

# Platypus News & Views



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*Newsletter of the Australian Platypus Conservancy (Issue 52 - May 2013)*

## **PATRICK PLATYPUS GOES TO SCHOOL**

When a young adult male platypus was found drowned in an opera house yabby trap set illegally near Traralgon in 1997, this unfortunate event had at least one positive outcome. The body was preserved by a taxidermist and the mounted specimen became a popular feature of the Australian Platypus Conservancy's education program. "Patrick" (as he was named by the students of Darraweit Guim Primary School, the first school that he ever visited) has now been touched and admired up close by thousands of enthusiastic students, ranging from Preppies right through to Year 12s.

School visits give students a chance to learn about the special adaptations that make the platypus one of the world's strangest mammals, and find out how they and their families can contribute to platypus conservation.



Many of the schools visited by the APC are located close to a water body that supports a platypus population. In many cases, students are surprised to hear that these animals are their neighbours – a reflection, perhaps, of the common myth that the platypus is an extremely shy and sensitive species only found in remote areas, well away from humans. Happily, a number of schools have then initiated very successful projects to clean up litter or plant native shrubs and trees along their local creek to help improve platypus habitat quality.

Many students are also keen anglers, so school sessions provide a valuable opportunity to discuss issues pertaining to "platypus-friendly" fishing. These include the problems that arise when a platypus gets tangled in discarded line, what to do if a platypus becomes accidentally hooked on a line, and the risks posed by illegal nets. Interestingly, students attending Victorian country schools are usually well aware that opera house yabby traps can only be legally used in this state in private dams. In contrast, many students attending schools in Melbourne's outer urban fringes believe that yabby traps can be set in any waterway (and sometimes confess that their family and/or friends have unexpectedly killed a platypus or water-rat after setting an opera house trap in a creek or river). This feedback has proven very useful when planning how best to develop broader community information campaigns about proper use of yabby traps.

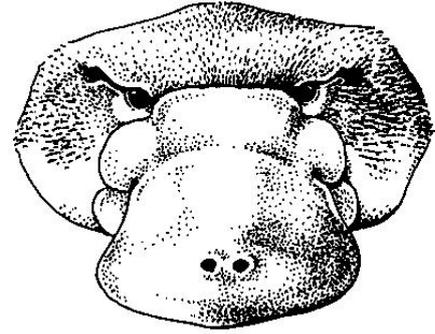
Comments from students often prove enlightening in other ways. When discussing the special electro-receptive "sixth sense" system in the platypus bill, students are first asked to identify the standard five senses. Normally even the youngest have no difficulty in identifying "sight", "smell", "touch", "taste" and "hearing". It was therefore a bit surprising when during one session a little preppie very confidently came up with the answer "echidna".

"Why is an echidna one of our five senses, George?" asked his puzzled teacher.

"Because the echidna is on the five cents coin, Miss!" answered George without missing a beat. Makes perfect sense, of course!

## FULL OF CHEEK

Speaking of school visits, one of our staff members was taken aback last year to find that many students at one primary school were adamant that the platypus includes sand and gravel as part of its normal diet. Their teacher explained that the class had recently gleaned this information from the web-site of the prestigious National Geographic Society, while doing a project on the platypus prior to the Conservancy visit.



Investigating further, APC biologists were intrigued to find out that the NGS web-site stated that platypus “scoop up insects and larvae, shellfish, and worms in their bill along with bits of gravel and mud from the bottom. All this material is stored in cheek pouches and, at the surface, mashed for consumption. Platypuses do not have teeth, so the bits of gravel help them to ‘chew’ their meal.”

The current scientific consensus is that cheek pouches are used to store food while a platypus is underwater. However, given that these animals apparently don't find it difficult to masticate prey when grit isn't available – such as in zoos – where does the notion that they use gravel to supplement the grinding pads in their bill come from?

The answer seems to be Harry Burrell, an early platypus researcher who wrote a book entitled *The Platypus* in 1927 (reprinted in 1974). It summarised all that was then known about the species, much of it learned through Burrell's own work. However, many aspects of platypus ecology and behaviour remained unclear and Burrell, an energetic investigator into all matters related to this species, was never short of ideas about such issues.

He concluded that previous views about the use of cheek pouches for storing food were wrong. His new hypothesis was based on examining three platypus that he captured by concussion soon after they rose to the surface (Animal Ethics Committees having yet to be invented)! He was unable to discern any whole invertebrates in the pouches, only fragments such as wings and legs. He did find grit and mud, both in the cheek pouches and covering the grinding pads found at the back of the jaws. He also noted that large prey items, such as shrimps and yabbies, were too big to fit in the pouches and were known to be carried in the bill to the surface (which is indeed true).

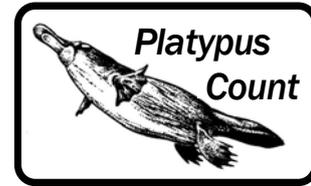
Accordingly, on pages 13 and 14 of the 1927 edition, he wrote: “These observations suggest to me that the purpose of the cheek-pouches is to act as containers of grit rather than as receptacles for food....my opinion is that the coarse grit aids considerably in their [i.e. the grinding pads] functioning as teeth, and, further, tends to toughen the gums and thus convert them into grinders.... whether the grit is deliberately pouched before meals, or collected haphazard, or even accidentally, with the food, I cannot say.”

Burrell also discovered that a platypus in captivity will devour half of its own weight in food per night. From this, he speculated (page 73) that it might be difficult to obtain such a quantity in the wild solely in the form of bugs and therefore mud might “be included in the bill of fare as a kind of ‘fill-up’ necessity, if not as a staple food.”

Nowadays, Burrell's views on the role of grit and mud do not enjoy widespread acceptance. However, it should not be forgotten that Burrell was an outstanding pioneer of platypus research, both in the wild and in captivity. His tireless efforts established the ground work for subsequent research, right up to the present day, to unlock the platypus's secrets.



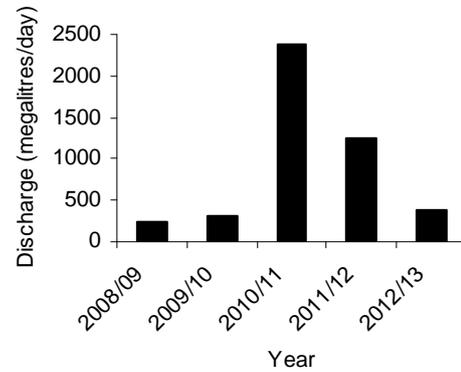
## PLATYPUS COUNT UPDATE: YARRA RIVER



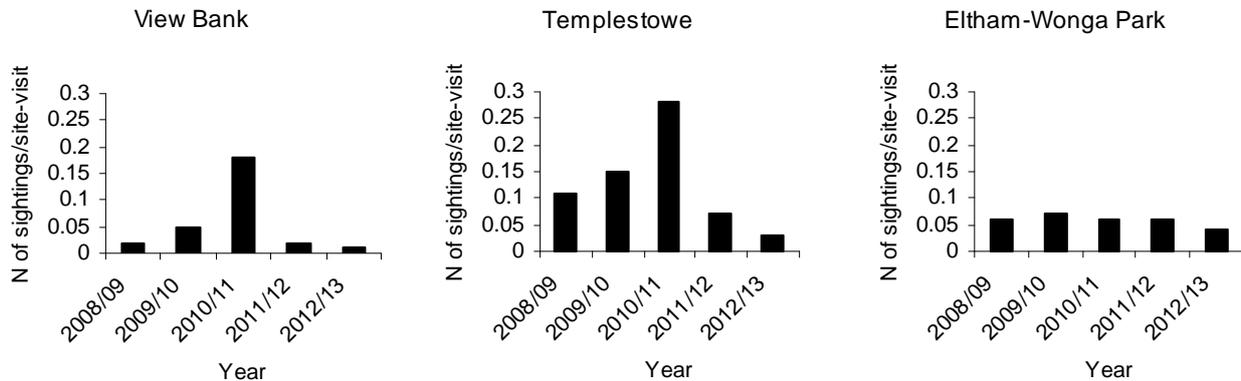
Those of you involved in the *Platypus Count* monitoring program may recall that about a year ago we considered how the frequency of platypus sightings in summer have varied along Melbourne's Yarra River since 2008/09.

Now that another year has passed, I thought you might be interested to see how trends have continued to develop.

The graph at right summarises the mean (or average) amount of daily summer flow recorded along the Yarra River at Fitzsimons Lane in Templestowe in the last five years. (Many thanks to Eddie Tsyrlin at Melbourne Water for supplying these data!) As many of you will recall, the first two summers of the study were marked by drought, followed by unusually high rainfall in the third summer, courtesy of a La Nina event. Rainfall in the fourth year was also higher than normal, followed by a dry summer again this year.



The graphs below summarise the mean frequency of platypus sightings recorded in the last five summers at Templestowe, View Bank (which is located downstream of Templestowe, close to the farthest downstream point where platypus continue to breed along the Yarra) and in the Eltham-Wonga Park area, which is located upstream of Templestowe.



The frequency of platypus sightings in the Eltham-Wonga Park area was slightly down last summer as compared to the previous four years. However, the change was not great in absolute terms, suggesting that this area continues to provide a relatively stable and predictable environment for the species. Disappointingly, platypus sightings also continued to fall last summer in both View Bank and Templestowe, particularly when compared to the peak values recorded in 2010/11. The trend at Templestowe probably at least partly reflects the fact that recent floods have rearranged the riverscape at the Finn's Reserve pedestrian bridge, making it more difficult for human observers to see the animals at this popular platypus-viewing spot. In turn, this seems to have brought the frequency of platypus sightings in Templestowe down to more or less what might be expected as compared to habitats from Eltham to Wonga Park (which have generally been less affected by urbanisation).

Meanwhile, there is some very good news from the upper reaches of the Yarra River at Warburton, where the mean frequency of platypus sightings last summer increased by a factor of nearly 70% as compared to the previous year. On average, a platypus was seen in 8 of 10 *Platypus Count* site-visits made from December 2012 to February 2013 – or roughly 20 times more often than animals were seen in the Eltham-Wonga Park area.

## **MORE NEWS ON FACEBOOK**

Check out the “Australian Platypus Conservancy (Official)” Facebook page for more news about platypus and Australian water-rats. Articles posted in the last three months include:

- Gillard government scraps funds for platypus conservation
- More Omeo platypus babies – results of APC surveys in Livingstone Creek
- Buchan platypus – results of APC surveys in Buchan River
- Platypus lives on the line – the dangers of non-degradable fishing line
- More breeding success at Cardinia Creek – update on APC reintroduction project
- Litter kills platypus in Monbulk Creek
- Sightings reports needed for Tasmanian research project
- More platypus killed in opera house traps – recent incident in NSW
- Wildlife Queensland platypus surveys – report on group watch activities
- Platypus Stampede – a report from 1859 of a platypus mass movement

The 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. These accounts are used to highlight important ecological and conservation issues.

Topics covered in the last three months include platypus stranded in isolated pools during drought, occurrence of a platypus in a Queensland estuary, water-rats in South Australia, adventures of dispersing juvenile platypus and recolonisation by platypus of areas of improved habit.

## ***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 ■ Decor Corporation ■ East Gippsland Shire  
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Platypus Outdoors ■ ShareGift 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)**