

Chapter 15

South Tasman Rise Trawl Fishery

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FIGURE 15.1 Area of the South Tasman Rise Trawl Fishery

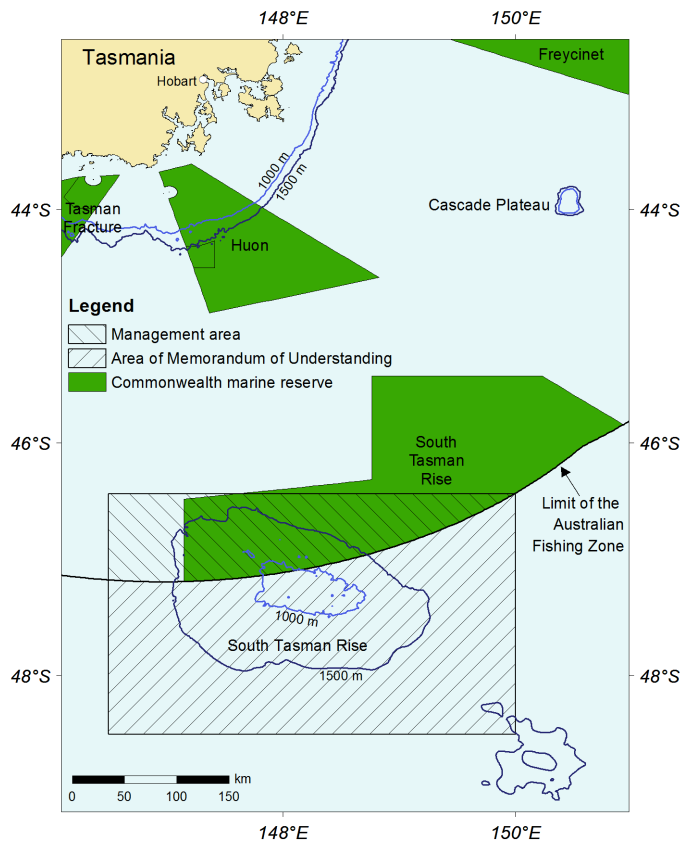


TABLE 15.1 Status of the South Tasman Rise Trawl Fishery

Status	2011		2012		Comments
Biological status	Fishing mortality	Biomass	Fishing mortality	Biomass	
Orange roughy (<i>Hoplostethus atlanticus</i>)					Fishery closed since 2007 due to stock depletion
Economic status	Fishery closed				

Fishing mortality

Not subject to overfishing

Subject to overfishing

Uncertain

Biomass

Not overfished

Overfished

Uncertain

15.1 Description of the fishery

The South Tasman Rise (STR) is an undersea ridge that extends south of Tasmania and into the Southern Ocean, stretching beyond the Australian Fishing Zone (AFZ) and into the high seas (Figure 15.1). The part of the STR outside the AFZ forms part of Australia’s extended continental-shelf jurisdiction, recognised in 2008 under the United Nations Convention on the Law of the Sea (UNCLOS). Australia was granted coastal state rights to manage the STR orange roughy resource as a straddling stock under the Agreement for the Implementation of the Provisions of UNCLOS relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.¹ Under this agreement, other countries are entitled to access the high-seas portion of the stock, provided that a cooperative management regime with consistent measures for both portions of the stock (inside and outside the Exclusive Economic Zone) is established. Australia and New Zealand established a memorandum of understanding, compatible with this requirement, for cooperative management of the stock in 1998.

Australian catches from the South Tasman Rise Trawl Fishery (STRTF) peaked in 1998–99, with orange roughy being the major component of the catch. Following indications of depletion of the orange roughy stock in the 2002 stock assessment and limited fishing for several subsequent years, the STR was closed in 2007 to Australian fishing both inside and outside the AFZ. This was part of the orange roughy stock management arrangement between Australia and New Zealand under which it was agreed that there would be no fishing for orange roughy in 2007–08 and thereafter. This decision was upheld for the 2011–12 fishing season, for which no permits were issued for the fishery.

In the latter years of STRTF activity, very little orange roughy was caught; the catch consisted mostly of smooth oreodory (*Pseudocyttus maculatus*) and spikey oreodory (*Neocyttus rhomboidalis*). There has been no formal stock assessment of oreodories in the STRTF. However, trends in catch and catch rates for these species before the fishery was closed indicated that stocks had been fished down. If fishing in the STRTF resumes, management arrangements for oreodories should be considered as part of the development of a revised harvest strategy, to ensure that these species are not overexploited.

1 www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm

Resumption of fishing will require agreement between Australia and New Zealand on issues such as an appropriate total allowable catch (TAC) and a new harvest strategy. The historical catch and gross value of production are shown in Figures 15.2 and 15.3, respectively.

FIGURE 15.2 Australian orange roughy catch, 1997–98 to 2011–12

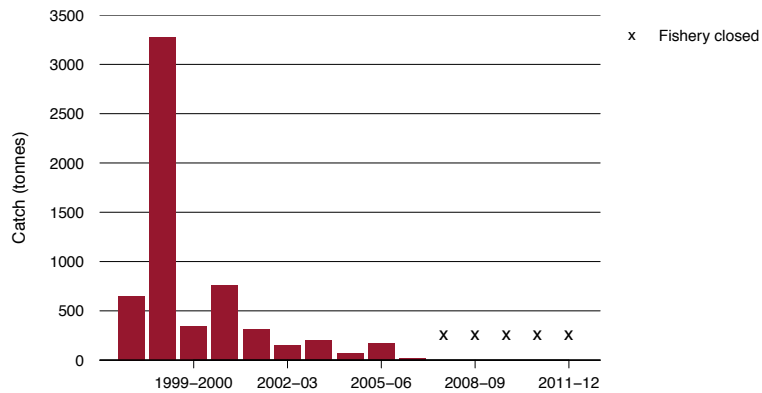


FIGURE 15.3 Real GVP of the STRTF, 1997–98 to 2011–12

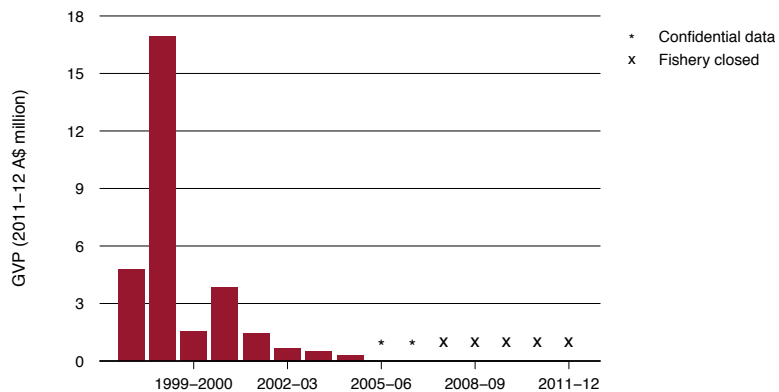


TABLE 15.2 Main features and statistics for the STRTF

Fishery statistics a		2010–11 fishing season		2011–12 fishing season		
Stock	TAC	Catch (t)	Real value (2010–11)	TAC	Catch (t)	Real value (2011–12)
Orange roughy	–	0	–	–	0	–
Fishery-level statistics						
Fishing methods	Demersal trawl					
Primary landing ports	–					
Management methods	Fishery currently closed; previously, a limited-entry ‘international’ fishery managed with New Zealand under a memorandum of understanding, with a competitive TAC					
Primary markets	International: previously United States–frozen					
Management plan	No formal plan of management					

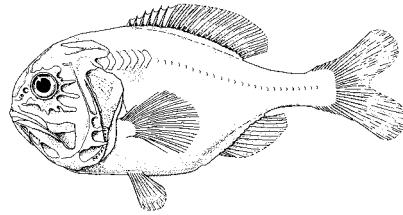
a Fishery statistics are provided by fishing season, unless otherwise indicated. The fishery has been closed since 2007; previously, the fishing season was 1 March to 28 February. Real value statistics provided by financial year.
Notes: **TAC** Total allowable catch. – Not applicable.



Back deck of a trawler
Mike Gerner, AFMA

15.2 Biological status

15.2.1 Orange roughy



Line drawing: Rosalind Poole

Stock assessment

The only assessment of orange roughy stocks within the STRTF used catches and catch rates to conduct a standardised catch-per-tow analysis, as well as examining acoustic data collected during the winter spawning seasons of 1998 to 2002 (Wayte et al. 2003). Annual reported catches in this fishery quickly declined after the first couple of years. Standardised catch-per-tow analysis (Wayte et al. 2003) indicated that catch rates declined by 92 per cent over the period 1997–98 to 2002–03. Anecdotal information suggests that illegal catches in 1999 may have been substantially higher than documented. These substantial reductions in catch and catch rate over a period when the cumulative total reported catch was 11 341 t indicate that the initial stock biomass was not large and that it had been considerably reduced by 2002–03 (Wayte et al. 2003).

No real recovery was evident after this, and estimated relative abundance in 2002–03 was only 8 per cent of abundance in 1997–98 (Wayte et al. 2003). No significant acoustic marks, indicative of spawning aggregations, were seen during industry surveys in 2000, 2001 or 2002. Although orange roughy may not form spawning aggregations in the same location every year, the absence of aggregations for several consecutive years is cause for concern. The assessment concluded that there was little doubt that the stock size, or the availability of the fish to the fishery, had decreased dramatically after the first couple of years of the fishery, and had not shown signs of recovery. There have been no surveys of the fishery since 2002.

Stock status determination

The assessment indicates that the stock biomass has been substantially overfished. From 2001 to 2006, when fishing was occurring, less than 10 per cent of the TAC was landed. In addition, the life history characteristics of orange roughy will make the recovery of the stock after overfishing a very slow process—in the order of decades, given the estimated level of depletion. There has also been no evidence of any stock recovery (noting that the fishery has not been surveyed since 2002). As a result, this stock is classified as **overfished**. Since the fishery is closed, the stock is classified as **not subject to overfishing**.

15.3 Economic status

Since the stock is assessed as overfished, it is also below the level associated with maximum economic yield. Australia and New Zealand agreed that there would be no fishing in 2007–08 and indefinitely thereafter. As the fishery is closed, economic status has not been assessed.

15.4 Environmental status

The STRTF is included as a high-seas fishery under the List of Exempt Native Specimens until 24 May 2013. Since the STRTF has been closed since 2007, no ecological risk assessment has been conducted.

The South Tasman Rise Commonwealth Marine Reserve, which came into effect in 2007, intersects the STRTF (Figure 15.1). This marine reserve covers 27 704 km², including several seamounts. Commercial fishing is not permitted in the marine reserve. There are also several other marine reserves in the vicinity of the STRTF (Figure 15.1).

15.5 Literature cited

Wayte, S, Bax, N, Clark, M & Tilzey, R 2003, 'Analysis of orange roughy catches on the South Tasman Rise 1997–2002', paper for the Orange Roughy Assessment Group, CSIRO, Hobart.