Ripples

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

ISSUE 28 - October 2004

UNDERSTANDING THE URBAN PLATYPUS

This year has marked the tenth consecutive field season of the Urban Platypus Research Program initiated by the Australian Platypus Conservancy and Melbourne Water.

Since fieldwork began in the Yarra River catchment in January 1995, 298 overnight live-trapping surveys have been carried out along more than 50 rivers and creeks. Using special nets set at five or more sites per session, 531 platypus have been captured and marked with Trovan microchip transponders. As well, previously marked animals have been recaptured on nearly 450 occasions.

Animals classified as juveniles (less than one year old) have accounted for around 20% of all captures. Of the adults and subadults, 44% have been females. The record for the most times that a given individual has been recaptured is jointly held by two platypus in Olinda Creek (female 0062-74D7 and male 0019-CE72), each of whom has been detained by nets on eleven occasions since 1996.

The extensive nature of the urban platypus survey program (both in space and time) has been important in providing the knowledge needed to conserve Melbourne's platypus.

Not surprisingly, population density has been found to vary considerably across the region, at least partly in response to local differences in environmental quality.

For example, platypus capture rates in the forested headwaters of the Plenty River (calculated as the average number of adult and subadult animals recorded per site per night) are about three times higher than in the Plenty's more degraded middle reaches, and five times higher than at its suburban lower end.

In the Maribyrnong River catchment, platypus capture rates of 1.03 and 0.91 have been recorded in the extreme outer urban fringes along Deep Creek and Jacksons Creek, as compared to 0.25 along the more heavily modified upper Maribyrnong River. Along Monbulk Creek in the Dandenong Valley, capture rates vary from 1.13 in the outer suburban upper catchment to 0.31 in the more heavily urbanised lower reaches.

Analysing platypus capture success has also proven useful in tracking population status through time. Along Diamond Creek in the eastern suburbs, for example, the capture rate in North Eltham increased from none at all in 1995-1999 to 0.42 in 1999-2004, apparently in response to substantial stream restoration works. This result is especially promising given that numbers increased during a period of regional drought which reduced flow along many streams, including Diamond Creek.

In addition to Melbourne Water, the Urban Platypus Program has been supported during the past 10 years by local councils, VicRoads and selected trusts and companies. However, the APC is pleased to announce that Melbourne Water will become the sole major partner of this important

program in 2004/05 as part of its commitment to improving the habitat for many native animal and plant species found in our rivers and creeks.

Melbourne Water

MAJOR PARTNER OF THE
AUSTRALIAN PLATYPUS CONSERVANCY
and MELBOURNE WATER
PLATYPUS RESEARCH PROGRAM

PLATYPUS IN THE MURRAY

The Murray River arises in the Snowy Mountains of New South Wales and flows more than 2,500 kilometres before reaching the ocean in South Australia.

Since its discovery by the European explorers Hume and Hovell in 1824, the Murray's natural environment has been affected by a wide range of human activities, including the construction of weirs and navigational locks, removal of woody debris from many parts of the channel, clearing land for agriculture, diverting water for irrigation, use of pesticides and herbicides, and commercial and recreational fishing.

Surprisingly, while extensive baseline data have been collected in recent years describing the status of fish, macroinvertebrate and waterbird populations along the Murray River, no such studies have ever been commissioned with respect to platypus.

To help remedy this gap, the Australian Platypus Conservancy has recently interviewed more than 100 people with knowledge about where platypus occur in the river's middle reaches from Albury-Wodonga downstream to Mildura. The range of contacts has included ex-commercial fishermen, anglers, canoeists, riverboat captains, wildlife and fisheries officers, and longtime residents.

The picture that has emerged is that platypus still reside in the upper 25% of this area (from Albury-Wodonga to about Tocumwal), with the animals seen more often in backwaters and side channels than the main river channel.

No definite sightings (either recent or historical) have been reported to date for the main Murray channel between Tocumwal and Echuca or the many backwaters and billabongs in the Barmah Forest. It has been suggested that the absence of platypus in the Barmah area in particular may at least partly reflect the prevalence of flat, flood-prone banks which fail to provide suitable sites for burrows.

Platypus are still seen quite regularly at Echuca, both in the Murray River and adjoining bottom section of the Campaspe River. However, it is possible that most (or all) of these animals may be only relatively short-term visitors - surplus subadults and juveniles dispersing from the populations found farther upstream along the Campaspe.

Downstream of Echuca, platypus appear to have been reasonably common along the Murray River to at least as far downstream as Piangil in the 1930's and early 1940's. The pattern of historical sightings suggests that animals continued to survive at scattered localities in this part of the river until about the 1970's.

Today, while platypus are occasionally seen along the Murray as far downstream as Murrabit and Swan Hill (and a carcass was recovered from the Mildura weir pool in the 1990's), the only

established populations found downstream of Echuca inhabit anabranches or side channels: the Edwards and Wakool River systems to the north, and Gunbower Creek and its associated lagoons to the south.

The contraction of the platypus's range along the Murray has been linked by longtime residents to a variety of factors, including loss of instream habitat due to desnagging and dredging projects, inappropriate use of pesticides starting in the late 1940's, a massive proliferation of introduced carp in the 1970's, and reduced river productivity due to the release of cold water from dams.

As well, large numbers of platypus are known to have drowned in the drum nets used for many decades by licensed commercial fishermen. The use of such nets to capture fin fish has been banned in the Murray River since 2001. However, illegal use of drum nets and unattended nightlines by recreational anglers continues to take a toll of platypus numbers: several persons interviewed in our study indicated that their most recent sighting of the species was an animal found dead in a drum net, or floating in the river with a hook through its bill.

Platypus information for the Murray River and its tributaries has been collected as one facet of *Platypus Care*, a program developed by the APC to map where platypus are found across Victoria and neighbouring waterways. Persons wishing to contribute recent or historical platypus sightings to this database can do so either by contacting the APC directly (see contact details on page 4) or by visiting the *Platypus Care* section of the APC website (www.platypus.asn.au).

Funding for *Platypus Care* has been generously provided by the State of Victoria along with Melbourne Water and the Corangamite, Glenelg Hopkins, Goulburn Broken, North Central, North East, West Gippsland, and Wimmera Catchment Management Authorities.

Did You Know That….

Platypus have been seen inside several caves in recent decades, including Junction Cave near Wombeyan in New South Wales, Dalley's Sinkhole and Moon Cave in Victoria, and Croesus Cave in Tasmania. In each case, streams flowing through the cave system enable the animals to return to the surface after travelling underground.

PLATYPUS SPOTTING HITS THE SPOT

Since establishing a research base at Toorourrong Reservoir Park in 1995, the Australian Platypus Conservancy has conducted regularly scheduled "Platypus Insights" tours. This popular program enables small groups of visitors, escorted by an APC researcher, to watch platypus feeding in the reservoir.

Unfortunately, it is not really feasible to expand the limited scale of the "Insights" program. To help meet the growing demand for platypus-spotting opportunities in the wild, Parks Victoria, Melbourne Water and the APC have recently collaborated to develop a platypus viewing hide on the Toorourrong dam wall.

Located a short distance from Whittlesea township (only 50 minutes by car from downtown Melbourne), Toorourrong Park offers one of the best opportunities to view a platypus in a natural setting in Victoria.

The reservoir and its associated catchment, managed as part of Melbourne's water supply, provide a nearly pristine habitat in which platypus thrive. Based on long-term mark-recapture studies by the Conservancy, the reservoir and its two incoming feeder streams (Jacks Creek and the east branch of the upper Plenty River) support a resident population of about 30 individuals. While the animals mainly feed between dusk and dawn, the substantial size of the population and

the protected environmental conditions ensure that at least one or two members of the population are diurnally active in the reservoir on most days of the year.

For those wishing to try their luck spotting platypus at the Toorourrong facility or elsewhere, the following hints may be useful:

*Best times to view a platypus are generally either in the early morning or late afternoon.

*Ideal weather conditions for platypus spotting are when the sky is cloudy and the water's surface is calm. The animals are also active when the surface is disturbed by ripples or waves, but they are much harder to see.

*The best season to view a platypus at Toorourrong is in early spring (August-September), reflecting the fact that the animals are particularly active towards the start of the breeding season.

*To spot a platypus on the surface, look for the circular ripples that usually surround the animal (and become even more well-defined when it dives).

*A platypus appears dark brown except for a small patch of light-coloured fur in front of each eye. The animals are 45-60 centimetres long and float low in the water, somewhat like a floating piece of wood.

*A platypus dive normally lasts less than a minute. The animals capture small invertebrate prey with their bill, storing the food in special cheek pouches. Once back on the surface, a platypus usually spends less than 30 seconds breathing, chewing, swallowing, and looking around for possible threats before again diving.

*If a platypus is startled (for example, by a loud noise or a bird flying past), it will dive with greater force than usual, creating an audible splash. When this happens, the animal will probably not be seen again, as it may hide for a time or move to a more distant location.