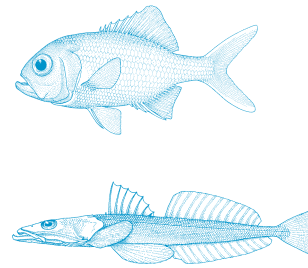
Great Australian Bight Trawl Fishery



CURRENT STATUS

All species—including the target species (Bight redfish, deepwater flathead and orange roughy)—**uncertain**.

MANAGEMENT TARGETS

Management seeks to maintain Bight redfish and deepwater flathead catch rates above their lowest annual average rate between 1988 and 1994.
The fishery is regulated by limiting entry, but only 4–6 of the 10 licensed vessels have fished consistently.
Significant latent effort therefore exists, as does the potential for shelf catches to reach an unsustainable level.
Total Allowable Catches (TACs) now apply to Southern Shark Fishery (SSF) quota species taken as bycatch.

TOTAL CATCH (2002)

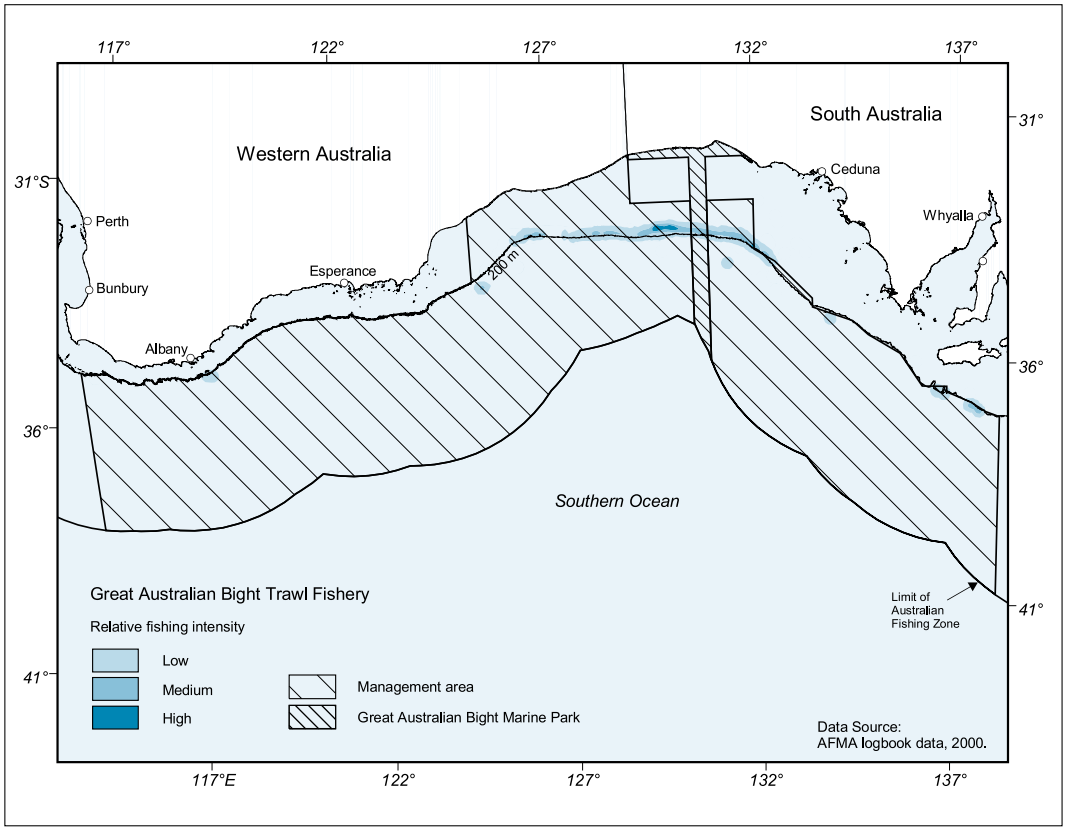
2002: 2533 t; valued at A$6.4m
Target species (2002)
Deepwater flathead 1189 t
Bight redfish 253 t
Orange roughy 239 t

BYPRODUCT (2002)

About 30 species are landed regularly. The catches of 6 exceed 55 t:
Chinaman leatherjacket 220 t
Angel shark 111 t
Yellow-spotted boarfish 77 t
Jackass morwong 62 t
Western gemfish 60 t
Arrow squid 57 t

ENVIRONMENTAL ISSUES

Demersal trawling is banned in the Great Australian Bight Marine Park, an area that includes a 20 n.mile strip extending out to the boundary of Australia's Exclusive Economic Zone.
About 40% of the catch is discarded; discards include significant quantities of fish with potential commercial value (for example, latchet).
Very few juvenile redfish and flathead are discarded.



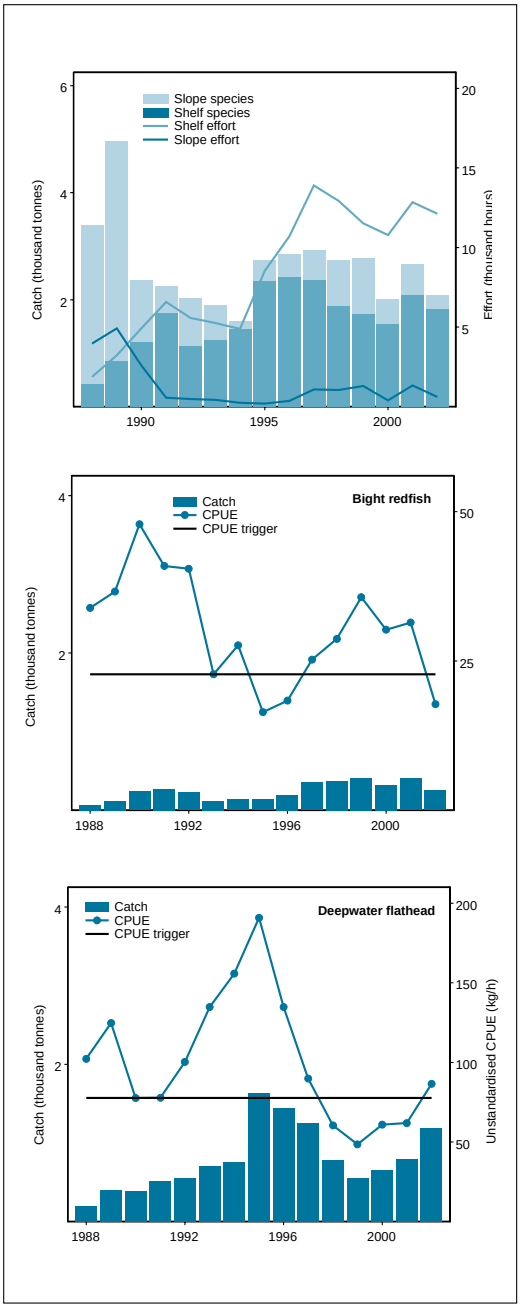
EFFORT

Entry to the fishery is restricted to 10 vessels. Trawling is largely confined to a narrow strip across the Bight, mostly at depths of 120–160 m. Sporadic targeting of orange roughy on deeper seamounts occurs in winter. Annual trawl effort (hours bottom-time) on the shelf more than doubled from 1994 to 1997 (13 902 h). It then dropped, subsequently rose in 2001 to 12 805 h, and then declined slightly in 2002 to 12 121 h. Slope effort, which is largely driven by orange roughy availability, has been much less than shelf effort: since 1991 it has ranged from 245 h (1994) to 1336 h (2001), but was comparatively low (615 h) in 2002.

In recent years only 4 to 6 of the 10 licensed vessels have fished shelf waters consistently; hence, there is significant latent effort. Two freezer-trawlers that entered shelf waters in 2003 are likely to increase effort significantly because of their longer fishing trips. Vessels over 40 m are generally excluded from demersal trawling inside the 400 m isobath, but one 40.42 m vessel has permission to operate there in 2003.

CATCH

The introduction in 2002 of individual transferable quotas for SSF species means that all Great Australian Bight Trawl Fishery (GABTF) landings are now monitored at unloading ports. Pre-2002 catch totals were derived only from logbooks. When the 2002 logbook data and unloading data were compared, the logbook total (2080 t) was found to be 18% less than the unloading port total (2533 t). For deepwater flathead, Bight redfish and orange roughy, the logbooks understated catches by 12%, 15% and 9%, respectively. Although the unloading total in 2002 (2533 t) was only 4% less than the logbook-recorded total for 2001 (2650 t), the actual difference would be greater.



In 2002, deepwater flathead landings (1189 t) exceeded 1000 t for the first time since 1997, but Bight redfish landings fell to 253 t, the lowest total since 1996. Orange roughy landings (239 t) were 36% smaller than in 2001 (375 t). Other commercial landings in 2002 included 220 t of Chinaman leatherjacket, 111 t of angel shark, 77 t of yellow-spotted boarfish, 62 t of jackass morwong, 60 t of western gemfish and 57 t of arrow squid.

MANAGEMENT REFERENCE POINTS

Between 1988 and 2001, the annual average catch rates of deepwater flathead were below, and of Bight redfish were above, their respective reference points. In 2002, the pattern reversed, with the Bight redfish rate below, and flathead rate above, their reference points. Flathead rates have increased since 1999, whereas redfish rates have fallen. Industry reported no significant change in targeting practices, so the difference in catchabilities was probably environmentally driven.

Landings of school shark—an SSF quota species—in 2002 (0.7 t) were within the TAC of 1.0 t apportioned to the fishery. However, landings of gummy shark (23.2 t) and saw shark (28.5 t) exceeded their respective TACs (16.0 t and 26.2 t), with additional quota having to be leased from other sectors.

ENVIRONMENTAL ISSUES

An onboard monitoring program found that about 40% by weight of the overall shelf catch was discarded; the main species were latchet, stingarees and undersized leatherjacket. Benthic organisms such as sponges were a significant bycatch when vessels explored unfished grounds. In contrast to the situation in the South East Fishery, very few flathead and redfish juveniles were caught and subsequently discarded, probably because the demersal trawlers seldom worked waters shallower than 100 m—the probable nursery area for these species in the Bight. Most such waters are excluded by the inner boundary of the fishery.

Interactions with marine mammals are rare, and the monitoring program has not recorded any seal bycatch. A draft Bycatch Action Plan

has been produced for the fishery. If midwater trawling eventuates, the bycatch should be closely monitored to ensure that neither commercial juveniles nor wildlife are adversely impacted by the use of a codend mesh size of only 40 mm (needed to catch small pelagic species such as mackerel and redbait). The trophic implications of harvesting small pelagics should also be considered. Following the 1998 declaration of the Great Australian Bight Marine Park, some trawling continued in the park's 20 n.mile-wide extension out to the EEZ boundary. However, no shots in this area were recorded in 2002.

Redfish

The coastline of the Great Australian Bight; the Great Australian Bight Marine Park is located further to the west

MANAGEMENT PERFORMANCE

Under the current management plan, the fishery is principally regulated by limiting entry to 10 vessels. However, only 4–6 vessels have fished the shelf consistently, so significant latent effort exists, as does the potential for shelf catches to reach an unsustainable level. It is highly unlikely that the shelf fishery can support 10 vessels fishing simultaneously. The recent advent of freezer (factory) trawlers in the fishery will undoubtedly increase effort because they can stay at sea longer. Midwater trawling may also develop. AFMA has given high priority to the development of fishing-effort controls.

Current models suggest that recent (post-1997) annual catch levels of deepwater flathead and Bight redfish are sustainable. However, the status of both these species is still uncertain, and the sustainable-yield estimates need further refinement. Catches of orange roughy by the GABTF remain effectively unregulated, despite them now comprising a large portion of the overall Australian orange roughy catch. Although GABTF catches of SSF quota species are now regulated, GABTF catches of shared SEF stocks are not. The expected increase in GABTF fishing effort heightens the need to develop harvest strategies for all the major commercial species.