



**Biodiversity
Council**

Submission to the Draft Western Swamp Tortoise Environmental Protection Policy 2026

10 August 2026

About The Biodiversity Council

The Biodiversity Council brings together leading experts including Indigenous knowledge holders to promote evidence-based solutions to Australia's biodiversity crisis. The Council was founded by 11 universities with the support of Australian philanthropists.



Introduction

The Biodiversity Council welcomes the opportunity to provide feedback on the draft [*Environmental Protection \(Western Swamp Tortoise Habitat\) Policy 2026*](#) ('the draft EPP').

Our understanding

The Western Swamp Tortoise

The Western Swamp Tortoise (or Turtle) is Critically Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the Western Australian *Biodiversity Conservation Act 2016*. Notably, it is an EDGE species (Evolutionarily Distinct and Globally Endangered), being the only surviving member of the subfamily Pseudemydurinae, and considered to be the most evolutionarily irreplaceable turtle or tortoise on Earth.¹

The species was rediscovered in 1953 and in 1962 two nature reserves - Ellen Brook and Twin Swamps - were created to protect remnant populations north of Perth. By 1985, the population at Twin Swamps was nearly extinct. The first EPP (gazetted in 2003) was developed to protect the habitat at Ellen Brook as it was the only viable wild population.

The Ellen Brook population has been monitored for six decades, revealing the species is slow maturing and very long lived. Recent analysis of population trend data found that relative to fox control, nest protection, captive breeding and translocation, the conservation action that most clearly benefited the adult wild breeding population was increasing the area and quality of protected habitat at Ellen Brook through land acquisition and restoration.² This finding makes protection of suitable habitat through the *Environmental Protection (Western Swamp Tortoise Habitat) Policy* central to the species' conservation.

The review

A draft EPP has been released in 2026 following [a review](#) of the *Environmental Protection (Western Swamp Tortoise Habitat) Policy 2011* ('the 2011 EPP') by the Western Australian Environmental Protection Authority (EPA) in accordance with section 36 of the *Environmental Protection Act 1986* (EP Act).

The review identified several key changes that were required to better protect habitat and manage pressures on the tortoise and its habitat. The changes included:

- Strengthening recognition and protection of habitat in the EPP area.
- More explicit consideration of hydrological regimes.

¹Gumbs, R., Gray, C.L., Böhm, M., Hoffmann, M., Grenyer, R., Jetz, W., Meiri, S., Roll, U., Owen, N.R., Rosindell, J. (2020). Global priorities for conservation of reptilian phylogenetic diversity in the face of human impacts. *Nature Communications* 11, 2616.

²Kuchling, G., Nordstrom, B., Rodriguez, N., Burbidge, A.A. (in review). Effectiveness of conservation actions for the last self-sustaining wild population of a long-lived reptile of ephemeral wetlands in a fragmented landscape under increasing human pressure. *Biological Conservation* Preprint available at SSRN: <http://dx.doi.org/10.2139/ssrn.7115971>

- Better aligning with the latest scientific research and the 2010 [Western Swamp Tortoise Recovery Plan](#).
- Strengthening requirements for decision makers to consider the potential impacts of development.
- Revising the list of beneficial uses and including ecosystem health conditions to provide more guidance for decision-making and enforcement.
- Updating the area to which the policy applies (the policy area map).

The draft EPP

The draft EPP applies to the Twin Swamps Nature Reserve and Ellen Brook Nature Reserve and the neighbouring properties shown on the policy area map. Surveys between 2023 and 2024 detected fewer than 100 juvenile and adult tortoises in the policy area - 70 at Ellen Brook Nature Reserve and 21 at Twin Swamps Nature Reserve.

The draft EPP's stated purpose is to protect habitat critical to the long-term survival of the western swamp tortoise in the wild. There are three main objectives in the draft EPP to protect the tortoise's habitat in the policy area:

1. ensuring compatible land use and management
2. maintaining and improving hydrology and water quality
3. avoiding and minimising detrimental activities, including those that lead to chemical pollution, sedimentation and run-off, altering water flows and lighting fires.

The main mechanism that the draft EPP uses to achieve these objectives is by requiring decision-makers, including those making planning or water management decisions, to have regard to the draft EPP and liaise with the WA Environmental Protection Authority (EPA).

Our key concerns are outlined below.

Key concerns

1. 'Minimising' detrimental activities is inadequate protection

The current EPP 2011 as well as the draft EPP 2026 repeatedly use the wording "...*avoids or minimises impacts...*".

"Minimise" is a subjective standard focused on the effort a land manager claims to have made, rather than on any measurable outcome for the tortoise or its habitat. This makes the standard impossible to enforce, since almost any activity can be said to have been undertaken with some attempt to lessen its impact. We note that land within the policy area has already been developed and managed in ways incompatible with tortoise conservation, with few legal remedies available because of this ambiguity, which carries forward from the 2011 EPP to the draft EPP. Documented pressures on habitat surrounding Ellen Brook Nature

Reserve include an industrial shed built within its buffer in 1992, clay mining that progressed to within 100 metres of the reserve boundary from 1999, a transport depot whose runoff drains into the reserve, and a housing development that had advanced to within 85 metres of the reserve's western boundary by 2025 into land the species occupied in the 1960s.³

Under a standard that only requires impacts to be “avoided or minimised,” proponents and decision-makers retain broad discretion to approve activities of this kind provided some nominal mitigation is claimed, regardless of cumulative or long-term impact.

Recommendation 1: *The Biodiversity Council recommends that the words “or minimises” be deleted from clauses 6(2)(c), 11(1)(c), 12(b) and 13(2)(b) of the draft EPP, so that the obligation is to **avoid** detrimental impacts, not merely to minimise them.*

2. The policy area does not reflect the tortoise's reliance on habitat outside reserves

The draft EPP acknowledges that tortoise habitat “extends beyond the boundaries of their protective nature reserves,” noting that tortoises can travel kilometres across the landscape. Despite this acknowledgement, the habitat management areas defined in clause 8 add just two additional freehold lots to the existing nature reserves. Moreover, the mechanism for adding further areas (clause 9) only applies once land becomes a nature reserve, is the subject of a formal conservation agreement, or is separately declared critical habitat. Hence there is no proactive, ecologically-informed process for identifying and protecting habitat known to be used by the species.

This gap matters because the best available evidence indicates the tortoise's protected habitat is likely smaller than individual tortoises' lifetime home ranges, so the population depends on a wider “source-sink” landscape where much of the sink habitat outside the two reserves is not protected.³ Concerningly, of the claypan habitat mapped around Ellen Brook Nature Reserve in 1953, 96% of the habitat outside the reserve boundary had been lost to development by 2026, primarily through drainage, clay mining and infill for construction.³

Ellen Brook Nature Reserve's naturally occurring gilgai clay produces a tunnel system that offers tortoises and their eggs strong resilience to fire. Tracked adult females survived the Woorooloo bushfire⁴ that burned 90 per cent of the reserve in 2021, and their nests also hatched, whereas tortoises at translocation sites without this soil structure have suffered

³Kuchling, G., Nordstrom, B., Rodriguez, N., Burbidge, A.A. (in review). Effectiveness of conservation actions for the last self-sustaining wild population of a long-lived reptile of ephemeral wetlands in a fragmented landscape under increasing human pressure. *Biological Conservation* Preprint available at SSRN:

<http://dx.doi.org/10.2139/ssrn.7115971>

⁴https://en.wikipedia.org/wiki/2021_Woorooloo_bushfire

near-total mortality following fire.⁵ This indicates that Ellen Brook’s unique habitat is not easily replaced with habitat elsewhere, reinforcing the need to secure the land that supports and surrounds the existing reserve, rather than treating localised habitat loss as offsettable.

Recommendation 2: *The Biodiversity Council recommends that clause 9 be amended to include a proactive mechanism for identifying and progressively incorporating known movement, nesting and aestivation habitat into habitat management areas, informed by current habitat-use data, rather than relying on reactive triggers tied to land tenure changes.*

3. Hydrology obligations rely on discretionary wording rather than enforceable standards

The draft EPP’s background provisions identify lowering of the water table, altered wetting and drying regimes, and changed surface and groundwater flow paths as key threats to the species, and hydrology is a central focus of the review. Yet the operative obligations designed to maintain or improve site hydrology remain weak. Under clause 13(4), a public authority developing a planning or water management document need only “liaise closely” with the EPA to seek consistency with the policy, a procedural obligation rather than a substantive standard. Similarly, under clause 14, a Minister need only “have regard to” the policy when making a decision that could affect the policy area, which does not require the decision to be consistent with it.

This mismatch between the severity of the threat and the strength of the enforcement response is highly relevant, especially as rainfall declines are also driving hydrological change.⁶ Drainage works from 1974-77 and 1985 destroyed the two largest claypans adjacent to Ellen Brook Nature Reserve, clay mining reduced the reserve’s surface water catchment from 1999 onward, and runoff from a transport depot has drained into the reserve since 2004.⁵ Each of these hydrological impacts occurred under policy frameworks built on “have regard to” and “liaise closely” style obligations, and each is precisely the kind of impact the draft EPP’s environmental quality objective is meant to prevent.

Recommendation 3: *The Biodiversity Council recommends that clauses 13 and 14 be strengthened so that public authorities and Ministers must ensure decisions are*

⁵Kuchling, G., Nordstrom, B., Rodriguez, N., Burbidge, A.A. (in review). Effectiveness of conservation actions for the last self-sustaining wild population of a long-lived reptile of ephemeral wetlands in a fragmented landscape under increasing human pressure. *Biological Conservation* Preprint available at SSRN: <http://dx.doi.org/10.2139/ssrn.7115971>

⁶Mitchell, N., Hipsey, M.R., Arnall, S., McGrath, G., Tareque, H.B., Kuchling, G., Vogwill, R., Sivapalan, M., Porter, W.P. and Kearney, M.R. (2012). Linking eco-energetics and eco-hydrology to select sites for the assisted colonization of Australia’s rarest reptile. *Biology*, 2(1), pp.1-25. <https://www.mdpi.com/2079-7737/2/1/1>

demonstrably consistent with the hydrology-related environmental values, with mandatory referral to the EPA for any proposal within the policy area, or its hydrological catchment, that may affect groundwater, surface water flow paths, or water quality.