



Ripples

Newsletter of the **AUSTRALIAN PLATYPUS CONSERVANCY**

REPORTING ON WATER-RATS

Since its inception in 1994, the Australian Platypus Conservancy has championed the conservation of the Australian water-rat or rakali (*Hydromys chrysogaster*).

Despite the fact that this species is partly diurnal and occupies an extremely broad range of habitats featuring water, most Australians are unfamiliar with its appearance and have never seen a water-rat in the wild.

Similarly, only a small number of studies have ever been carried out to investigate water-rat ecology and behaviour or to provide information relating to the species' current distribution and status.

To help address these issues, the Conservancy formally launched *Water-rat Report* in 2005. The program aimed to encourage persons to report rakali sightings, with inaugural funding from the John T Reid Charitable Trusts. Since then, many hundreds of reliable water-rat sightings have been received for localities across Australia.

Records from the Yarra River catchment in and near Melbourne have been of particular interest because they can be compared directly to the distribution of water-rats incidentally captured in the course of APC platypus population surveys conducted around Melbourne starting in 1995.

One key finding of an APC report prepared for Melbourne Water in 2004 to summarise such captures was that water-rats actually seemed to be more abundant in inner suburban creeks than in the apparently less degraded waterways found in middle and outer suburbs.

An analysis of rakali sighting records received to the end of 2011 very much supports this same conclusion.

No less than 72% of reports of water-rats seen in Yarra tributaries originated in four main inner-city creeks – namely Darebin, Merri, Gardiners and Moonee Ponds Creeks. Similarly, 61% of water-rat sightings in the Yarra River were in its lowest reaches, downstream of the Darebin Creek confluence.

The fact that the water-rat appears to be surviving and even prospering in highly urbanised areas is not totally surprising.

This is an intelligent, agile and versatile species which – unlike the platypus – often travels hundreds of metres from water in the course of its daily activities, and is happy both to hunt for natural prey and snaffle non-traditional foods such as bread provided to ducks.

This behavioural flexibility is well illustrated by a recent report of a water-rat seen living under platform 7 of busy Richmond railway station, where it presumably feasts on tasty morsels discarded by commuters. Likewise, the species has been observed using a number of artificial water bodies around Melbourne, particularly the lake at Albert Park.

Another interesting result to emerge from the sightings program has been the large number of water-rat sightings occurring near salt water. While the species has previously been reported to inhabit saline environments, we were surprised to find that 11% of all reports in the greater Melbourne area were from coastal sites along the edge of Port Phillip and Westernport.

Similarly, 28% of all water-rat reports from country Victoria south of the Great Diving Range came from salt water localities, particularly around the Gippsland Lakes. In New South Wales, around 9% of all reports were from coastal or estuarine habitats, whereas the figure for Queensland was 15%.

A MATTER OF TIMING

Platypus are seasonal breeders, with most Victorian juveniles first venturing into the water in late January or February.

Life can be tough for young platypus, whose survival depends on quickly mastering the arts of swimming, diving and learning how to feed themselves. Some may initially weigh just 400 grams or less and all are at high risk of being killed by predators or otherwise dying due to lack of experience.

It's also a trying time for their mothers, who need to produce large volumes of rich milk to feed their offspring. Around the time that juveniles first exit the nursery burrow, mothers must consume three-quarters or more of their own body weight in food each day to maintain condition. By the end of their lactational duties, mothers are characteristically thin and in urgent need of fattening up.

Accordingly, the Conservancy normally recommends postponing large-scale projects that involve draining a water body known to support platypus until March at the very earliest on the Australian mainland (and even later in Tasmania).

However, exceptional circumstances can sometimes arise, as in the case of a project to eradicate the noxious aquatic weed *Cabomba caroliniana* from Lake Benalla in northern Victoria. Cabomba is regarded as one of the worst weeds in Australia because of its rapid growth, ease of dispersal and extremely persistent nature. Originating in South America, it has been introduced to natural aquatic ecosystems via the aquarium trade. In relatively shallow lakes or slow-flowing creeks it tends to take over, choking the entire basin or channel and crowding out native aquatic plants. Based on anecdotal reports, both platypus and water-rats are believed to have declined in some Queensland creeks infested with this weed.

The only really effective way to eliminate cabomba once it appears in the wild is to drain a water body to the point where every bit of cabomba dries out entirely – if any bottom sediment remains damp, there's about a 50% chance that the weed will reappear once the water body refills.

Such a drawdown was planned for Lake Benalla in 2012 by the Goulburn Broken CMA and Benalla City Council, ideally starting in January from the viewpoint of cabomba control. However, it was also recognised that dropping the water level in January would potentially have a disastrous impact on any platypus reproducing in the lake - juveniles would emerge from burrows to find a muddy wasteland offering maximum exposure to predators, while lactating females would be forced to compete with their neighbours for food in the habitats remaining immediately upstream of the lake.

After discussing the matter with the Conservancy, the CMA and City Council decided to delay the drawdown to early February, providing a better outcome for platypus while still making it possible to eradicate cabomba. The CMA also decided to fund some baseline platypus survey work by APC biologists before starting the drawdown, in order to gain a better understanding of the species' local status and distribution following many years of severe drought and (more recently) major regional flooding.

Fieldwork at Lake Benalla was carried out in late January, just before Australia Day. Three days of early morning and late evening visual survey sessions by two experienced researchers revealed that platypus were active at each of five sites located a short distance upstream of the lake along the Broken River and Holland Branch. Both of these waterways are expected to continue to hold water after the lake is drained. In contrast, the only platypus to be seen from any of eleven survey sites distributed around the lake perimeter was actually feeding at the mouth of Holland Branch, suggesting that no platypus breeding burrows are likely to be present this year in the main body of the lake.

From the viewpoint of conserving platypus, maintaining the lake level until February remains the best option given that this water body undoubtedly provides foraging habitat for most or all of the animals (almost certainly including some breeding females) seen upstream. Over the longer term, it will also be extremely interesting to determine if platypus usage increases in Lake Benalla as the local population recovers from possible drought- and/or flood-mediated losses.

MORE ON RAKALI

If you would like to learn more about Australian water-rats, or think you'd like to look for this fascinating animal in a local waterway, a two-page water-rat information note and a four-page guide to spotting both platypus and water-rats in the wild are available free of charge from the APC in PDF format. To get a copy of one or both, just send us a request at the email address provided on page 4.

Alternatively, both leaflets are available on *Conserving Platypus and Water-Rats* – a CD-Rom produced by the APC last year with funding provided by the Fouress Foundation. The CD-Rom also contains a number of other information notes relating to platypus and rakali conservation. Local councils, management agencies, conservation groups and educational institutions are all welcome to reproduce these documents in their existing format or use them as a resource to help develop other non-commercial educational publications. The CD-ROM can be obtained from the APC at a nominal cost (to cover postage and packing) of \$5 per copy plus \$2 for each additional copy.



APC ON FACEBOOK

You can now keep up to date with the Conservancy's work and other platypus news by visiting the APC's page on Facebook. Simply search Facebook for "Australian Platypus Conservancy (Official)".

2012 PLATYPUS SCHOOLS PROGRAM

Each year the APC provides special platypus education classes to selected schools. Visits in the first half of 2012 will be made to schools in East Gippsland (funded by the VicForests Community Support Program) and Werribee and Melbourne's eastern suburbs (funded by Australian Ethical Investment). Any primary or secondary school located in these areas that is interested in booking a free visit should contact the Conservancy for further details.

Did You Know That...

Based on observations of platypus held in captivity, it is believed that 25-32 days elapse from the time of mating to the time that eggs hatch, with gestation and incubation respectively lasting 15-21 and 10-11 days.



MERRI PLATYPUS LITTER THREAT

In *Ripples* No. 46 we reported on the return of platypus on at least a part-time basis to Melbourne's Merri Creek after an apparent absence of many years.

It was correspondingly sad to learn that in late January 2012 an injured male platypus was found in this creek badly entangled in litter. Fortunately, after treatment by a local veterinarian and a follow-up check by Healesville Sanctuary staff, he was declared fit enough for release back into the creek.

The incident serves, yet once again, to highlight the grave risks posed to platypus by rubbish in our waterways.

PLATYPUS ENCOUNTERS DVD

The Conservancy is pleased to recommend to our readers a new DVD entitled *Platypus Encounters*, issued by Queensland-based photographer Sandy Carroll, which contains some excellent sequences of platypus behaviour in a natural setting. All fans of the species will be delighted by this great footage. The DVD is available from Sandy at a cost of \$20 (including postage). Please contact her at sandycphoto@bigpond.com or by phoning (07) 4096 5498. (Kindly note that this product is not available for purchase from the APC.)



