



Submission on

**Royal National Park, Heathcote National Park and  
Garawarra State Conservation Area**

**Draft Plan of Management**

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## Summary

This submission is from the Platypus Conservation Initiative (PCI), based at the Centre for Ecosystem Science, UNSW Sydney. This submission provides recommendations on the **Draft Plan of Management** and **Draft Planning Consideration** relating to the management of platypuses within Royal National Park, Heathcote National Park and Garawarra State Conservation Area. We follow the structure of the draft plan of management, commenting on the sections where we recommend platypuses should be considered.

**Recommendation 1: Acknowledge the conservation importance of platypus as a key natural asset and explicitly integrated within the plan of management.**

**Recommendation 2: Recreational impacts on freshwater ecosystems need to be minimised.**

**Recommendation 3: Pollution impacts on freshwater ecosystems, including run-off and fishing tackle, need to be managed.**

## Platypus Conservation Initiative

The platypus *Ornithorhynchus anatinus* is an iconic Australia species under an increasing intensity of threats. The platypus is currently listed in South Australia as 'Endangered' (National Parks and Wildlife Act 1972) and in Victoria it was listed as 'Vulnerable' in 2021 (Flora and Fauna Guarantee Act 1998). The Platypus Conservation Initiative (PCI), formed in 2016 within Centre for Ecosystem Science, represents a collaboration of researchers from universities, zoos, state and local governments, and members of the public, with a focus on the conservation of the platypus. A recent national risk assessment by PCI quantified significant declines across the platypus' range, particularly in NSW, providing a recommendation for listing the platypus as threatened under Australia's *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* (Hawke et al., 2021; [https://www.bees.unsw.edu.au/sites/default/files/documents/UNSW\\_ACF\\_WWF\\_HSI\\_Platypus\\_Report\\_Final.pdf](https://www.bees.unsw.edu.au/sites/default/files/documents/UNSW_ACF_WWF_HSI_Platypus_Report_Final.pdf)). PCI undertakes platypus-focused research across Australia and is actively engaged in and promotes citizen science initiatives to improve widespread knowledge and appreciation of platypus and to provide valuable insight into changes in the species' distribution and abundance.

# 1. Protecting the natural environment

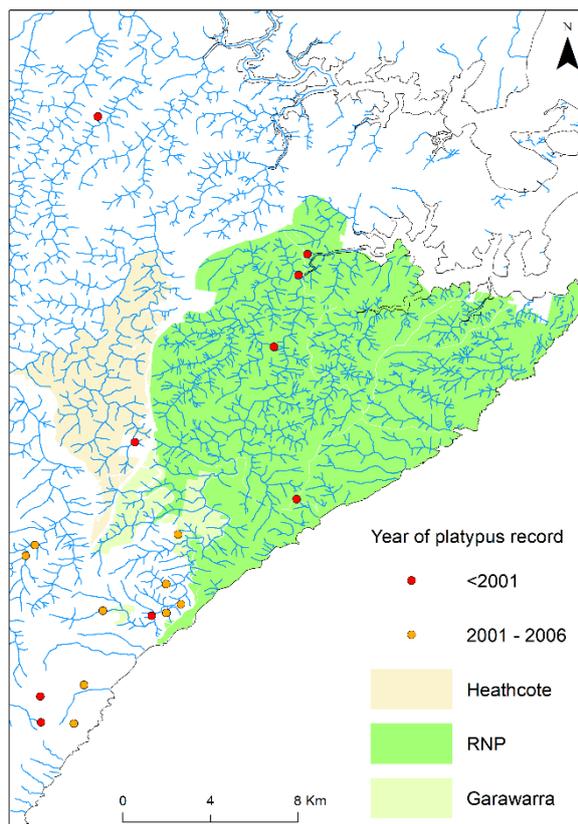
## *Natural Assets*

Section 1.1 states that the riverbeds of the Hacking River and its tributaries, as well as Southwest Arm Creek and Cabbage Tree Basin fall within Royal National Park and that these areas provide essential habitat for juvenile fish, waterbirds, and invertebrates, **but** there are no references to platypuses occupying these reaches, even though they are an important conservation asset.

Section 1.3 states that the parks provide suitable habitat for platypuses, but that there were no formal records of the species, and that the previous population appears to have been lost. Records suggest that platypuses have been formally reported in the parks (<https://www.bees.unsw.edu.au/platypus-atlas/>), with the most recent observations occurring on the upper Hacking River, although not since 2004. Uncertainty needs to be addressed through surveys to confirm the presence of platypuses in the park's rivers and evaluate their condition.

The freshwater areas likely still offer suitable habitat for platypuses (see Fig. 1) and represents important areas for this unique animal. Given its proximity to Sydney, platypuses represent an important natural asset of Royal National Park. The park has the potential to be the stronghold for platypus populations across the greater Sydney region with adequate implementation of monitoring and management plans for the species.

Platypuses are an important natural asset in the area, although their status remains poorly known. There is evidence that their



**Fig 1. The last year of platypus records within Heathcote NP, Royal National Park (RNP) and Garawarra State Conservation Area.**

status has declined. If they have gone from the rivers, there should be an initiative to reinstate the species whilst managing for their threats.

Specific regions and habitats are outlined for habitat conservation, but this list fails to include freshwater rivers, despite their ecological importance for both aquatic and terrestrial species occupying the parks. Given evidence of decreasing water quality and increasing pollution, the PoM should list these habitats as a priority for conservation.

### ***Threats***

There is relatively little discussion about threats to freshwater ecosystems, including pollution, invasive species, or changes in river flows. Section 1.1.1 of the 'Considerations' described issues associated with a reduction in water quality and an increase in rubbish and weeds due to storm water run-off. There is a need to link natural assets, such as platypuses, to potential threats. These threats include impacts to flow, fragmentation, fires, loss of riparian vegetation, pollution, fish netting, and by-catch, and predation.

Only deer are targeted for control in the PoM as invasive species, but red foxes likely pose a significant threat to native species within the park. Red foxes are listed as a significant pest species in the parks (section 1.4), but no priority is given for a management plan for foxes, including control measures, clear objectives, and a monitoring plan. Foxes are the primary predator of concern for platypuses and may have contributed to the decline of vulnerable populations in these regions. They may also be impeding overland recolonisation attempts, given platypuses are particularly vulnerable to predation when moving overland.

There is also no explicit reference to the potential impact of pollution, including fishing tackle. Fishing is an important recreational activating but can have negative implications for aquatic organisms, including platypuses. Discarded or lost fishing tackle, such as lines and hooks, can entangle local aquatic fauna. Fishing is currently not permitted upstream of Audley Weir and this strategy should be maintained and monitored to avoid future impacts on the park's natural values. This is particularly important for platypuses, given it is declining across its distribution from these threats.

### ***Restoration of freshwater ecosystems and platypus conservation***

It is stated that NPWS will support monitoring of water quality and aquatic health through research partnerships, but there is no mention of potential mitigation measures for threats. The PoM suggests that riparian zone erosion and siltation will be mitigated through a regeneration program, but there are no details about the location, prioritization, or extent of these revegetation efforts. Additionally, there are no other mitigation measures suggesting for control and reducing erosion.

Section 1.3.1 describes the management consideration and opportunities, including species monitoring, but there is no mention of the need for monitoring opportunities to determine the status of platypuses within the parks. This section requires a more explicit approach and be expanded to include actions to support persistence of platypuses within the park, including translocations and possible reintroduction of platypuses as a management strategy for threatened or locally extinct populations.

#### **Recommendation 1: Acknowledge the conservation importance of platypus as a key natural asset with freshwater ecosystems, providing a focus for conservation management**

In particular, the following changes could be considered:

- a) Adding the platypus as a key conservation asset, including in the list of species which occupy the rivers of the parks (section 1.1);
- b) Include freshwater rivers and streams explicitly as habitat conservation priorities, to ensure the viability of dependant freshwater and terrestrial species (section 1.3);
- c) Establishing a monitoring plan to assess the condition of platypuses within the park, beginning with a broad mapping of the distribution of the platypus and key habitat, followed by an assessment of population viability (numbers, demographics, and trends) through systematic and long-term monitoring, also supported by citizen science initiatives and community engagement (section 1.3);
- d) Developing a management plan to support persistence of platypuses, including supporting platypus populations through translocations/reintroductions of platypuses (and other native species) (section 1.3);

- e) Monitoring condition of rivers through key indicators, including water quality, macroinvertebrates, and sedimentation (sections 1.2 & 1.3);
- f) Implementing restoration and rehabilitation (sections 1.2 & 1.3) of rivers and their riparian zones, including reducing erosion, revegetation, and mitigating rubbish and weeds from storm water run-off (e.g., 'drain socks'), explicitly identifying locations and extent of planned riparian revegetation and other potential mitigations options such as silt fencing and sediment traps (section 1.1);
- g) Including a priority program for the control of feral red foxes (section 1.4) and;
- h) Including explicit reference to the EcoHealth plan for monitoring key natural assets, such as platypus and freshwater ecosystems, and their threats so these can be effectively managed.

### **3. Providing visitor use and enjoyment**

Table 2 in the draft PoM and Table 3 in the 'Considerations' do not currently list any species of conservation importance within each of the zones. Section 3.2.1 fails to consider the possible impact of the proposed campsites to nearby rivers, which is concerning given evidence that at least one existing campsite (Uloola Falls) is impacting water quality.

Section 3.5.1 discusses the used of moorings in the national parks, including the possible establishment of moorings, but does not detail any possible locations. If moorings are established in freshwater sections of the river, the environmental impact assessment needs to consider the possible impacts to the riparian habitat, including impacting platypus areas for burrows.

It is unclear in Figure 8 which existing horse trails will be closed due to issues associated with erosion, nor which ones will remain open. The current horse-riding trails appear to lead directly to Wilson Creek and may be impacting bank erosions and stability.

The PoM should consider the value of measuring and monitoring ecosystem health, including riverine habitats as educational activities and scientific research (section 3.6.1).

**Recommendation 2: Potential recreational impacts on freshwater ecosystems need to be minimised.**

- a) Including platypuses and other species of conservation importance in the table of visitor zones, so that visitors are informed of possible impacts to these species.
- b) Evaluating the impacts by campgrounds on water quality of rivers and considering such impacts when planning of new campgrounds.
- c) Considering platypuses in the environmental impact assessments of proposed moorings to ensure minimal impact to burrows in the riparian zone.
- d) Clarifying which existing horse-riding trails will remain open (Figure 8) and including potential impacts to the creek if the trails extend to these areas.

**6. Scheme of operations**

Under Table 6, point number 3 ('The health of aquatic ecosystems in the parks is improved') should be given a higher priority, for both points 'a' and 'b'. While a management plan will be implemented for Cabbage Tree Bay, and other aquatic ecosystems at risk, it should be more structured and explicit and extensive. River protection is required further upstream, particularly in locations where pollution and storm water run-off are known to be having a significant impact on stream health. Point number 5e in Table 6 should be given a higher priority, as better understanding of the presence and distribution of species within the park will inform appropriate management plans.

**Recommendation 3. Pollution effects on freshwater ecosystems, including run-off and fishing tackle, needs to be managed**

- a) Providing spatially explicit detail on impacts of storm water pollution, weeds, and sedimentation on different parts of the ecosystem and management of the impacts to sensitive species such as platypus.
- b) Managing pollution from fishing tackle discarded or lost to reduce ongoing impacts on freshwater dependent species.
- c) Restricting recreational fishing to only its current footprint to reduce ongoing and known impacts of freshwater organisms.
- d) Assessing potential impacts of erosion from expanded recreational developments on freshwater ecosystems.