



# Ripples

Newsletter of the **AUSTRALIAN PLATYPUS CONSERVANCY**

## LITTER THREAT TO REINTRODUCTION SUCCESS

The Conservancy's efforts to re-establish a viable platypus population along Cardinia Creek received a serious blow in 2008 when at least two members of the new population were killed in illegally set opera house yabby traps (see *Ripples* no. 39). Evidence has now emerged of another human-related threat to the reintroduction project's success, namely litter.

During a live-trapping survey conducted by the APC in September 2011, a female platypus was captured with a 6-centimetre plastic ring of unknown origin encircling her chest (see below). The animal was a juvenile born last spring, and the ring presumably slipped over her head and shoulders some time ago while she was still quite small. When examined, she was about three-quarters fully grown and the now tight-fitting ring had started cutting into her right side, creating a lesion about 2 centimetres long. Fortunately, the wound was not yet deep and she was able to be saved from a slow and painful death.



A young adult male examined in the course of the same survey had large, ragged scars on his bill, suggesting that he too had previously encountered litter (such as broken glass or jagged wire) in the water.

Apart from this evidence of human-related problems, the results of the recent survey were very positive.

Three unmarked juveniles from last spring's breeding season were captured, allaying fears that reproduction may have been compromised due to the high flows occurring along the creek through much of the summer.

A total of 18 juveniles have now been identified and marked in Cardinia Creek (in five out of the last six seasons), suggesting that breeding is occurring routinely.

Although the new population appears to be quite well-established, more needs to be done to raise community awareness of the problems faced by Cardinia Creek's platypus, to ensure that these animals and their descendants continue to thrive.

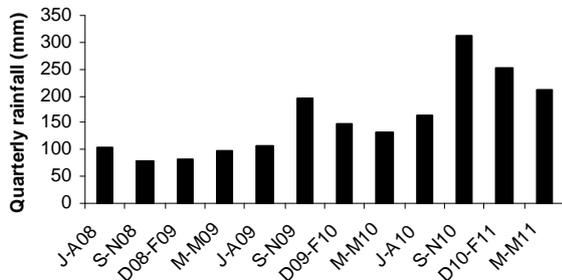
To this end, the APC recently conducted more than twenty platypus education sessions at schools in the Cardinia district (with generous support from the Helen Macpherson Smith Trust). These sessions provided an ideal opportunity to discuss key platypus-related conservation messages with around 850 students and improve their understanding of how human behaviour can affect the species.

The schools program was also supported by Cardinia Catchment Landcare, which is working hard to involve all local residents, including the younger generation, in plans to improve platypus habitat quality along the length of the waterway.

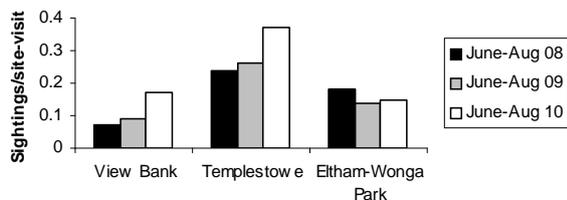
## FLOW-ON EFFECTS

After more than a decade of dry weather, river catchments across much of eastern Australia have been brimming with water over the past 20 months or so. How has the extra moisture affected platypus populations?

To start off, the graph below illustrates how much quarterly rainfall fell in Melbourne in the three years from June 2008 to May 2011. In brief, 2008/09 was very dry (experiencing only 56% of long-term average rainfall, based on weather records collected since 1855), 2009/10 was slightly dry (experiencing 90% of long-term average rainfall), and 2010/11 was exceptionally wet (experiencing 144% of long-term average rainfall).



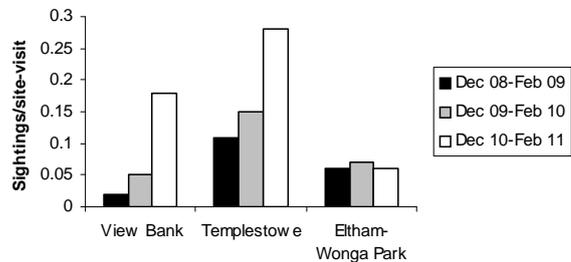
The graph below shows how the number of platypus seen in winter by *Platypus Count* volunteers varied from 2008 to 2010 in three segments of the middle reaches of the Yarra River near Melbourne. (As discussed in *Ripples* no. 42, the very high rate of sightings at Templestowe Lower seems at least partly to reflect the fact that the swing bridge at Finn's Reserve provides an exceptionally good vantage point for the species - if records obtained from the bridge are excluded, the sighting rate for Templestowe Lower drops to a value in line with its neighbours.)



The number of winter sightings remained fairly constant over the three years in the segment located farthest upstream (Eltham-Wonga Park), suggesting that platypus population size was more or less stable in this part of the river.

In contrast, sightings from 2008 to 2010 increased by a factor of about 50% at Templestowe Lower and more than doubled at View Bank (which is located quite near to the downstream limit of where platypus are known to breed along the Yarra).

A very similar (though even more dramatic) pattern of variation among river segments was evident when *Platypus Count* results for the summers from 2008/09 to 2010/11 were compared. Once again, little change was evident in the number of animals seen over time in the Eltham-Wonga Park area, whereas the frequency of sightings at Templestowe Lower and View Bank respectively rose by 250% and a whopping 900%.



The relative constancy of platypus sightings in the Eltham-Wonga Park area suggests that enough water has been released in recent years from Upper Yarra Dam to maintain platypus numbers in this area regardless of the amount of precipitation and run-off.

In contrast, the amount of platypus activity at Templestowe Lower and (especially) View Bank appears to have increased very markedly in response to more rain, particularly during the warmer months of the year. In turn, this suggests that platypus habitats located at the more urbanised (downstream) end of the Yarra are less resilient when challenged by drought than habitats found farther upstream.

The reliability of *Platypus Count* findings is integrally linked to the community-based nature of the program – it's hard to see how else it would be possible to maintain sufficient sampling effort through time. For example, more than 8,000 site-visits contributed to the information summarised above for the Yarra.

Accordingly, on behalf of our favourite species we'd like to extend our very sincere thanks to everyone contributing to this program, both in Victoria and elsewhere.

## GUNBOWER CREEK PLATYPUS MAPPING

The Murray is Australia's longest river, stretching nearly 2600 kilometres from the Australian Alps to Lake Alexandrina.

At the time of European settlement, platypus appear to have been found along essentially the entire length of the Murray, though there is reason to believe that the animals were never very common in the river's lowest reaches in South Australia.

The species is rarely encountered today in the main Murray River channel downstream of Echuca, with only one substantial breeding population known to survive in an anabranch system on the Victorian side of the river, namely along Gunbower Creek and its associated lagoons (see also *Ripples* no. 28).

The Gunbower population is therefore correctly viewed as having high conservation significance both in its own right and as an important source of dispersing juveniles and subadults to help repopulate adjoining parts of the Murray River in the future.

The APC has recently completed a project in partnership with the North Central CMA and the Gunbower Creek community to describe where platypus are found in this system (and how this distribution may have changed in recent decades) based on reliable sightings. Information was mainly obtained by interviewing persons who had lived near Gunbower Creek for most or all of their lives. This approach has made it possible to map the animals' occurrence over a much wider area than would ever have been achievable using live-trapping methods.

In brief, although platypus have been seen in recent years at sites scattered along the length of Gunbower Creek, the frequency of sightings declines quite markedly as one proceeds downstream. Reports of repeated sightings at a given site were restricted to roughly the upstream half of the creek, suggesting that animals may permanently reside only in this part of the system.

In the lower half of Gunbower Creek, platypus have reportedly been observed on just three occasions since 2000, by two local anglers and a couple visiting the area.

The part of the creek where platypus are most frequently spotted is associated with a number of very sizable permanent lagoons which presumably provide extensive areas of favourable feeding habitat for the species, thereby significantly boosting the size of the local population as a whole. In support of this hypothesis, more than half of landowners living along lagoons reported seeing platypus on an occasional or more regular basis, with up to four animals observed feeding within a few hundred metres of each other on a given occasion in two lagoon systems.

The other good news is that the incidence of platypus dying in illegally set drum and gill nets has apparently declined dramatically in the Gunbower area in the last 5-10 years, in line with reduced deployment of these nets. On the other hand, pump-related mortalities continue to put pressure on this population, largely reflecting problems in fitting guards around intake points that don't become clogged by aquatic weeds when pumps are in use. Accordingly, the APC looks forward to working with local irrigators and management agencies to help address this issue in the near future (see also *Ripples* no. 45).

### ***Did You Know That...***

*A recent study of platypus food preferences conducted by Dr Tanya McLachlan-Troup along New South Wales streams found that these animals are particularly partial to caddisflies (in the family Leptoceridae) and water beetles (in the family Psephenidae), both of which were recorded in 90% of cheek pouch samples. Other popular food items found in 40% or more of cheek pouch samples included mayflies (family Leptophlebiadae), worms (family Oligochaeta), snails (families Planorbidae and Physidae), dobsonflies (family Corydalidae) and two other groups of caddisflies (families Helicopsychidae and Odontoceridae).*

