



Royal Zoological Society
of New South Wales

PO Box 20 Mosman NSW 2088
02 9978 4616
rzsnsw.org.au
office@rzsnsw.org.au
ABN 31 000 007 518

Director, Department of Agriculture, Water and the Environment,
Wildlife Trade Assessments Section
Re: Commonwealth Coral Sea Fishery – Sea Cucumber Fishery
GPO Box 858, Canberra ACT 2601

**RZS submission on the Queensland Department of Agriculture and Fisheries (DAF) application
for Wildlife Trade Operation (WTO) for the Queensland Sea Cucumber Fishery (East Coast)
(QSCF)**

7th September 2021

Dear Director,

The Royal Zoological Society of New South Wales (RZS NSW) welcomes the opportunity to provide a submission on the Queensland Department of Agriculture and Fisheries (DAF) application for Wildlife Trade Operation (WTO) accreditation for the Queensland Sea Cucumber Fishery (East Coast) (QSCF) subject to the conditions of approval under the *Environment Protection and Biodiversity Conservation Act 1999*. We focus on Part 13A conditions in respect to the CITES II listed species (Black Teatfish – BTF, *Holothuria whitmaei*; and White Teatfish - WTF *Holothuria fuscogilva*), as outlined by the Department in the Assessment of this fishery (1).

The RZS NSW is Australia's oldest and largest zoological society, including professional zoologists and ecologists and members of the broader community passionate about the conservation of Australasia's unique animals.

Executive Summary

RZS welcomes the assessment of the Queensland Sea Cucumber Fishery (East Coast) (QSCF) under the Environment Protection and Biodiversity Conservation Act (1999) (EPBC) because this fishery harvests CITES II listed teatfish species (*Holothuria whitmaei* (BTF) and *H. fuscogilva* (WTF) without a non-detriment finding (NDF). These two species have been of high conservation concern for many decades and their CITES listing formally establishes this. Australia has to confirm that this fishery of *Holothuria whitmaei* and *H. fuscogilva* is non-detrimental to their survival in order to be able to continue their export as a Wildlife Trade Operation (WTO). In their assessment the Department of Agriculture Water and the Environment (DAWE) note that despite guidance in the Performance Management System designed to manage the fishery, stock assessments have not been completed for any of the species harvested in the QSCF including the two CITES listed species (1). Environmental



impact assessments have also not been done. Although the Queensland Department of Agriculture and Fisheries (DAF) has made good progress in conducting biomass surveys for the BTF in Zone 2 of the Great Barrier Reef and identified options to survey the WTF (2), more information and modelling of stocks of these species is required to ensure that they can be harvested sustainably.

RZS NSW would like to make the following recommendations:

1. The fishery of *Holothuria whitmaei* and *H. fuscogilva* not be accredited as WTO, as these species are highly prone to fishery-driven local extinction and poor to no recovery even after decades.

If the Minister does accredit the BTF and WTF fishery for WTO, then RZS NSW strongly suggests that the fishing cycle for these species under the Rotational Zone Strategy be increased from a 3-year cycle to at least 6 years as already recommended by the Management Strategy Evaluation (3,4). We suggest that, given the very slow demographics of these two species, a 10-year cycle would be much more appropriate.

We also suggest that the minimum size limit of the WTF should be increased by 1 cm in length, to reduce the risks of collecting immature specimens and express concern that there is no current size limit for the BTF (2). We ask the Minister to address this gap in fishery management and require DAF make the information on the current BTF size limit publicly available.

The harvest of these species should be based on a specific habitat as these species differ in their densities along the length of the GBR.

RZS NSW further recommends that DAF limits the number of days allowed to fish in zones to 15 days, and rejects the recent increase to 18 days (2).

DAF should also urgently conduct surveys of biomass of BTF in the Zone 2 areas where fishing of virgin stock occurred after the re-opening of the BTF fishery in 2019, as stocks may have already been depleted. Finally, RZS NSW suggests that QSCF be approved as WTO for one year only with the proviso that robust and fishery-independent stock assessments of *Holothuria whitmaei* and *H. fuscogilva* in fished and green zones of the Great Barrier Reef be carried out and the results be made widely available.

2. For other species in the QSCF.

RZS NSW recommends that attention be focussed on the Burrowing Blackfish (*Actinopyga spinea*), which is the most harvested species with millions of individuals removed each year, and which is showing signs of depletion with concerns for the species and the environment (1,3).



Royal Zoological Society
of New South Wales

PO Box 20 Mosman NSW 2088
02 9978 4616
rzsnsw.org.au
office@rzsnsw.org.au
ABN 31 000 007 518

Surveys should be undertaken to ensure that this species, and the species being harvested that are listed by the International Union for the Conservation of Nature (IUCN), are managed in a precautionary way.

Over the 40 years that the QSCF has been operating on the Great Barrier Reef and in coastal waters there has been strong evidence of stock decline with fishery closures and an incremental decrease in the total allowable catch, indicating local depletion, including for two of the listed species *H. whitmaei* and *H. fuscogilva* (3,5). We also have concerns for other species in the fishery, many of which are listed as endangered by the IUCN. Declines in *H. whitmaei* which was largely harvested in the Northern GBR (Zone 1), prompted a fishery closure for this species in 1999 (3,5). After 20 years of closure, the BTF fishery was reopened in 2019. The BTF survey in the northern GBR indicated stocks had recovered (6) as might be expected from this long closure. However, renewed fishing of the BTF has focussed on virgin stock in the southern GBR, in the absence of a baseline stock assessment and despite the knowledge that this is a CITES listed species. Why DAF did not conduct stock assessment prior to reopening the fishery as per their own advice (PMS) is a question that needs to be answered.

It is established that the BTF has a very slow growth rate and potentially late maturity, with the age of most individuals estimated to be at least 10 years (7,8). They have a natural low mortality and intermittent to poor recruitment. Data suggest that many populations on the GBR have limited numbers of juveniles, making them vulnerable to overfishing and local extinction. It is very likely that the renewed fishing has already caused depletion of the BTF and it is urgent that DAF survey the areas fished in 2019, 2020, and ongoing, post-harvest to determine the remaining stock condition,

That the QSCF have not followed the 2008 PMS guidelines is of great concern considering that the fishery operates in the World Heritage Listed Great Barrier Reef. This is also counter to the Sustainable Fisheries Strategy listed as an action in the Reef 2050 Long Term Sustainability Plan, as part of commitments made to the UNESCO World Heritage Committee (9). In consideration of the GBR being under pressure from climate change, the removal of these animals (e.g., millions per annum of *Actinopyga spinea*) is likely to have had negative impacts, increasing the vulnerability of this important ecosystem (10).

Dr Pat Hutchings
President, Royal Zoological Society of NSW
president@rzsnsw.org.au
7th Sept 2021



- (1) DAWE. 2020. Assessment of the Queensland Sea Cucumber Fishery (East Coast). Department of Agriculture, Water and the Environment (DAWE). Commonwealth of Australia, September 2020. pp 58.
- (2) DAF (2021) Sustainable Fisheries Strategy 2017-2027. Queensland Sea Cucumber Fishery (East Coast): Status report for reassessment and approval under protected species and export provisions of the Environment Protection and Biodiversity Conservation Act 1999. Fisheries Queensland, Department of Agriculture and Fisheries.
- (3) Skewes T, Plagányi E, Murphy N, Pascual P, Fischer M. 2014. Evaluating rotational harvest strategies for sea cucumber fisheries. Page 176, CSIRO, Brisbane. Fisheries Research and Development Corporation, Canberra Project 2012/200
- (4) Plaganyi EE, Skewes T, Murphy N, Pascual R, Fischer M (2015) Crop rotations in the sea: Increasing returns and reducing risk of collapse in sea cucumber fisheries. P Natl Acad Sci USA 112:6760-6765
- (5) Eriksson H, Byrne M (2015) The sea cucumber fishery in Australia's Great Barrier Reef Marine Park follows global patterns of serial exploitation. Fish and Fisheries 16:329-341
- (6) Knuckey I, Koopman M (2016) Survey to estimate the biomass and recovery of Black teatfish (*Holothuria whitmaei*) in Zone 1 of the Queensland Sea Cucumber Fishery (East Coast). Fishwell Consulting
- (7) Benzie JAH, Uthicke S (2003) Stock size of bêche-de-mer, recruitment patterns and gene flow in Black Teatfish, and recovery of overfished Black Teatfish stocks in the Great Barrier Reef. Australian Institute of Marine Sciences. Fisheries Research and Development Corporation, Canberra Project 1998/133
- (8) Uthicke S, Benzie JAH (2002) A genetic fingerprint recapture technique for measuring growth in 'unmarkable' invertebrates: negative growth in commercially fished holothurians (*Holothuria nobilis*). Mar Ecol Prog Ser 241:221-226
- (9) DEE. 2015. Reef 2050 Long-Term Sustainability Plan. Department of the Environment and Energy, Australian Government. Commonwealth of Australia 2015. pp 111.
- (10) Purcell SW, Conand C, Uthicke S, Byrne M (2016a) Ecological roles of exploited sea cucumbers. Oceanography and Marine Biology: An Annual Review 54:367-386