

Hon. Sussan Ley MP

Minister for Environment

Parliament House Canberra

ACT 2600

Date 20/01/22

Dear Minister Ley

**Northern Territory Barramundi Fishery (NTBF) application for Wildlife Trade Operation (WTO) accreditation.**

The Australian Marine Sciences Association (AMSA) welcomes the opportunity to provide comments on the Northern Territory Barramundi Fishery (NTBF) Wildlife Trade Operation (WTO) application.

AMSA is a professional society of more than 700 members nationwide, committed to promoting all aspects of marine sciences. Our members are from universities, museums, private sector, and government agencies and have expertise spanning all disciplines related to marine science. AMSA actively promotes the advancement of marine sciences in Australia and provides evidence-based scientific advice and support on matters of national and global interest. As well as operating nationally, AMSA has active Branches in all states and territories, including the Northern Territory.

The NTBF operates within the jurisdictions of NT coastal waters and in areas recognised as Aboriginal-owned under the *NT Aboriginal Land Rights (Northern Territory) 1976 Act (Cth)*. We recognise the cultural significance of this fishery to Aboriginal people and the threatened species of cultural significance, that interact with this fishery. AMSA acknowledges the importance of Indigenous knowledge in informing the NTBF and meaningful collaborations between marine scientists and Indigenous groups in conducting research on Sea Country. Many of our members are engaged in collaborative research projects with Traditional Owners, and at each of the past five AMSA annual conferences, we have held workshops on fostering such research collaborations (see <https://www.amsa.asn.au/indigenous-engagement-marine-science>).

Acknowledging our support of including Indigenous interests and expertise in fisheries management, our focus in this submission is the protection of natural values based on scientific evidence.

AMSA urges the NT Government to develop a Barramundi Fishery that serves to protect the natural and cultural values of the NT marine and coastal environments, and to foster resilience to disturbances such as those from climate change.

We write to express our concern regarding the NT Department of Industry, Tourism and Trade application for the WTO accreditation of the NTBF. We understand that NTBF is currently under

review by the NT Government and its management is likely to change substantially because of this, potential changes to the *NT Fisheries Act*, and changes implemented under the Blue Mud Bay Action Plan.

AMSA has the following recommendations, further supported in the main body of the submission:

**1) The NTBF is not given accreditation for WTO**

The current mortality of TEPS in the NTBF is unacceptable. Significant management and monitoring changes are required to be implemented immediately to ensure TEPS interactions are minimised. Management should apply the best available science and be conservative in the absence of evidence. Improvements to the fishery should include developing the knowledge of commercial operators with educational programs on TEPS to reduce interactions, improve stewardship, and improve data collection. Furthermore, research on critical knowledge gaps for TEPS to inform sustainable practice is required.

**2) Observer-effort and surveillance monitoring of this fishery is improved**

The observer coverage of this fishery is reportedly sparse. There are likely discrepancies (underreporting) in actual and reported TEPS interactions and therefore low confidence in the data presented. We suggest observer-effort or video surveillance be significantly increased to enable a more robust understanding of TEPS interactions and mortality rates.

**3) Harvest Strategy**

Understanding the NTBF review is underway, it is expected that the Harvest Strategy resulting from this process will comprise conditions that are robust and sustainable (ecologically, socially, and financially) and provide equity across the various sectors. With an improved management framework, a WTO application could be reconsidered to enable sustainable international trade.

We are grateful for the opportunity to comment on the application and would be available to discuss our submission as need be.

Regards

A handwritten signature in black ink, appearing to read 'Rachel Przeslawski', written in a cursive style.

Dr Rachel Przeslawski, AMSA President

## **Submission Details for Northern Territory Barramundi Fishery (NTBF) application for Wildlife Trade Operation (WTO) accreditation.**

The NTBF review affords an opportunity to significantly improve the management of the fishery. The WTO application included an extract from the NTBF Ecological Risk Assessment (ERA) which included species listed as Matters of National Environmental Significance under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. The risk rankings for the Threatened, Endangered and Protected species (referred to as TEPS in the NTBF) at their current level are unacceptable and are likely to impact multiple species at the population level (refer to Table 2 of the WTO application).

Three marine mammals, two sharks and one turtle were ranked with a **Severe** risk rating. In the ERA, **Severe** is defined as being unacceptable with major changes required to management in the immediate future. The table further outlines the likely reporting and monitoring requirements being: *Recovery strategy and detailed monitoring* and the Likely Management Action as: Increased management activities needed urgently. Further, five species (Dugong, Green turtle, and the Narrow, Largetooth and Green sawfishes) were ranked with a **High** risk ranking and five turtles (Olive Ridley, Hawksbill, Flatback and Loggerhead) and the Saltwater Crocodile were ranked with a **Moderate** risk.

The significance of these rankings can be illustrated by way of example with the following three species ranked as **Severe**: Bottlenose dolphin, Leatherback turtle and Dwarf sawfish. We note that the impact of this fishery is cumulative to other impacts affecting these populations e.g. climate-related impacts, other fisheries.

### **Bottlenose dolphin**

We refer to Table 2 in the WTO application where eight Bottlenose dolphins were recorded as dead from interacting with this fishery in 2019. The Bottlenose dolphin is not well-studied in the NT however, a coastal aerial survey conducted by the NT Government (Palmer et al. 2017) suggest they occur along most of the NT coastline in small populations. Co-occurring in the coastal waters are the Australian Humpback dolphin and the Australian Snubfin dolphin both of which reportedly interact with this fishery. Using recent data from a coastal monitoring program (Griffiths et al. 2020) spanning nine years, these three species were found to have populations that were small, mobile, and of a variable nature. All three species (Bottlenose, Humpback and Snubfin Dolphins) occur at low densities in this region (1086 m<sup>2</sup>), with fluctuating population sizes, upper population estimates of 44, 107 and 21 individuals, respectively. A significant negative trend in abundance has been identified for subpopulations in the Bynoe Harbour, Darwin Harbour and Shoal Bay region. Linear models for each species suggested that all species are experiencing a negative population growth rate. In a Base Population Viability Analysis (PVA) conducted by von Takach et al. (2020), it was found that there is a high probability that the regional Darwin population of Bottlenose dolphins was at a high risk of extinction with a downward trend in population size also reflected in the parameter estimates for mortality and recruitment (this was the same for the other coastal dolphin species), with high rates of mortality and low rates of recruitment in each species. If we assume that the Darwin region population of Bottlenose dolphins reflects other northern Australian coastal subpopulations (where there are generally <200 individuals in a subpopulation), the reported mortality of eight Bottlenose dolphins is significant and likely unsustainable – particularly if this is from one region/subpopulation. Furthermore, given the poor history of data collection in this fishery we assume that interactions with marine mammals are underreported and therefore the NTBF is likely having a significant impact. The dugong was also recorded over multiple years with 10 interactions, half of these resulted in mortality. All marine mammal species have life histories that

render them highly vulnerable to population decline. Such declines are also difficult to detect given the mobility of these species and challenging behaviours that hamper detection.

### **Leatherback turtle**

Like many other threatened species, marine turtles are susceptible to entanglement in gill nets and their life history traits make them vulnerable to over-exploitation. The Leatherback turtle is listed as Endangered under the EPBC Act. It has been recorded on aerial survey off the NT coast though data on this species is limited. It is occasionally recorded foraging in the Gulf of Carpentaria, captured in the Northern Prawn Fishery and for many years nested regularly on the NT coast (although nesting hasn't been documented since 2011). Most leatherback turtles foraging in Australian waters are from the Western Pacific breeding stock and migrate to breed in neighbouring countries, particularly Papua New Guinea and the Solomon Islands. Leatherback nesting in eastern Australia hasn't occurred since 1996, they are reported as locally extinct. In the NT, annual nesting was recorded at Cobourg Peninsula up to 2011 and occasional nesting along the coast of Arnhem Land from Cobourg Peninsula to Maningrida, including Croker Island and the southern Gulf of Carpentaria. The area in which the NTBF operates overlaps with potential foraging and inter-nesting habitat for the Leatherback turtle. As the last known nesting place in Australia for the Leatherback turtle, serious consideration should be given to reducing any potential for interaction and mortality.

### **Dwarf sawfish**

Dwarf Sawfish are listed as Vulnerable under the EPBC Act and are considered severely depleted across much of its range. It has a restricted habitat range where it's limited to northern Australia from Cape York Peninsula, Queensland, to the northern Pilbara region of Western Australia (Kyne et al. 2013). Its range overlaps with the NTBF operational area where it inhabits shallow (20 m depth) coastal waters and estuarine habitats (Thorburn et al. 2007) and it has the highest interactions with the NTBF of any sawfish. Table 2 in the ERA shows a total of 1121 individuals from 2015 to 2019 caught with 1000 being released alive. The locations are not included which is problematic when determining impacts to subpopulations. A further complication is that the sawfish species are often misidentified and underreported which suggests that the stated data is likely an underestimation of mortality in the NTBF. It is likely that this species is being significantly impacted by the NTBF.

Our fundamental concerns regard the current operation of the NTBF and the likely significant impact it is having on Listed Threatened and Listed Migratory species, notwithstanding this, the NT government is seeking WTO accreditation without any immediate commitment to change practice to address the stated risks to TEPS.

## References

Griffiths, A.D., Groom, R.A, Low Choy, D., Mackarous, K. and Brooks, L. (2020). Darwin Region Coastal Dolphin Monitoring Program: Final Report – 2011 to 2019. Department of Environment, Parks and Water Security, Northern Territory Government

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Palmer, C., Brooks, L., Fegan, M. and Griffiths, A.D. (2017). Conservation Status of Coastal Dolphins in the Northern Territory: Final Report. Marine Ecosystems Group, Flora and Fauna Division, Department of Environment and Natural Resources. Darwin.

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