Ripples

Newsletter of the ***AUSTRALIAN PLATYPUS CONSERVANCY***

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NEW PLACE FOR PLATYPUS

Cardinia Creek is a self-contained stream system which arises on the slopes of the Dandenong Ranges, southeast of Melbourne, and empties directly into Western Port Bay.

Based on accounts provided by long-time landholders, platypus were present along Cardinia Creek until about 20 years ago, when the infamous “Ash Wednesday” Bushfires incinerated virtually the entire Cardinia Creek catchment.

In April 2004, platypus returned to Cardinia Creek in the form of two young females and a young male, released into the stream’s upper reaches by APC staff working in partnership with Melbourne Water.

This relatively simple act—the first time, to our knowledge, that platypus have been translocated to re-establish the animals in an area where they once lived—was necessarily preceded by quite a lot of planning and preparation.

The source of the translocated animals was the Tarago River, which had previously been shown (by live-trapping studies undertaken over several years) to support a large and highly productive platypus population that generates many more juveniles than can be accommodated annually through natural adult mortality. The Tarago system is located less than 30 kilometres from Cardinia Creek, so there was also every reason to believe that animals born along the Tarago would be genetically pre-adapted to conditions at the release site.

Decisions also were made well in advance of the actual release date regarding the number of animals to be translocated and their sex ratio, age and physical condition. Protocols were also carefully formulated with respect to how the actual release was to take place (by transferring each animal directly into its own pre-constructed burrow), how the animals are being monitored following their translocation (through a combination of radio-tracking and periodic live-trapping sessions to assess growth and condition), and under what circumstances an animal will be returned to its original home range along the Tarago River (if it loses weight or persists in occupying an inappropriate habitat, e.g. by moving away from the creek).

As well, a letter drop was organised by the Shire of Cardinia, informing all landowners living along the creek about the background, timing and aims of the platypus translocation program and requesting that they report any sightings of the animals.

While it’s still relatively early days, the good news is that the animals seem to have settled in very comfortably in their new environment, finding their own natural burrows within 24 hours of being released.

The animals’ feeding behaviour also appears to be entirely normal, with nocturnal activity occurring both upstream and downstream of the actual release site.

Depending on the outcome of longer term monitoring, consideration will be given to translocating up to three additional young platypus to Cardinia Creek in the autumn of 2005.

More broadly, we hope that the information gained from this program can ultimately be used to help restore platypus populations to other areas where suitable unoccupied historical habitat may exist across their range.

***HYDROMYS* HIGHLIGHTS**

The platypus survey nets used by the APC also capture a variety of non-target animals, including native and introduced fish species, freshwater tortoises and Australian water-rats (a.k.a. rakali or *Hydromys chrysogaster*).

Information about the location and identity of non-target species is routinely recorded on data sheets, providing a snapshot of the composition of freshwater vertebrate communities in places where platypus surveys are undertaken.

Earlier this year, Melbourne Water asked the Conservancy to collate and analyse all records relating to the distribution of water-rats in the greater Melbourne region, based on the platypus survey work undertaken since January 1995 at more than 400 locations.

The first finding to emerge from this analysis was that water-rats are widely distributed in and near Melbourne, although not always in high numbers: water-rats were captured on average at less than one in five survey sites in nearly one-third of the sub-catchments considered in the study.

Secondly, greater numbers of *Hydromys* were typically recorded in relatively urbanised streams and rivers as compared to systems deemed to be more rural.

However, large *Hydromys* populations occurred along some waterways in agricultural settings, including the Tarago River (see previous page).

Furthermore, water-rats were also encountered significantly more often at survey sites located within five kilometres of the Yarra River than at more distant sites. Given that Melbourne is more or less bisected by the Yarra, this suggests that the positive relationship between *Hydromys* and urbanisation is potentially confounded by the positive association between *Hydromys* and proximity to a relatively sizable water body.

Although a great deal remains to be learned about water-rat feeding preferences, the results of studies undertaken to date suggest that this species may be partial to a wide range of non-indigenous fish species, including mosquitofish *Gambusia affinis* and goldfish *Carassius auratus* (up to at least 30 centimetres in length, implying that medium-sized carp are also likely to be eaten).

In turn, this may both help to explain the positive statistical association of *Hydromys* with large and/or urbanised waterways near Melbourne, and provide a practical management reason to conserve the species in such habitats.

By the same token, water-rats living in the more northern parts of their range have been known to kill and eat the highly unpopular (and introduced) cane toad *Bufo marinus*, cleverly avoiding the toxic parotid glands which are problematic to most other native carnivores.

Adult water-rats are about the size of a grown platypus and presumably are vulnerable in turn to the same range of predators, including cats, dogs and foxes as well as some birds of prey.

Given that water-rats spend more time on dry (or at least damp) land than does a platypus, they may benefit even more from the protective cover provided by dense vegetation growing along the banks of water bodies.

In the case of both natural waterways and newly developed ponds or lakes (such as those often found on housing estates or golf courses), water-rats will also appreciate the presence of partly submerged logs or boulders to serve as handy feeding platforms—in fact, the most obvious sign that water-rats reside in an area is often the heaps of yabbie claws and freshwater clam shells that typically accumulate at favourite dining sites.

PLATYPUS ON THE MOVE

From a platypus's point of view, occupying a suitable home range is generally essential to survival. Ideally, this area will provide access to reliable food and shelter throughout the year along with opportunities to breed successfully in spring.

Very little is known about the process whereby a young platypus lays claim to its own territory. Occasionally, however, the Conservancy's long-term program of trapping surveys provides some insight into the extreme lengths, literally, that some animals may have to go to find an appropriate place to live.

For example, an adult male recaptured in the summer of 2004 was first recorded as a juvenile in May 2001 along Ruffey Creek in Doncaster (an eastern suburb of Melbourne). At that time he was permanently marked with a Trovan microchip transponder (identification code 0615E931) and weighed just 980 grams.

The next time this code registered on the scanner was October 2003, when the male was encountered along Mullum Mullum Creek in the suburb of Donvale. To reach this point he had travelled a minimum distance of one kilometre down Ruffey Creek to the Yarra, approximately 9 kilometres upstream along the river, and then an additional 9 kilometres up Mullum Mullum Creek. By now he was a young adult, tipping the scales at 1335 grams. Even so, at this size he was probably still out-muscled by a much larger male who is known to have occupied a territory along this particular section of Mullum Mullum Creek for the past three years.

Male 0615E931 next showed up in February 2004 along the lower Plenty River in the suburb of Yallambie. This journey would have entailed retracing his path to the mouth of Ruffey Creek and then paddling an additional 6 kilometres, first downstream along the Yarra River and then up the Plenty River. Thus, his combined known travels have comprised a distance of 43 kilometres!

Male 0615E931's voyage of exploration may now have reached a happy conclusion. Habitat conditions in the lower reaches of the Plenty River have improved significantly in recent years, and other adult males have not recently been recorded in the vicinity. He should therefore find plenty of food (his weight had already jumped to 1605 grams) and not have to cope with unpleasant neighbours, at least for the time being.

BOOKS FOR YOUNG READERS

There Are Platypuses in Our Creek is a 32-page book written for 8- to 11-year-olds about platypus biology, the importance of protecting habitats, and the work of the APC. Published by Barrie Publishing (a division of Harcourt Education), it is available in selected bookshops, or you can buy an autographed copy directly from the authors for $10 (including p&p). Make cheques payable to Alan Lane and Virginia King, P.O. Box 388, Blackheath NSW 2785 and include the name of the young reader. All royalties from *There Are Platypuses in Our Creek* help to support the work of the Australian Platypus Conservancy.

Another excellent book for young readers is *Old River Red Gum* by Eleanor Stoddart, published by Envirobook. This work was inspired by a grand old red gum seen by Eleanor when assisting as a volunteer on a Conservancy live-trapping survey program along the Wimmera River.