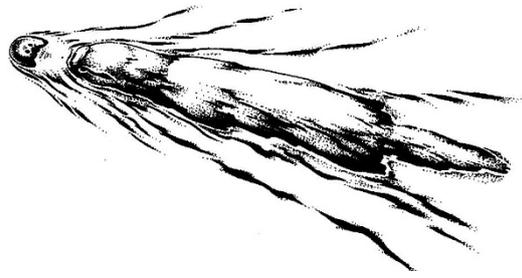


Platypus News & Views



Newsletter of the Australian Platypus Conservancy (Issue 88 – May 2022)

CITIZEN SCIENCE AND THE PLATYPUS

Citizen science is defined by the participation of non-scientists as volunteers in the scientific process, most often by helping to collect samples, record observations or take measurements. All parties will ideally benefit from this process: researchers obtain useful data at lower cost than would otherwise be possible; citizen scientists gain a better understanding of research and improve their knowledge about the topic being studied.

The Conservancy has promoted volunteer participation in most of its major research programs over the last three decades, both as a practical measure to control costs and as a great way to engage community interest in platypus conservation.

For example, volunteers have routinely assisted with setting and checking platypus nets in more than 500 APC live-trapping surveys conducted to date in creeks and rivers across Victoria and on Kangaroo Island. As anyone who's been involved in a netting survey can testify, this entails physically demanding activity in sometimes arduous circumstances (especially on days that are blazing hot or when the water is uncomfortably cold). However, it also offers a peerless opportunity to get up front and personal with a highly unusual and very interesting animal.



To help map the platypus's distribution across its range, APC staff have also recorded details of reliable community sightings sent to the Conservancy since the early 1990s. This body of information, now comprising several thousand records, has been shared with Australia's national wildlife database (Atlas of Living Australia), with additional new sighting reports regularly uploaded to ALA (see *PN&V* no. 84).



The Conservancy has also developed two reliable methods for community-based platypus visual monitoring. The simple and robust Platypus Group Watch protocol has now been adopted for use by Wildlife Queensland and Upper Murrumbidgee Waterwatch as well as in Victoria (see *PN&V* no. 86 and page 3). In addition, sophisticated software has been created to support the Australian Platypus Monitoring Network (<https://www.platypusnetwork.org.au>), whose members have recorded over 12,000 platypus sightings in nearly 45,000 standardised scans conducted at more than 200 registered sites since the program was launched in 2019.

(cont. on page 2)

CITIZEN SCIENCE AND THE PLATYPUS (cont. from page 1)

The credibility of citizen science relies on programs adopting procedures to ensure that they generate well-founded and accurate information. This is not something that can just be taken for granted – biased sampling and inadequate documentation are pitfalls that can beset even experienced professional scientists.

To illustrate how data quality can be an issue in citizen science programs, consider the platypusSPOT website (<https://platypusspot.org>), developed about 10 years ago (initially funded by Melbourne Water) to record platypus sightings using a text description and/or photo.

From the outset, persons have been encouraged to register a sighting on platypusSPOT even when unsure of the identity of the species they saw, on the questionable grounds that subsequent platypus sightings might occur in the same area to help validate the first. In addition, little or no effort seems to have been devoted to clarifying the details of poorly documented reports or removing highly dubious records. As a result, platypusSPOT now contains some demonstrably false (and in some cases quite amusing) entries, including a photographic record of a toy platypus placed inside a log (uploaded to the website in 2017) and a text record of one sighted in Kazakhstan (in 2020).

To get a better idea about how many unreliable records are likely to occur on platypusSPOT, we looked in detail at the subset of entries for the Dandenong Creek catchment in Melbourne's eastern suburbs – a system supporting a small platypus population that's believed to be under threat. Five records (or 25% of the 20 records listed in total for Dandenong Creek and its tributaries as of May 2022) clearly do not qualify as useful data entries: supporting information for two records can't be accessed (presumably due to technical glitches), one record duplicates another, and in two cases no animal was ever actually seen: in one case, a splash was heard (followed by a trail of bubbles); in the second, some sort of creature was heard rushing from land into the water after being disturbed.

Five additional records (another 25% of the data set) should in our view have been politely queried at the time they were reported, to help establish their credibility:

- One record contains no supporting details of any kind.
- Two records (uploaded by the same person on consecutive days) describe seeing circular surface ripples along with “a shadowy body just under the water”. The associated photo could well depict the fin of a large fish such as a carp; the surface ripples are also quite unlike those usually produced when a platypus dives.
- One record describes seeing a platypus that was “very small” (potentially consistent with it being a young rakali) in the creek; the mapped location is on a suburban street.
- One record is an otherwise plausible report of a platypus being seen in a part of the Dandenong Creek system that isn't believed to support a resident population. It's possible that the person observed a platypus engaged in exploration or dispersal. However, the unusual location means that it would have been useful to confirm the circumstances of the sighting while the person's memory was still fresh.

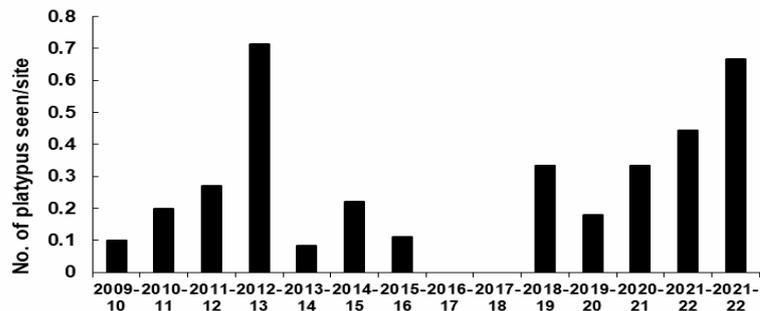
The existence of numerous dubious records in citizen science data sets is not necessarily baked into this approach. For example, our own experience is that platypus sightings based on wishful thinking or likely misidentification can be largely screened out with a little informed effort being consistently applied as reports are received. Interestingly, it's also rare in our experience for persons to respond at all negatively when asked for a few additional details about a sighting – it's our impression that they generally appreciate the fact that their information is being carefully weighed up.

More broadly, we believe there could be a lot of value in establishing a code of practice for Australian citizen science programs that (among other issues, such as respecting animal welfare) explicitly demands that procedures be implemented to identify and exclude data that is misleading or likely to be so – this requirement, after all, lies at the very core of science.

PLATYPUS BUSHFIRE RESILIENCE

King Parrot Creek flows about 55 kilometres from the slopes of the Great Dividing Range to join the Goulburn River near Kerrisdale in Victoria. The Black Saturday bushfires of 2009 incinerated much of the King Parrot Creek valley, with substantial loss of human life in and near the townships of Kinglake West, Hazeldene, Flowerdale and Strath Creek. Given the extent and severity of the devastation, grave fears were initially held for the survival of the creek's platypus population.

In September 2009, only 7 months after the disaster, one of the area's Landcare groups (based at Strath Creek) conducted a Platypus Group Watch survey along a short section of King Parrot Creek – a testimony to the spirit of the local community. Platypus sightings weren't recorded on that date but, encouragingly, one animal was seen in a follow-up survey in January 2010, shortly before the first anniversary of the fire. Since then, Group Watch sessions have been organised annually by members of the Strath Creek and Flowerdale Landcare Groups and, as shown at right, platypus have been recorded on all occasions apart from two years (2016/17 and 2017/18) when fewer sites than normal were surveyed.



In March 2022, the Conservancy carried out a platypus live-trapping survey at 5 sites dotted along 6 kilometres of the creek between Hazeldene and Flowerdale. Sixteen animals were captured – the second highest total ever recorded in APC fieldwork. This included 3 adult males, 4 adult or subadult females and 9 juveniles, confirming that breeding has been highly successful this year. Furthermore, all of the adults and two-thirds of the juveniles were judged to be in above average to excellent physical condition based on the amount of fat deposited in the tail (a major site for fat storage in this species), with three juveniles found to be in average condition.

In short, the recent netting results confirm the main findings from Platypus Group Watch sessions conducted in the same general part of King Parrot Creek, namely that the local platypus population survived the Black Saturday bushfires and currently occurs there in reasonably high numbers. This news, though certainly heartening, isn't a total surprise given that the platypus is fundamentally an aquatic animal that otherwise resides in burrows.



One of the juvenile males captured along King Parrot Creek in March 2022, shown just before being released back to the wild.

In fact, platypus numbers along King Parrot Creek appear (if anything) to have increased since 1997, when the Conservancy captured 1 adult male and 2 adult/subadult females in a survey involving 4 pairs of nets being set in a 4-kilometre section of creek just upstream of the 2022 live-trapping area.

The Conservancy's fieldwork along King Parrot Creek in 2022 was supported by Chocolatier Australia's generous contribution to platypus conservation through sales of Puddles the Platypus over the corresponding Easter period.

EDIBLE ELVER



The platypus mainly feeds on aquatic insects and other invertebrates such as worms: it has abrasive grinding pads rather than proper teeth, and its bill can't open very widely. Nonetheless, there's growing evidence that a platypus may occasionally dine opportunistically on small fish such as galaxiids (also consumed by human Australians as the delicacy known as whitebait) and young trout. Peter Broomhall recently captured this amazing image of a platypus in the Mersey River in Tasmania eating a baby

eel (or elver): <https://www.instagram.com/p/CdUkoD7vD1H?igshid=MDJmNzVkMjY=>. Elvers sometimes travel upstream from river estuaries in great numbers, presumably encouraging a hungry platypus to try grabbing one.

PIP THE PLATYPUS

Pip the Platypus in one of eight iconic Australian animals in the Critters Collection just launched by artisan chocolatier Koko Black. This initiative will help support the work of several wildlife conservation organisations, including the APC. Pip will be available online and in-store across the nation – see <https://www.kokoblack.com/products/pip-platypus>. The APC sincerely thanks Koko Black for their valuable support.



FORTHCOMING APC TALKS AND WEBINARS

Sun 5 June, 1.30pm Seymour Urban Landcare (Chittik Place): please book by contacting janethhagen@gmail.com

Tues 7 June, 7pm Rakali webinar: bookings <https://www.eventbrite.com.au/e/rakali-australias-otter-free-information-session-tickets-352119688467>

Tues 5 July, 7pm Platypus webinar: bookings <https://www.eventbrite.com.au/e/platypus-info-webinar-tickets-352392805367>

RAKALI CITIZEN SCIENCE MONITORING

North Sydney Council's Rakali Citizen Science Project was launched off the back of a Rakali Awareness webinar presented by the APC in March 2021 and is shedding important light on the status of this attractive native rodent in and around Sydney Harbour. For more details see: https://www.northsydney.nsw.gov.au/files/assets/public/docs/4_environment_amp_waste/bush_care/bushcarenewsletter_autumn2022_web.pdf

Australian Platypus Conservancy



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