

# NSW TOTAL ALLOWABLE FISHING COMMITTEE

## OCEAN TRAP AND LINE FISHERY

- BASS GROUPE

## DETERMINATION FOR THE 2021/22 FISHING PERIOD

9 March 2021

## Executive Summary

### Preamble

The New South Wales (NSW) Total Allowable Fishing Committee (TAFC) has statutory responsibilities set out in Part 2A of the *Fisheries Management Act 1994* (the Act) to determine the Total Allowable Commercial Catch (TACC) or Total Allowable Commercial Effort (TACE) by NSW fishers holding the relevant endorsement in some commercial fisheries. Various fishing regulations under the Act also contain provisions requiring the making of fishery determinations.

The TAFC is an independent statutory body established under Schedule 2 of the Act. In making a determination on catch or effort in a commercial fishery, the TAFC must consider the ecological, economic and social issues associated with each fishery and make determinations that 'on balance' pursue the objectives of the Act.

The TAFC is not subject to the control or direction of the Minister as to any determination made. However, the Minister may direct the TAFC on the procedures to be followed and the matters to be taken into account in making a fishing determination.

This determination is for Bass Grouper in the Ocean Trap and Line Fishery for the period 1 May 2021 to 30 April 2022.

### Management recommendations & supporting actions

The TAFC provides the following recommendations to the Minister, NSW Fisheries and the fishing industry towards improving the management of the fishery:

1. Collect shot-by-shot, fine spatial scale (latitude and longitude) catch and effort information for Bass Grouper suitable for generating reliable CPUE indices, to detect changes in catch rates.
2. Collect length-frequency composition of Bass Grouper landed and discarded catch, suitable to detect a change in mean size of fish caught and particularly any substantial decline in the proportion of fish larger than the 50% size at maturity.

### Determination

The Total Allowable Fishing Committee, pursuant to Part 2A of the *Fisheries Management Act 1994*, determines that the commercial catch of Bass Grouper in the NSW Ocean Trap and Line Fishery should be controlled and allocated through the following measure:

1. A TACC of **6.1 tonnes** during the fishing period 1 May 2021 to 30 April 2022.

## Introduction

The NSW Ocean Trap and Line Fishery (OTL Fishery) is a share managed, multi-method, multi-species fishery. The OTL Fishery is described in Schedule 1 of the *Fisheries Management Act 1994* (the Act) as:

- a) the use of a fish trap to take fish from ocean waters;
- b) the use of a line with hooks attached to take fish from ocean waters; and
- c) the use of a spanner crab net to take spanner crabs from ocean waters that are north of a line drawn due east from Korogoro Point (Hat Head).

The overall area of the OTL Fishery extends from the NSW coastal baseline seaward to the 4000-metre depth contour, approximately 60 to 80 nautical miles offshore. The line fishing eastern zone sector of the OTL Fishery occurs in waters that are east of the 183 metre (100 fathoms) depth contour.

Quota management has been implemented in the OTL Fishery - Line Fishing Eastern Zone (OTL-LE). The OTL-LE Fishery is a multi-species fishery with six species that are quota managed as of 1 May 2019. Three of the species have been assessed as sustainable from both NSW and Commonwealth stock assessments (Blue-Eye Trevalla, Pink Ling and Bigeye Ocean Perch). Bass Grouper has not been assessed and Hapuku is classified as undefined. Gemfish is listed as depleted.

Access to the OTL-LE Fishery is limited to those shareholders, or their authorised fishers who hold sufficient access shares to satisfy the minimum shareholding levels established for the OTL-LE share class in the *Fisheries Management (Ocean Trap and Line Share Management Plan) Regulation 2006*. Minimum shareholdings are used to determine if a shareholder (or authorised fisher) is eligible for an endorsement authorising a particular commercial fishing activity in respect of that share class. The current number of shareholders in the OTL-LE Fishery is 64.

Bass Grouper is currently a byproduct of targeted fishing for Blue-Eye Trevalla, with minimal, if any, targeted fishing undertaken.

The TAFC met with a number of shareholders and a representative of the NSW Professional Fishermen's Association in Coffs Harbour on 8 February 2021 to discuss Bass Grouper biology, catch and associated management issues.

## Biological considerations

Bass Grouper (*Polyprion americanus*) is one of the wreckfishes, so named because they are resident in deep water caves and wrecks as adults. All wreckfish species attain large size, are slow growing and late maturing. Bass Grouper can reach 1.5 metres in length and 55 years (females) to 78 years (males) of age. Fifty percent maturity occurs at 11 – 14 years of age, or 81 cm – 94 cm in length<sup>1</sup>. The longevity, slow growth and late maturation of Bass Grouper make this species highly vulnerable to overfishing at low levels of exploitation and stocks have been overfished in many parts of the world. As a consequence, Bass Grouper was red-

---

<sup>1</sup> Wakefield CB, SJ Newman and DK Boddington (2013) Exceptional longevity, slow growth and late maturation infer high inherent vulnerability to exploitation for bass grouper *Polyprion americanus* (Teleostei: Polyprionidae). *Aquat Biol*, 18: 161–174 (doi: 10.3354/ab00501)

listed in 2003 as being Critically Endangered by the International Union for the Conservation of Nature (IUCN).

The NSW commercial catch of Bass Grouper is taken together with Hapuku (*Polyprion oxygeneios*) in the Ocean Trap and Line fishery - Line Eastern Zone, as a byproduct of the fishery targeting Blue-eye Trevalla (*Hyperoglyphe antarctica*). Historically, commercial catches of Bass Grouper have been correlated with fishing effort targeting Blue-Eye Trevalla and since the introduction of TACCs, limited by the availability to fishers of Blue-Eye Trevalla quota. Available information on Bass Grouper is limited to commercially reported landed catch data and some information on recreational catches. Landed catches of Bass Grouper peaked at 10 tonnes in 2004 and were fairly stable between 4 - 6 tonnes over the period 2009-10 to 2018-19, decreasing to 2.1 tonnes in 2019-20, well below the current TACC of 6.1 tonnes<sup>2</sup>. The recreational fishery is thought to take a similar catch to the commercial fishery.

Due to the low and sporadic catches of Bass Grouper, CPUE data are not considered to be a reliable indicator of abundance for the stock/s. Young fish appear to move between benthic features, but adults appear to remain resident in specific areas, possibly constituting multiple sub-stocks, potentially susceptible to localised depletion. However, stock structure is unknown. There is no stock assessment available for Bass Grouper off the NSW coast and the status of the stock is also unknown.

In the absence of a stock assessment, or any reliable index of stock abundance, there is no scientific basis on which to recommend a sustainable total allowable commercial catch for Bass Grouper. However, current catches are below the TACC of 6.1 tonnes and the TACC itself is low compared to catches of this species in fisheries elsewhere in the world.

Given the known risk of this species to overfishing and localised depletion, any increase in the TACC should be informed by indicators that can measure a change in abundance. In the absence of such an indicator/s it is recommended that the TACC be retained at its current level.

## **Recommendations**

Monitoring for the purposes of management of Bass Grouper should move towards the use of indicators that can measure fishery performance.

Key indicators and performance measures to be implemented for Bass Grouper should be:

- Shot-by-shot, fine spatial scale (latitude and longitude) catch and effort information suitable for generating reliable CPUE indices to measure changes in catch rates.
- Length-frequency composition of landed and discarded catch, suitable to measure a change in mean size of fish caught and particularly any substantial decline in the proportion of fish larger than the 50% size at maturity.

When using the performance measures of catch rates and mean size, associated triggers should be set to identify when a performance measure departs from an

---

<sup>2</sup> NSW DPI (2021) Ocean Trap and Line- Line East Fishery Management Report Total Allowable Catch Determination 2021/2022 Bass Grouper (*Polyprion americanus*)

acceptable range. If this occurs, then changes to the current management of the fishery may be required.

### Economic considerations

Bass Grouper is one of six quota species harvested in the OTL Fishery. It is primarily caught as bycatch where the target species is generally Blue-Eye Trevalla. In multi-species, mixed-catch fisheries such interactions can add complexity to the setting of TACCs. For example, a reduction in the TACC for a low value species that is taken as bycatch could result in limiting total fishing activity and thereby reducing total fishery revenues.

The gross value of production (GVP) of Bass Grouper is low; an estimated \$40,000 in 2019/20, which was around 5 per cent of aggregate GVP of quota species in the OTL Fishery. Over the past 10 years, it has averaged around \$50,000 per annum, peaking at just under \$100,000 (10 per cent of the total for quota species) in 2017/18. Added to low GVP, the quota in 2019/20 was significantly under-caught (2.1t of the 6.1t TACC), with catch at its lowest level over the past 10 years. Therefore, the current TACC is not limiting overall activity in the OTLF fishery.

As noted elsewhere in this report, there is no scientific basis on which to recommend a specific sustainable TACC for Bass Grouper. There is no apparent sustainability benefit from lowering the current TACC and, therefore, there would also be no associated economic benefits from such a change. Potentially there could be an economic cost, if the TACC were reduced to a level so low as to constrain the catch of the target species (Blue-Eye Trevalla). For these reasons, it makes economic sense to retain the TACC at its current level.

### Fishery management considerations

The regulatory scheme applying to Bass Grouper along with current management issues and recent data can be found in the *Ocean Trap and Line – Line East Fishery Management Report TAC Determinations 2021-2022* (NSW DPI, 2021).

Bass Grouper is currently caught as a byproduct when fishing for Blue-Eye Trevalla and Hapuku, but the TAFC has been asked to determine the Bass Grouper TACC only, due to the lack of a formal assessment for this species.

As noted above, there is little information on potential sustainability indicators for the Bass Grouper stock, noting that the TACC is low at 6.1 tonnes. With the low TACC not being caught, mainly due to a declining Blue-Eye Trevalla TACC and catches, it is very unlikely that the current Bass Grouper catch is having a significant impact on the stock(s).

However, there is a lack of information on which to determine the TACC in future. This is an important issue, given experience overseas that this species can become overfished when targeted, due to its biology (long lived with localised populations). The collection of industry-based length-frequency information and fine-scale, shot by shot, catch and effort data would help to manage this future risk (see recommendations).

## Determination

The Total Allowable Fishing Committee, pursuant to Part 2A of the *Fisheries Management Act 1994*, determines that the commercial catch of Bass Grouper in the Ocean Trap and Line Fishery should be controlled and allocated through the following measure:

1. A TACC of 6.1 tonnes during the fishing period 1 May 2021 to 30 April 2022.

<b>Species</b>	<b>Catch Limit 2021/22 (tonnes)</b>
Bass Grouper	6.1

Signed (for and on behalf of the TAFC)



William Zacharin  
**Chair, TAFC**

9 March 2021