

NSW TOTAL ALLOWABLE FISHING COMMITTEE

OCEAN TRAWL FISHERY

- SILVER TREVALLY

DETERMINATION FOR THE 2021/22 FISHING PERIOD

19 April 2021

Executive Summary

Preamble

The New South Wales (NSW) Total Allowable Fishing Committee (T AFC) 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 T AFC 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 T AFC 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 T AFC is not subject to the control or direction of the Minister as to any determination made. However, the Minister may direct the T AFC on the procedures to be followed and the matters to be taken into account in making a fishing determination.

This determination is for Silver Trevally in the Ocean Trawl Fishery for the period 1 May 2021 to 30 April 2022.

Management recommendations & supporting actions

The T AFC provides the following recommendations to the Minister, NSW Fisheries and the fishing industry towards improving the management of Silver Trevally:

1. NSW Fisheries should take immediate action in all its fisheries and fishing sectors that harvest Silver Trevally to reduce fishing mortality to support stock recovery. Furthermore, NSW needs to work closely with other jurisdictions to immediately reduce Silver Trevally catches, particularly in the Commonwealth fishery.
2. Given the increase in discards and the decrease in the mean size and proportion of mature fish in Silver Trevally landed catches, options should be explored to obtain length-frequency composition information for retained and discarded fish, perhaps by means of a cooperative industry sampling program, to monitor any stock recovery.

Determination

The Total Allowable Fishing Committee, pursuant to Part 2A of the *Fisheries Management Act 1994*, determines that the commercial catch of Silver Trevally in the NSW Ocean Trawl Fishery should be controlled and allocated through the following measures:

1. A TACC for Silver Trevally during the period 1 May 2021 to 30 April 2022 of **20 tonnes**.

Introduction

The NSW Ocean Trawl Fishery (OT Fishery) is a share management, multi-method, multispecies fishery with a gross value of production of around \$26 million for 2019/20 (McKinnon 2021). The OT Fishery is described in Schedule 1 of the *Fisheries Management Act 1994* (the FM Act) as:

- a) the use of an otter trawl net (prawns) to take fish from any of the following waters:
 - (i) inshore waters (not more than 3 nautical miles from the natural coast line),
 - (ii) offshore waters (more than 3 nautical miles from natural coast line) and north of a line drawn due east from Barrenjoey Headland,
 - (iii) the waters of Coffs Harbour;
- b) the use of an otter trawl net (fish) to take fish from ocean waters (east of the natural coast line) that are north of a line drawn due east from Barrenjoey Headland and south of a line drawn due east from Smoky Cape (other than any waters in which use of an otter trawl net (fish) is prohibited under the regulations); and
- c) the use of a danish seine trawl net (fish) to take fish from ocean waters that are north of a line drawn due east from Barrenjoey Headland.

North of Barrenjoey Headland (Sydney) the OT Fishery extends to the 4,000-metre depth contour, approximately 60 to 80 nautical miles offshore. South of Barrenjoey Headland the OT Fishery extends seaward to three nautical miles offshore. The OT Fishery is subject to many spatial and temporal closures within these waters. Schedule 2 of the *Fisheries Management (Ocean Trawl Share Management Plan) Regulation 2006* details waters closed to ocean trawling.

The OT Fishery is a share managed fishery. Access to the OT Fishery is limited to shareholders, or their nominated fishers, who hold sufficient shares to satisfy the minimum shareholding levels established for each share class in the Plan. Minimum shareholdings apply to all 'access' share classes in the OT Fishery and are used to determine if a shareholder (or their nominated fisher) is eligible for an endorsement authorising a particular commercial fishing activity in respect of that share class. A summary of the 'access' share classes and associated minimum shareholding is provided in Table 1.

Table 1: Minimum shareholdings and numbers of endorsements (Jan 2021)

Access share class	Minimum shareholding	No. of endorsements
OT – inshore prawn	50	109
OT – offshore prawn	50	99
OT – deepwater prawn	25	15
OT – fish northern zone	50	28

McKinnon, F (2021) *Ocean Trawl Fishery Management Report – Total Allowable Catch Determinations 2021/22*.

The total number of fishing businesses in NSW with one or more endorsements in the OT Fishery is 251.

The T AFC was directed to make a determination in relation to four of the finfish species taken in this fishery – Trawl Whiting (Eastern School Whiting and Stout Whiting), Bluespotted Flathead and Silver Trevally. A meeting was held with industry shareholders and a representative of the NSW Professional Fishermen’s Association in Coffs Harbour on 8 February 2021. A number of industry submissions on the fishery were received prior to the meeting. The T AFC also meet with scientists and managers from NSW Fisheries to gain additional information on the stock assessment and management issues.

The Minister has accepted the recommendations of the T AFC in relation to Trawl Whiting and Bluespotted Flathead. However, the Minister has requested that the T AFC review its determination in relation to Silver Trevally.

This Determination replaces the Determination for Silver Trevally dated 9 March 2021.

Biological considerations

Silver Trevally (*Pseudocaranx georgianus*) are relatively long-lived and slow growing, attaining a maximum age in excess of 25 years, although maturing at a relatively early age of 2 – 4 years at 18 – 24 cm fork length¹. Stock structure is poorly understood, but adults have been found to have restricted post-settlement movement. For assessment and management purposes, Silver Trevally in NSW waters are considered to constitute a single stock for management purposes and it is likely that the stock is shared at least with the Commonwealth fishery adjacent to NSW.

Catches

Estimated total annual Silver Trevally catches in all NSW fishing sectors (Ocean Trawl, Ocean Trap and Line, Estuary General, Ocean Hauling and Recreational) have declined steadily from more than 1,000 tonnes per year over 1984 – 1990, to 450 tonnes in 1998, to less than 50 tonnes per year over 2019 – 2020². OT Fishery catches declined rapidly from more than 200 tonnes in 2007 to 7.6 tonnes in 2020. The decline in catch was in part due to the introduction of a 30 cm total legal minimum length (LML). It is estimated that the northern OTF is currently discarding 37% of the total Silver Trevally catch by weight (65% by number), largely due to them being under the LML. There is a moderate recreational catch of Silver Trevally, with survey results indicating a recreational catch proportion of 11% - 23% of the total NSW catch.

Of further concern, the estimated proportion of fish in commercial catches larger than 30 cm fork length has decreased from around 70% in 1993 and 1994 (onboard observers), to 40% in 1997 (onboard observers), 14% in 2008 (fish market sampling) and only 6% in 2019 (fish market sampling) (A. Fowler DPI *pers comm*). There are

¹ Rowling, K. R., & Raines, L. P. 2000. Description of the biology and an assessment of the fishery for silver trevally *Pseudocaranx dentex* off New South Wales. NSW Fisheries Research Institute, Cronulla, 70 p.

² Fowler, A.M. and Chick, R. C. 2020. Stock assessment report 2020/21 – Ocean Trawl Fishery – Silver Trevally (*Pseudocaranx georgianus*). NSW Department of Primary Industries - Fisheries: 46 pp.

now few large mature Silver Trevally in the OTF commercial landed catches, indicating significant overfishing of the adult stock.

Catch rates and stock status

Standardised CPUE catch rates for the OTF have declined rapidly since about 2010, now being less than 25% of the long-term average. Various optimised catch-only models estimate the Silver Trevally stock to be between 0.18 and 0.30 of a B_{MSY} target, well below what would be a recommended 0.50 B_{MSY} limit. The most recent CPUE assessment for the Commonwealth fishery estimates the portion of the Silver Trevally stock fished by the Commonwealth has declined rapidly from the CPUE target level in 2017 to below half the target level (corresponding to being below a 0.20 B_0 (B_{LIM} proxy)) in 2019³. All available indicators and assessment results indicate this stock to be depleted below a biologically safe limit.

Recommendation:

- Given the increase in discards and the decrease in the mean size and proportion of mature fish in landed catches, options should be explored to obtain length-frequency composition information for retained and discarded fish, perhaps by means of a cooperative industry sampling program.

Economic considerations

A summary of the available economic trend data is provided in Table 2. Summary data are reported for four 5-year time periods, covering the twenty years to 2019/20.

Table2: Summary economic data – Silver Trevally, 2000/01 – 2019/20

Years	Silver Trevally		
	Catch (t/an)	Price (real) (\$/kg)	GVP (real) (\$'000/an)
2000/01 - 2004/05	88	4.11	360
2005/06 - 2009/10	48	5.92	261
2010/11 - 2014/15	27	6.99	191
2015/16 - 2019/20	19	8.81	159

Source: Appendix 1

Trends in the key indicators are as follows:

- Annual average catch of Silver Trevally was less than one-quarter in the five years ending 2019/20 compared to the five years ending 2004/05, falling from 88 t/yr to 19 t/yr.
- The decline is even more marked in recent years with catches of approximately 8 tonnes in 2018/19 and 5 tonnes in 2019/20. The year to date (1 May 2020 to 1 March 2021) catch is around 1 tonne.
- The real price over the past 20 years has more than doubled from \$4.11/kg to \$8.81/kg and was above \$9/kg in each of the last two years.

³ Sporcic M (2020) Draft Tier 4 Assessments for selected SESSF species (data to 2019). CSIRO report to AFMA for the SERAG Meeting, 9-10 December 2020.

- Reflecting the above trends in catch and price, average annual GVP experienced a fall of more than 50 per cent over the past 20 years (\$0.36m/yr to \$0.16m/yr). In 2019/20, GVP was just \$42,000.

As noted elsewhere in this report, all available indicators and assessment results suggest the Silver Trevally stock is severely depleted. The current economic contribution of Silver Trevally to the OTF is negligible. The long-term economic performance of the fishery will be enhanced if immediate action is taken to allow the stock to recover.

While there is a clear need for the TACC to be reduced, significant or abrupt changes to the TACC may cause tangible financial impacts for operators, particularly in the short term. Changes in fishery management arrangements, such as large annual fluctuations in a TACC, can be a cause of frustration, stress and uncertainty for many operators⁴. These types of impacts may be especially acute depending on an individual's current debt level, pending investment decisions and overall business financial performance. To mitigate these potential short-term socio-economic impacts, a reduction in the TACC over two or three years is the preferred approach.

Fishery management considerations

The Silver Trevally stock is estimated to be around 10% of initial biomass, which is well below the commonly used limit reference point for most fisheries (20% of initial biomass). Silver Trevally are taken in several NSW commercial fisheries (OTF, Estuary General, Ocean Trap & Line and SFT) and there is a significant charter fishing and recreational catch component. For the OTF and other commercial fisheries reported catches have been in decline for many years (see science section of this report for more details). Further, the OTF TACC has not been caught in recent years and discarding is estimated to be around 90%, driven by the 30cm legal minimum length and proportionally fewer fish above the minimum size. The Silver Trevally stock is severely depleted and immediate action needs to be taken to allow the stock to recover to above the limit reference point. This will likely take between 5 and 10 years, if total fishing mortality can be restricted to a low level.

While the need to reduce the TACC is clear, as noted in the economics section of this determination, this may be done over a period two or three years to provide time for industry adjustment. However, any TACC reduction for the OTF only is of limited effect, given the catch from this fishery makes up only a small proportion of total fishing mortality from all NSW sources (commercial, charter and recreational). Urgent action to reduce fishing mortality need to be taken for all NSW fisheries, if stock recovery is to occur. Furthermore, the Commonwealth takes significant

⁴ Schirmer, J., Yabsley, B. and Clayton H. (2017), *Commercial Fisheries Business Adjustment Program: Social and Economic Impact Monitoring Framework*, report to the NSW Department of Primary Industries. Health Research Institute, University of Canberra, July.

quantities of Silver Trevally and that jurisdiction should be encouraged to reduce its catch to lower levels to support stock recovery.

Recommendation:

- NSW Fisheries should take immediate action in all its fisheries and fishing sectors that harvest Silver Trevally to reduce fishing mortality to support stock recovery. Furthermore, NSW needs to work closely with other jurisdictions to immediately reduce Silver Trevally catches, particularly in the Commonwealth fishery.

Summary

Taking into account the biological, economic and social issues, the current 26 tonne TACC for Silver Trevally will be reduced to 20 tonnes in 2021/22. Furthermore, based on current evidence, reductions in the TACC are likely in future years, but this will be subject to any new scientific and other advice that may come before the TAFC prior to making a determination for 2022-23.

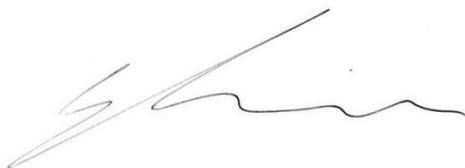
Determination

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1. A TACC for Silver Trevally during the period 1 May 2021 to 30 April 2022 of **20 tonnes**.

Species	Catch Limit 2021/22 (tonnes)
Silver Trevally (<i>Pseudocaranx georgianus</i>)	20

Signed (for and on behalf of the TAFC)



William Zacharin
Chair, TAFC

19 April 2021