any way specifically adapted for use in the water. Notably, no special mechanism has ever been identified for water-borne sounds to be conducted to the inner ear. Like platypus eyes, the structure of platypus ears resembles that of most other mammals while incorporating a few primitive features, such as the fact that the ear region is enclosed in cartilage rather than bone. While no one is ever likely to know what a symphony sounds like to a platypus, it has been established that the animals’ hearing is most sensitive to frequencies around 4 kilohertz—exactly the same as in humans. However, the platypus’s upper hearing threshold (15 kHz) is lower than the corresponding threshold for people (20 kHz).

FRIENDS OF THE PLATYPUS

You can support the work of the Australian Platypus Conservancy by joining *Friends of the Platypus*.

Benefits include:

A copy of *Living with Platypus* booklet.

A subscription to *Ripples*.

Special members' rates for purchase of posters, cards, booklets and other platypus materials produced by the APC.

Join now and your initial membership will be valid to 30 June **2009**.

Simply fill in the details below and send to the Australian Platypus Conservancy.

Name _____

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Individual Membership (**\$30**) _____

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***Donations of \$2 or more are fully tax deductible.**

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cheque/money order (payable to *Australian Platypus Conservancy*)

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SPECIAL THANKS TO OUR SUPPORTERS!

The Australian Platypus Conservancy is a non-profit research and conservation organisation. The success of the APC's programs relies on the support of businesses, management agencies and individuals sharing our interest in one of the world's most amazing animals.

We gratefully acknowledge special recent help by the following supporters:

- Commonwealth Department of Families, Community Services & Indigenous Affairs
- Alan Lane & Virginia King
- Melbourne Water
- John T Reid Charitable Trusts
- Wimmera Catchment Management Authority

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