

**16 April 2024**

Guy Debonnet  
World Heritage Committee Secretariat  
World Heritage Centre  
UNESCO  
7, place de Fontenoy  
75352 Paris 07 SP  
France  
By email only: [G.Debonnet@unesco.org](mailto:G.Debonnet@unesco.org)



**Tasmanian Independent  
Science Council**  
[info@tassciencecouncil.org](mailto:info@tassciencecouncil.org)  
[www.tassciencecouncil.org](http://www.tassciencecouncil.org)

**Copy:**

Katherine Zischka and Mathew Emslie-Smith, IUCN  
The Hon Tanya Plibersek, MP, Australian Minister for Climate Change, Energy, Environment and Water  
The Hon Nick Duigan, MP, Tasmanian Minister for Parks and Environment  
The Hon Jane Howlett, MP, Tasmanian Minister for Primary Industries and Water  
The Hon Ted Baillieu AO, Chair, Australian Heritage Council

**Urgent threat to the heritage value of the Tasmanian Wilderness World Heritage Area**

Dear Mr Debonnet,

On behalf of the Tasmanian Independent Science Council, I write seeking to avert the imminent extinction faced by the endemic Maugean Skate (*Zearaja maugeana*), an acknowledged natural heritage value of the Tasmanian Wilderness World Heritage Area (TW WHA).

We respectfully request UNESCO urgently undertake immediate action to protect the Maugean Skate, an ancient taxon and a Gondwanan relic.

State Party Australia has never completed a comprehensive environmental assessment of the impact of fish farming on the outstanding universal value of the TWWHA, despite evidence of significant impacts.

We acknowledge and share the concerns expressed by the Australia Institute and other organisations in their recent letter to the World Heritage Committee, regarding the urgent threat to the heritage values of the TWWHA.

**Heritage values of the Tasmanian Wilderness World Heritage Area**

The TW WHA encompasses approximately one-third of Macquarie Harbour. The Statement of Outstanding Universal Values for the TW WHA includes natural values of Macquarie Harbour, specifically that, “unusual assemblages of deep marine species are found within the large estuaries” and, “extensive areas of high wilderness quality ensure habitats of sufficient size to allow the survival of endemic and rare or threatened species such as the... many

ancient taxa with links to Gondwana”, which includes the Maugean Skate. The Australian Government’s management plan for the TW WHA specifically includes the Maugean Skate as a natural value to be protected.

While we do not intend to speak for Tasmanian Aboriginal people, we note that the Australian Government Conservation Advice for the Maugean Skate includes the following:<sup>1</sup>

The Maugean skate occupies the lands and waters of the toogee People, composed of the mimegin and lowreenne bands in Macquarie Harbour and the ninene band in Port Davey (State of Tasmania 2000; Maxwell-Stewart 2009; AIATSIS 2023). The area around Macquarie Harbour, including Sarah Island, was known by the local Tasmanian Aboriginal people as langerrarouna, and comprises several documented Tasmanian Aboriginal sites (State of Tasmania 2000; Parks Tasmania 2023). Within Macquarie Harbour, there are three palawa kani (Tasmanian Aboriginal language) place names, including paralungatik (Macquarie Harbour), titikalangruni (Grummet Island), and langarirruni (Sarah Island) (TAC 2023). Macquarie Harbour was crossed on craft during seasonal movements by Tasmanian Aboriginal people within the region (Maxwell-Stewart 2009). The Tasmanian Aboriginal sites identified within the region have contributed to the cultural significance of the Tasmanian Wilderness World Heritage Area that encompasses Bathurst Harbour and parts of the eastern section of Macquarie Harbour.

The Advice also notes there is no known published information on how Tasmanian Aboriginal people relate to the Maugean Skate or what this may mean for the cultural significance of the species. It recognises that further consultation with Tasmanian Aboriginal peoples will benefit the conservation of the species, including by being guided by traditional knowledge and management practices on Country. An identified priority conservation and recovery action is to determine the cultural significance of Maugean Skate.

### **Threats to the Maugean Skate**

The Maugean Skate is listed as Endangered under the Federal Environment Protection and Biodiversity Conservation (EPBC) Act 1999. Once thought to inhabit both Bathurst and Macquarie Harbours on Tasmania’s west coast, the species is now only found in Macquarie Harbour. A study by Moreno et al. (2022) concluded that given, “only four individuals have ever been seen in Bathurst Harbour... it is unclear if the Maugean Skate were ever abundant [in that location]”.<sup>2</sup>

In May 2023, researchers detected a very rapid decrease in the Maugean Skate population in Macquarie Harbour (47% reduction between 2014 and 2021), including the near absence of juveniles and viable eggs.<sup>3</sup> The extent of the Maugean Skate population decrease has resulted

---

<sup>1</sup> Australian Government (2023) Conservation Advice for *Zearaja maugeana* (Maugean skate), p. 9, <https://www.environment.gov.au/biodiversity/threatened/species/pubs/83504-conservation-advice-06092023.pdf>

<sup>2</sup> Moreno et al (2022) Application of environmental DNA to survey Bathurst Harbour (Tasmania) for the Endangered Maugean Skate (*Zearaja maugeana*), p 14, <https://www.nespmarinecoastal.edu.au/wp-content/uploads/2023/08/Project-1.33-Final-Report.pdf>.

<sup>3</sup> Moreno and Semmens (2023) Interim report - Macquarie Harbour Maugean skate population status and monitoring, p 1, [https://imas.utas.edu.au/\\_\\_data/assets/pdf\\_file/0007/1655611/Maugean-skate-2021-interim-report-FINAL.pdf](https://imas.utas.edu.au/__data/assets/pdf_file/0007/1655611/Maugean-skate-2021-interim-report-FINAL.pdf)

in the Commonwealth Government's Threatened Species Scientific Committee to review the species' listing status, and consider uplisting it to Critically Endangered.<sup>4</sup>

This population decrease has been attributed to depleted levels of Dissolved Oxygen (DO) in Macquarie Harbour caused by anthropogenic inputs, particularly the impacts of increased nutrients from expanded salmonid aquaculture operations.<sup>5</sup> There is ample scientific evidence published since 2016 that describes the impacts of salmonid aquaculture on the Maugean Skate, including:

- The link between salmonid aquaculture, elevated oxygen consumption and decreased DO levels adjacent to salmonid cages.<sup>6</sup>
- The indirect impact of salmonid farming on the Maugean Skate by consequence of low DO levels in Macquarie Harbour.<sup>7</sup>
- The vulnerability of the Maugean Skate (and its reproductive success) to low DO conditions.<sup>8</sup>
- Modelling that demonstrated the positive impact on water quality (specifically improved DO levels) that would result from the removal of salmonid aquaculture from Macquarie Harbour.<sup>9</sup>
- Environment Protection Authority monitoring sites in the southern regions of Macquarie Harbour (located within the TW WHA) where the lowest ever DO levels throughout much of the water column were recorded as recently as February 2023.<sup>10</sup>

### **Urgent actions to save the Maugean Skate**

The Australian Government's Conservation Advice for the Maugean Skate identified that the first "Urgent Priority" to be implemented before the austral summer of 2023/24 (now concluded) was to "Eliminate or significantly reduce the impacts of salmonid aquaculture on dissolved oxygen concentrations. The fastest and simplest way to achieve this is by significantly reducing fish biomass and feeding rates."<sup>11</sup> This has not occurred.

### **The Australian Government's failure to take action to protect the TW WHA.**

Neither the Tasmanian nor the Australian Government has required any reductions in fish biomass or feeding rates for Macquarie Harbour salmon aquaculture operators in response to the 47% population decrease of Maugean Skate. Rather, 10 new environmental licenses for

---

<sup>4</sup> Australian Government (2023) Finalised Priority Assessment Lists, <https://www.dcceew.gov.au/environment/biodiversity/threatened/assessments/fpal>

<sup>5</sup> Moreno and Semmens (2023).

<sup>6</sup> Ross et al (2016) *Understanding the Ecology of Dorvilleid Polychaetes in Macquarie Harbour: Response of the benthos to organic enrichment from finish aquaculture*, [imas.utas.edu.au/\\_data/assets/pdf\\_file/0010/905752/2014-038-DLD-Dorvs.pdf](https://imas.utas.edu.au/_data/assets/pdf_file/0010/905752/2014-038-DLD-Dorvs.pdf)

<sup>7</sup> Ross and McLeod (2017) *Environmental Research in Macquarie Harbour: Interim Synopsis of Benthic and Water Column Conditions*, [https://www.imas.utas.edu.au/\\_data/assets/pdf\\_file/0019/940303/IMAS-Technical-Report-on-Macquarie-Harbour-Condition.pdf](https://www.imas.utas.edu.au/_data/assets/pdf_file/0019/940303/IMAS-Technical-Report-on-Macquarie-Harbour-Condition.pdf)

<sup>8</sup> Moreno et al (2020) *Vulnerability of the endangered Maugean Skate population to degraded environmental conditions in Macquarie Harbour* <https://www.frdc.com.au/sites/default/files/products/2016-068-DLD.pdf>

<sup>9</sup> Wild-Allen et al (2020) Macquarie Harbour Oxygen Process model (FRDC 2016-067), <https://publications.csiro.au/publications/publication/PIcsiro:EP204274>

<sup>10</sup> Tasmanian EPA (2023). Macquarie Harbour Dissolved Oxygen Report, Feb 2023.

<sup>11</sup> Australian Government (2023) Conservation Advice for *Zearajan maugeana* (Maugean skate), p. 29, <https://www.environment.gov.au/biodiversity/threatened/species/pubs/83504-conservation-advice-06092023.pdf>

Macquarie Harbour aquaculture leases were issued by Tasmania's Environment Protection Authority until at least 2025, despite the acknowledged risk of extinction of the Maugean Skate from aquaculture operations.<sup>12</sup>

In November 2023, the Australian Minister for Climate Change, Energy, Environment and Water announced a reconsideration of the 2012 Decision on Marine Farming Expansion, Macquarie Harbour (EPBC 2012/6406). This reconsideration was triggered by new evidence, as outlined above, on the adverse impacts of salmonid farming on the Maugean Skate. To date, no further announcement has been made by the Minister, despite clear priority actions outlined in the Australian Government's Conservation Advice to eliminate or significantly reduce fish biomass in Macquarie Harbour before the Austral 2023/24 summer.

It is evident that without urgent conservation action, the Maugean Skate risks imminent extinction. This, in turn, risks compromising the Outstanding Universal Values of the TW WHA. The Australian Government's failure to act on its own department's Conservation Advice, and the significant delay in determining the reconsideration of decision EPBC 2012/6406, leave TISC concerned that appropriate steps are not being taken to protect the Maugean Skate and the TW WHA.

The Tasmanian Independent Science Council members respectfully request UNESCO and the IUCN to write to State Party Australia as a matter of urgency requesting that it:

- a) undertake and submit to the World Heritage Committee a comprehensive environmental assessment of the impact of salmon farming on the outstanding universal value of the TW WHA, with particular regard to the Maugean Skate, and
- b) provide a State of Conservation Report for examination at or before the World Heritage Committee's 46<sup>th</sup> session in July 2024.

Yours sincerely,



Christine Coughanowr and Dr Graeme Wells  
Co-Chairs  
Tasmanian Independent Science Council  
Via email: [info@tassciencouncil.org](mailto:info@tassciencouncil.org);  
[cacoughanowr@gmail.com](mailto:cacoughanowr@gmail.com); [lahuwell@bigpond.net.au](mailto:lahuwell@bigpond.net.au)

The Tasmanian Independent Science Council is an incorporated association, comprised of scientists and relevant professionals. We provide independent, non-government advice, focusing on elevating the role of science in policy reforms of state and national significance. We seek to inform public debate and influence legislative reform to improve outcomes for terrestrial, freshwater and marine ecosystems.

---

<sup>12</sup> EPA Tasmania (2024) *Marine Environmental Licence Renewals*, <https://epa.tas.gov.au/business-industry/regulation/salmon-aquaculture/marine-environmental-licence-renewals>.