

Ripples

Newsletter of the **AUSTRALIAN PLATYPUS CONSERVANCY**

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PLATYPUS ACTION FLOWS ON

Can individuals make a difference to platypus conservation? Just ask Ron Cosgrave, a farmer owning frontage on Birch's Creek near the small town of Smeaton in central Victoria.

Ron has lived on his property all his life, and recalls that platypus have always been seen there. Until recently, the creek flowed very reliably year round, thanks to water released from Newlyn Reservoir to provide irrigation for local potato farmers and a domestic water supply for the town of Clunes.

Then a decision was made last year to divert water from Newlyn Reservoir to the growing city of Ballarat, with Clunes now getting its drinking water pumped from underground. In consequence, Birch's Creek stopped flowing early last summer, with the section of the creek flowing through the Cosgrave property drying to isolated pools by the beginning of February.

Without significant rain falling in late summer and early autumn, the pools continued to shrink. At least three platypus were known to have survived in the area, with well-defined pathways developing in the mud where the animals travelled between pools.

By mid-April, it was clear that the pools were on the verge of drying up, with the largest measuring only about 10 metres in length. Platypus could be seen at almost any time of the day, presumably because they were so desperately short of food that they were spending all of their time waiting for some to appear. With the support of the North Central CMA Environmental Flows officer, Ron was able to convince Goulburn Murray Water to release some water from Newlyn Reservoir to help replenish the creek's aquatic habitats, including those present on his property.

Unfortunately, the volume of flow released over a 50 hour period was not sufficient to reach Ron's platypus pools, falling short by a matter of about 200 metres.

Undaunted by this setback, Ron borrowed a quick fill pump from the local fire brigade and connected it to 150 metres of hose in order to bridge the remaining gap between water and the animals. He soon had four pools filled, with three pools linked by water in the channel. More recently, flow has been restored along the length of the creek following winter rainfall and the release of some additional water from the reservoir.

Ron Cosgrave is to be highly commended for his vision and persistence in taking positive action to keep platypus from disappearing from his section of Birch's Creek.

Unfortunately, other important elements of the local stream community have been lost, with fish no longer found in this part of the creek.

Now that attention has been drawn to the fact that Birch's Creek is not just a conduit for water but also an environment for native animals, we hope that its wildlife will be allocated a just and appropriate share of water in the future.

More broadly, in the face of dwindling river flows and increasingly depleted water storages throughout much of southeastern Australia, very careful planning is clearly needed to ensure that

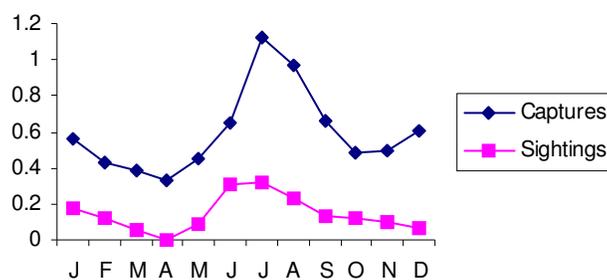
viable populations of platypus and other aquatic species reliably survive in catchments for the future.

The absence of such planning will make a mockery of the use of the word “sustainable” in conjunction with development and use of water resources in the region.

SEASONAL EFFECTS ON SIGHTINGS

Based on findings of a recently published paper co-authored by APC staff and Lyn Easton (a long-standing member of Friends of Platypus), both the number of platypus observed in visual surveys and the number of animals captured in nocturnal live-trapping sessions varies seasonally in the Yarra River catchment around Melbourne.

As seen in the graph below, the average number of sightings obtained by Lyn from 2003 to 2006 along the Yarra in the Melbourne suburb of View Bank reached a maximum in winter (June through August), with a second smaller peak seen in mid-summer.



Similarly, a winter peak in the average number of adult and subadult platypus captured per live-trapping site was evident based on APC surveys conducted from 1995 to 2007, with a second smaller peak noted in December and January.

These patterns fit with the fact that water temperatures are lowest in winter around Melbourne, requiring platypus to find more food to stay warm.

At the same time, the bottom-dwelling insects mainly eaten by platypus are likely to be less abundant and less active in winter as compared to other seasons.

As a result, platypus are predicted to work longer hours and travel farther in winter simply to satisfy their hunger.

In addition, male mobility is expected to increase in winter and spring in response to the breeding season (with platypus matings and unhatched eggs recorded in the wild from August to October in Victoria).

In practice, males may travel both to find out where breeding age females are most abundant, and to patrol the edges of their own home range in order to discourage other males from entering the area.

The occurrence of a second peak of captures and sightings in mid-summer fits with the fact that this corresponds to the peak period for platypus lactation.

Lactating females are predicted to forage more widely and for substantially longer periods of time than if they weren't supporting offspring: the amount of food consumed by a mother of twins in captivity rose to around 900 grams per day, as compared to 200-300 grams per day in the months before and after she was feeding her young.

Heightened activity by platypus to find food or secure mates is logically expected to result in more animals travelling past a given point per unit time, which in turn should increase both the frequency of sightings by people and the likelihood that the animals encounter survey nets.

Extending the temporal length of foraging bouts will also result in more animals feeding during daylight hours, again making them more visible to human observers.

In practice, the close monthly correspondence between how many platypus are captured in nets and how many are seen by observers greatly increases our confidence that visual surveys can be usefully employed to monitor change in the relative number of platypus a given area—as long as seasonal effects on the frequency of sightings are taken into account.

In terms of timing, the best months to conduct visual surveys (at least in the Melbourne area) generally appear to be either June through September or January, especially if platypus population density (and hence the frequency of sightings) is likely to be low due to poor habitat quality or other factors adversely affecting the species.

MANY EYES MAKE LIGHT WORK

The specialised and time-consuming nature of platypus live-trapping work means that platypus survey nets are unlikely to ever sample more than a tiny fraction of the species' range.

By the same token, the methods developed for use in the Conservancy's community-based *Platypus Count* visual monitoring program are best suited to situations where individuals can routinely scan a water body in the course of daily activities (see *Ripples* no. 36).

To facilitate the involvement of a wide variety of groups in platypus monitoring (Greencorps teams, secondary and tertiary students, angling and field naturalists clubs, Landcare and Friends groups, etc.), the Sara Halvadene foundation has kindly provided funding to develop protocols for groups to count and record the number of platypus active in a given area.

The results of field trials undertaken to date suggest that key factors in successful group monitoring include having people work in pairs (as the most effective unit to scan the entire water surface and accurately confirm the presence of a platypus), distributing participants so they watch for platypus along contiguous but non-overlapping sections of the channel (so a complete count of platypus sightings is provided for a given area), and ensuring that the time when platypus are seen is recorded accurately (so multiple sightings of a given animal by more than one pair of observers can be identified).

As one example of how successful group monitoring can be, a visual survey for platypus along the Snowy River near Orbost was recently completed by students from the East Gippsland TAFE Forestech campus. Eleven members of the Conservation and Land Management course were involved in the survey, as part of their 'Monitoring Biodiversity' unit.

After a short training session by APC biologists, the students scanned the water for an hour before dark from observation points spread along approximately 1 kilometre of river bank. A total of four platypus were confirmed to be active in the survey area (including two that were filmed on video). One or more animals were seen at four of the five observation points, including a platypus that travelled far enough to pass three pairs of observers. In contrast, water-rats were not seen by any observer.

Despite the relatively short period of training, and the fact that only one of the eleven students had previously seen a platypus in the wild, participants had no difficulty in spotting and identifying the species and in recording their observations systematically. All participants felt that the

experience was interesting and worthwhile and should be repeated by other TAFE classes in the future.

Remarkably, the visual survey information obtained by these students appears to represent the first platypus population data ever collected along the Snowy River—one of Australia's most iconic waterways, and one which has been massively affected by erosion, sedimentation, loss of woody debris and systematically reduced water flows.

The Snowy River visual survey and its results were considered to be of sufficient interest to the Orbost community that it featured in a story carried by the local newspaper—thereby both fostering awareness of platypus in the area and helping pave the way for other groups or individuals to start monitoring the species.

It is intended that the platypus group monitoring project as a whole will result in the development of a self-contained kit explaining how best to carry out such surveys. Meanwhile, any group interested in helping to trial platypus monitoring techniques is encouraged to contact the Conservancy for more details.

Did You Know That....

A platypus has been recorded travelling at a rate of more than 1 metre per second (3.6 kilometres per hour) in order to progress upstream through a section of fast-flowing water. When swimming in relatively still water (such as a lake or large pool), platypus most typically move at a rate of 1 to 2 kilometres per hour.