

Platypus News & Views



Newsletter of the Australian Platypus Conservancy (Issue 55 – Feb 2014)

MORE NEWS ON YABBY TRAPS

Opera house-style yabby nets have a well-deserved reputation for being death traps for platypus, turtles and water-rats (see photo at right, showing a water-rat that drowned in a trap set illegally in northern Victoria).



People often ask us why this should be so – if animals can easily swim in through the entrance, why can't they find their way out again before drowning?

To answer this question in relation to platypus, Conservancy biologists have been conducting a series of carefully controlled behavioural trials, using an opera house trap placed underwater (at a depth of about 40 centimetres) in a natural stream. An adult platypus is introduced by hand into the trap, and the animal's subsequent efforts to escape are filmed using an underwater video recorder. If the animal fails to get out within two minutes (leaving about a 30-second safety margin before it drowns), the trap is immediately raised from the water so the animal can take a deep breath or two before being released back to the wild.

In each of the nine trials carried out to date, the platypus has failed to find its way out in time. Animals first carefully and methodically search for an opening around the bottom perimeter. Having concluded that no exit exists at the bottom, they start searching elsewhere – all around the sides and top of the trap and around the base of each of the two netting funnels connected to entry rings. No animal has ever gotten close to finding an exit because – from the platypus point of view – any escape point should logically be located around the trap's outer perimeter and not inside the trap, where the entry rings are effectively found.



These results suggest that a safer opera house design could potentially be developed by incorporating a circular escape hatch in the trap's roof (as shown at left). Tests of the platypus's ability to escape from opera house traps modified in this manner are currently being completed by Conservancy staff in Victoria and Dr Tom Grant in New South Wales, with funding generously provided by the Taronga Conservation Society.

The APC is also conducting trials to determine how the addition of an escape hatch affects the performance of opera house traps (if at all) with respect to the number and size of yabbies captured. Last but certainly not least, the ability of freshwater turtles to escape from modified opera house traps in a timely manner is currently being investigated as a joint initiative of the Conservancy and Turtles Australia.

LOOKING FOR RAKALI IN THE LAKES

The native Australian water-rat (a.k.a. rakali) occupies a wide range of aquatic habitats where it functions as a top predator, dining on fish, yabbies, mussels, insects, frogs and even occasional waterbirds. Although typically thought of as a freshwater species, it also occupies ocean beaches. As reported in *Ripples* no. 48, nearly one-third of all water-rat sightings reported to the APC from Victoria south of the Divide have been from coastal localities.

The Australian Platypus Conservancy has recently commenced a study to investigate the distribution of water-rat populations in the Gippsland Lakes, an environmentally important network of coastal lagoons covering an area of approximately 400 square kilometres in East Gippsland.

Water-rats are renowned for being difficult to census in the wild using live-trapping methods. The animals are adept at chewing their way out of survey nets set in the water, and are innately wary of cage traps positioned on land. Because few individuals are generally captured in a given survey session and recapture rates are low, little is known about population trends. However, a considerable body of anecdotal evidence suggests that water-rat numbers have generally declined in recent decades, particularly in places where the species has been affected by prolonged drought and/or severe flooding.



The Gippsland Lakes study is building up a database of confirmed water-rat locations by systematically collecting recent reliable sighting reports and organising observation sessions by groups of community volunteers. Particular effort is being put into eliciting information from boat owners, who are well placed to describe sightings made in those parts of the Lakes system that are not otherwise easily accessible to humans.

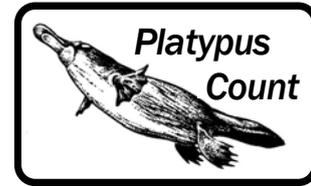
Early results suggest that water-rats are reasonably widespread across the Gippsland Lakes but are not particularly abundant anywhere. Numbers generally appear to be highest near townships such as Paynesville, Eagle Point, Metung and Lakes Entrance. In part, this seems to reflect the fact that these very intelligent and inquisitive animals are quick to take advantage of food scraps left by picnickers and anglers. In addition, a variety of man-made structures appear to be used for shelter and burrow sites, especially where large rocks have been deposited to construct breakwaters or consolidate the shoreline. Car tyres hung as fenders along jetties provide the animals with handy dining tables, as do various nooks and crannies on moored boats (including large engine exhaust pipes).

The other interesting point to emerge from the project is just how many persons living near the Lakes were previously unaware that they have native water-rats as neighbours. One local gentleman in particular was adamant that no such creature could possibly exist, implying that it must be a product of the researcher's over-active imagination!

Accordingly, the APC will present a number of community information sessions and provide special classes at local schools in 2014 in order to develop a better public understanding of this very attractive native mammal. During such activities we like to describe rakali as Australia's evolutionary answer to the otter, as the species does have many otter-like physical features, including a thick coat of soft fur, a blunt and whiskery muzzle, partly webbed hind feet and a furry, tapering tail.

The APC's water-rat research and conservation project in the Lakes is being carried out with the support of the Gippsland Lakes Ministerial Advisory Committee. Because the water-rat is a top predator in aquatic ecosystems, baseline information provided by the study can also be used to help monitor the longer-term environmental health of the Gippsland Lakes.

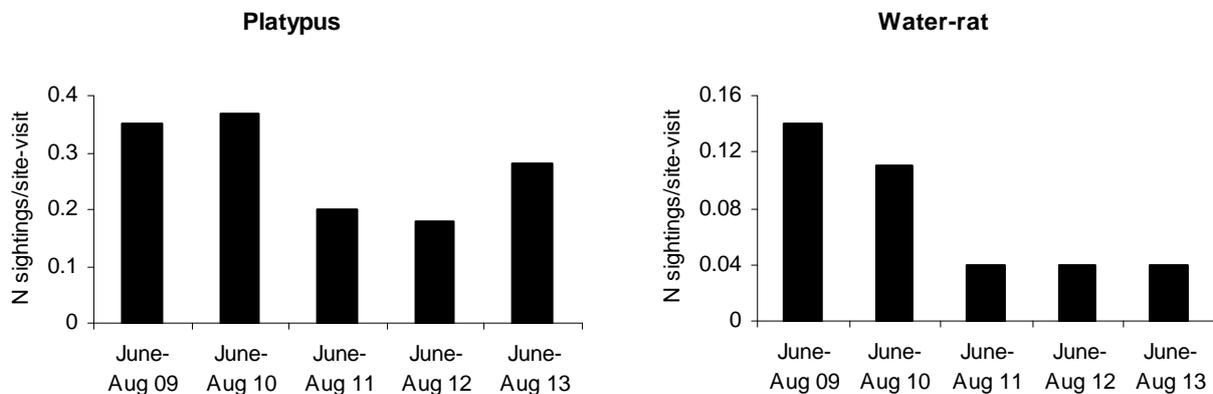
PLATYPUS COUNT UPDATE: QUEANBEYAN RIVER



In partnership with Upper Murrumbidgee Waterwatch, the Conservancy launched a *Platypus Count* monitoring program along the Queanbeyan River at Queanbeyan township (east of Canberra) in May 2009.

This water body is quite unusual, at least in our experience, in providing regular opportunities to track the activity of both platypus and Australian water-rats in the wild. In the past five winters (i.e. the season when platypus and water-rats are generally spotted most often), the overall mean frequency of platypus sightings at monitoring sites along the Queanbeyan River has been 0.28. In other words, 28 platypus sightings occurred on average in 100 visits to monitoring sites. By comparison, 7 water-rat sightings were recorded on average in 100 visits to the same set of monitoring sites in the same five winters.

The graphs below summarise how the frequency of winter sightings for the two species has varied from year to year. As some of you may recall, platypus and water-rat sightings dropped dramatically in the winter of 2011, following a very substantial (1 in 30 year) flood that broke the banks of the Queanbeyan River in December 2010.



Sightings of both species remained unchanged in the first two months following this flood, suggesting that few (if any) resident adults drowned or were substantially displaced due to high flows (see *Ripples* no. 46). However, it's likely that many juvenile platypus and water-rats died when their natal burrows were inundated. Severe flooding can also reduce habitat quality for both species by scouring vegetation from the banks and channel, transporting submerged logs and other organic material farther downstream, and filling pools with sand or silt. The length of time that a river takes to recover from a big flood will depend on many different factors. In the case of the Queanbeyan River, it is possible that the occurrence of a second sizable flood in early March 2012 may have contributed to persistently low numbers of platypus and water-rat sightings in the following winter.

Happily, platypus sightings in the winter of 2013 rose to a level located midway between the higher frequencies recorded in the first two years of monitoring and the lower frequencies of 2011 and 2012. In contrast, the number of water-rats seen in 2013 remained stuck at the same level noted in each of the previous two years.

Platypus and water-rats differ from each other in many aspects of their behaviour, life history and ecology. We're therefore not totally surprised to find that their respective population trends may vary to some extent in the same area. Given how little is known about long-term population trajectories for either species, it will be extremely interesting to see how these patterns continue to develop in future.

On that note, sincere thanks are definitely in order for all the hard work and disciplined record-keeping by volunteers contributing to *Platypus Count* at Queanbeyan.

MORE NEWS ON FACEBOOK

Check out the **Australian Platypus Conservancy (Official)** Facebook page for more news and articles about platypus and Australian water-rats. Our Facebook page also includes a "Sighting of the Week" (selected from the many platypus and water-rat records sent to the APC by members of the community) used to highlight important ecological, conservation and research issues. Topics in the last three months include a platypus and water-rat using the same farm dam (highlighting the fact that even legal use of opera house yabby traps can pose a threat to both species), an unusual record of a water-rat taken by a shark, and important platypus sightings in the Murray River system.

PLATYPUS EMERGENCY CARE

Summer is the time of the year when young platypus typically emerge from a nesting burrow for the first time.

These small and inexperienced animals are sometimes found in an exhausted state in completely inappropriate places - puddles in the middle of farm paddocks, suburban swimming pools and even the brackish margins of estuaries after being washed downstream along a river. Adult platypus can also pop up in unexpected locations, especially if forced to migrate from their normal haunts by natural catastrophes such as bushfires, floods or drought.

The Conservancy's leaflet *Platypus Emergency Care* provides recommendations on how best to deal with displaced or injured animals until they can be released safely. An electronic version of this publication can be obtained free of charge by contacting the APC. Local councils, management agencies and environmental groups are welcome to adapt and reproduce this leaflet for their own particular needs and circumstances.

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 recent help by the following supporters:

City of Banyule ■ City of Manningham ■ East Gippsland Shire ■ Friends of the Earth Melbourne ■ Gippsland Lakes Environment Fund ■ Goulburn Broken CMA ■ Norske Skog ■ North Central CMA ■ Parks Victoria ■ Platypus Outdoors ■ Sonoco Australia ■ Taronga Conservation Society ■ Upper Murrumbidgee Waterwatch ■ West Doncaster Veterinary Centre ■

Australian Platypus Conservancy



PO Box 22, Wiseleigh VIC 3885

(03) 5157 5568 platypus.apc@westnet.com.au

www.platypus.asn.au Facebook: Australian Platypus Conservancy (Official)