

# Platypus News & Views



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*Newsletter of the Australian Platypus Conservancy (Issue 67 – February 2017)*

## TIME FOR JUVENILES

Platypus are seasonal breeders: females incubate a clutch of 1-3 eggs in an underground nest for 10-11 days in spring. The youngsters grow rapidly, nourished by milk that has an average fat content of 22% (about 5-6 times greater than that of cows' milk). When they first exit their natal burrow at the age of about 4 months, juveniles are fully furred and well coordinated – ready to master the arts of swimming and diving, apparently without any special maternal guidance or instruction.

Much still remains to be learned about the exact timing of mating across the platypus's geographic range and the corresponding juvenile emergence period. In Victoria, the earliest date that a juvenile has been recorded in live-trapping surveys conducted by the Australian Platypus Conservancy over more than twenty years is 22 January. Similarly, the earliest juvenile capture date recorded by Dr Tom Grant in several decades of platypus surveys carried out along the upper Shoalhaven River in New South Wales is 15 January. More generally, the peak period for juvenile emergence in southeastern Australia is believed to be February, with Queensland juveniles appearing somewhat earlier in the year and Tasmanian juveniles appearing somewhat later.

Like other young mammals, juvenile platypus often appear to be both curious and naive in their dealings with the world. As a result, juveniles sometimes end up in all sorts of inappropriate places, including suburban gardens, public roads, swimming pools and rural paddocks. Some recommendations regarding how best to deal with displaced juveniles are summarised on page 4.

Distinguishing young of the year from older animals purely on the basis of size is surprisingly difficult. Juveniles are typically more than 80% of their adult length and 65% of their adult weight when they first enter the water, with considerable size variation apparent among individuals. Some tiny animals are obviously infants – the smallest juvenile male handled in the course of APC fieldwork weighed 480 grams and the smallest female a mere 345 grams. However, other juveniles have attained the dimensions of small adults by late February.



To assist with identifying the age class of a platypus, it helps to know that juveniles have longer guard hairs (and hence fluffier fur) than adults, but this measure is difficult to quantify easily. In addition, juveniles have relatively stubby bills. This reflects the fact that for the first 11 weeks after hatching the bill is actually wider than it is long (presumably making it easier for a nestling to lap up its mother's milk). The bill gradually elongates as the young platypus continues to grow, but is still quite short in comparison to adult bills at the time of emergence.

The best way to identify a juvenile is by inspecting spurs located on the inner hind ankles (one per ankle). In simple terms, juvenile males have a roughly conical, chalky-white spur (as shown at right). Those of older males are longer and thinner and more or less amber in colour. Juvenile females have a tiny spine-like "spur" (1-3 mm in length) in the same location as the larger spurs of their brothers; spurs are totally absent in older females.



## **VICTORIAN RAKALI SURVEY UPDATE**

In October 2016, the Australian Platypus Conservancy launched a community-based survey to assess the status of the Australian water-rat (or rakali) in Victoria, thanks in part to a grant from the Norman Wettenhall Foundation (see *PN&V* 65). As the first step, public talks and school sessions were held across the state, hosted by catchment management authorities, community environmental groups and local councils. A campaign encouraging persons to report rakali sightings was also initiated.



Over 650 new records relating to rakali have now been collected from across Victoria. Interestingly, none have yet been reported for freshwater habitats in and east of the Snowy River basin in East Gippsland. These catchments – which also include the Bemm, Cann, Thurra, Wingan and Genoa Rivers – have produced numerous platypus sightings over the years, suggesting that the lack of rakali sightings is not necessarily related to a dearth of suitable observers. Until contradictory evidence is obtained, the obvious conclusion is that water-rats genuinely occur in low numbers in this region.

The other system characterised by a notably low number of rakali records is the Corangamite Lakes basin in southwestern Victoria. The only report received to date for this region is from Barongarook Creek, which flows through the town of Colac into Lake Colac, and relates to sightings made in the 1970s. The Corangamite Lakes comprise shallow and in some cases very saline water bodies that were created when ancient lava flows blocked the regional drainage system. Water-rats clearly can make use of salty water – almost 19% of the rakali records obtained to date are associated with ocean beaches or other saline coastal environments. However, water in some of the Corangamite Lakes (including Lake Corangamite itself) can be up to 4-5 times more saline than sea water. It is possible that this may exceed the water-rat's capacity to process and excrete excess salt, or adversely affect diving efficiency (due to the fact that salinity promotes buoyancy), or substantially reduce rakali food resources (especially in the form of large aquatic macro-invertebrates or fish). More research is needed to determine whether any or all of these hypothetical factors may influence the distribution of water-rats in the Corangamite Lakes system. Meanwhile, any reports relating to the species' past or present occurrence in this part of Victoria would be extremely useful.

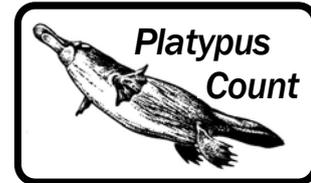
Melbourne's Yarra River is currently the leading source of recent rakali records but this result must be treated with an appropriate degree of caution. Water-rats actually do seem to thrive in many urban habitats, notably those providing opportunities to snack on foods such as sandwich crusts. However, it is also likely that urban rakali are more easily spotted than their rural cousins as an outcome of being habituated to humans and, of course, large numbers of potential human observers are found in and near the city.

Several reports have described finding drowned water-rats in opera house yabby traps, including some set in farm dams (as permitted under current Victorian recreational fishing regulations). One angler also reported that a "fairly large" rakali had drowned in a bait trap set in Lake Hamilton, in Victoria's west. Given that bait trap entrances can't legally exceed 5 cm in diameter, entry into such a trap by a water-rat – whether accidental or in pursuit of small bait fish – clearly attests to the animal's highly streamlined shape.

The next phase of the Victorian rakali survey will involve assessing where targeted follow-up work needs to be carried out to improve the scope and reliability of the study's findings.

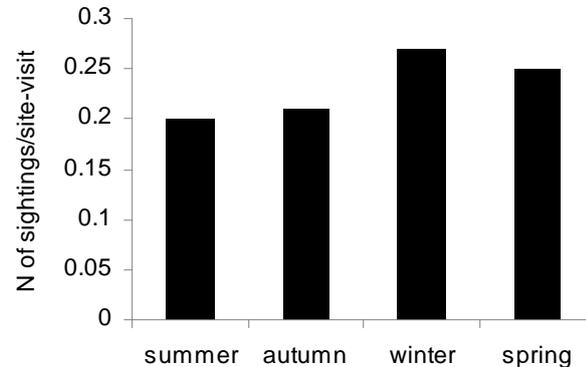
Meanwhile, we strongly encourage anyone who has seen a water-rat anywhere in Victoria (either relatively recently or in the dim and distant past) to report the details to the APC. Reports from other states and territories are also very welcome.

## PLATYPUS COUNT: QUEANBEYAN RIVER

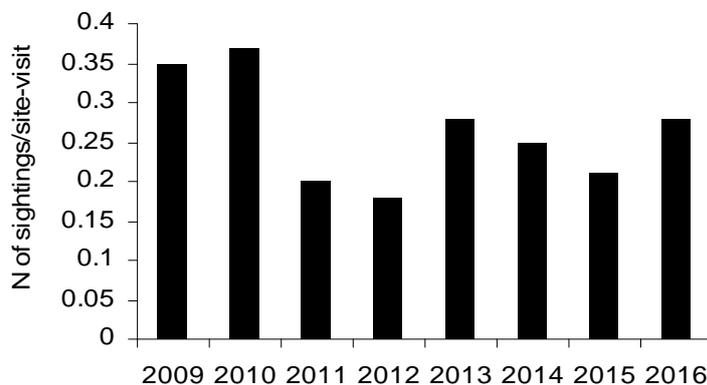


Hard-working *Platypus Count* volunteers have been monitoring how often platypus are seen along the Queanbeyan River in and near Queanbeyan township since May 2009.

Platypus sightings in this area are distributed fairly evenly throughout the year (as shown in the graph to the right), though a modest peak is evident in winter and spring. These two seasons of course mark the period when adult males are particularly likely to be out and about during the day as they search for mates and try to drive away rival males lurking in the vicinity.



The graph below summarises how the mean (or average) frequency of platypus sightings in winter has varied annually in the main Queanbeyan River monitoring area over the past eight years. As you may recall, relatively low numbers of platypus sightings were recorded in 2011 and 2012 as a presumed outcome of substantial flooding that occurred in March 2012 and (especially) December 2010. While the population seems to have since recovered to some extent, the frequency of sightings recorded on average from 2013 to 2016 (0.25 animals seen per site-visit) remains lower than the frequency recorded from 2009-2010 (0.36 animals seen per site-visit).



The main *Platypus Count* study area along the Queanbeyan is located approximately 3-7 km upstream of the point where it joins the Molonglo River and 7-11 km downstream of Googong Dam, a large man-made water storage that holds about half of Canberra's supply of drinking water.

Based on how often platypus were incidentally captured in standardised fish surveys carried out (in 1998, 2001 and 2004) by Mark Lintermans at three sites along the Queanbeyan River between Googong Dam and the Molonglo, platypus population density tends to drop as one proceeds downstream in this system: 10 platypus captures (4 males, 6 females) were made at a site located about 2 km downstream of Googong Dam, as compared to 3 captures (2 males, 1 female) near Dane Street (within what is now the main *Platypus Count* study area). No platypus were captured in nets set a short distance upstream of the Molonglo.

More recently, Karen Williams has monitored the occurrence of platypus at the junction of the Molonglo and Queanbeyan Rivers since 2014 through *Platypus Count*. Her work has confirmed that platypus do make use of this area, but occur in low numbers – the mean frequency of winter sightings is 0.01 animals seen per site-visit (equating to just 4% of the number of sightings recorded farther upstream over the same period in the main Queanbeyan monitoring area).

## **CARING FOR A “LOST” PLATYPUS**

As mentioned on page 1, juvenile platypus are sometimes encountered in unusual settings. Confronted by a platypus in one’s backyard, what’s the best thing to do?

Firstly, don’t assume that the animal is a juvenile – adults can also show up in odd places and adult males have sharp poisonous spurs on their heels. Until you are sure that a platypus lacks spurs, only lift or carry the animal by gripping it firmly around the middle or end of its tail.

If the animal does not appear to be injured or sick, take immediate action to return it to the nearest suitable waterway. Platypus are exceptionally susceptible to stress, so resist the temptation to show the animal to friends and get it back to where it belongs – its natural environment. When selecting a container to temporarily hold a platypus, be aware that these animals are talented escape artists. A good solution is to confine the animal in an old cotton pillow case, knotting a piece of twine tightly around the opening so it can’t escape. Make sure that the animal has enough room to stretch out, and then place the pillow case inside a box to keep the animal safely contained while being transported.

If the animal does appear to be injured or unusually lethargic, it should be taken promptly to a suitably qualified veterinarian for assessment and possible treatment. The best option will be to take the animal to a zoo or sanctuary that maintains one or more platypus in captivity, as the staff will have first-hand experience with these animals and their specialised needs. If this isn’t practical, the next best option will be to contact your local wildlife care network for advice – they may be able to arrange transport to a suitable zoo veterinary facility, or suggest a local veterinarian with a special interest in wildlife medicine.

Finally, don’t hesitate to contact the APC for advice and assistance at any time – that’s one of the things that we’re here for.

## **BURNIE PLATYPUS DEATHS PETITION**

Burnie’s Fernglade Reserve is on our list of top places to spot a platypus (see *PN&V* 64). The news that three platypus were recently found dead in an illegal trap near the reserve is extremely disturbing – see <http://www.theadvocate.com.au/story/4399270/shock-loss-of-platypus-trio/>. The trap had probably been set to catch freshwater crayfish. Friends of Fernglade have started a petition calling for more official support to protect platypus in the area. To sign up, go to [www.change.org](http://www.change.org) and look for save-our-platypus petition.

## ***SPECIAL THANKS TO OUR SUPPORTERS!***

*The Australian Platypus Conservancy is a non-profit, non-government organisation. The success of the APC’s programs relies on funding provided by businesses, management agencies and philanthropic trusts. Donations from individuals and environmental groups also contribute enormously to the Conservancy’s work, by supporting platypus population monitoring, public education and special studies that can’t otherwise be readily funded. Please consider helping. Donations and bequests to the Conservancy are tax-deductible.*

Australian Platypus Conservancy



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