Annual status report 2006

Finfish (Stout Whiting) Trawl Fishery

July 2006

Queensland Government
Department of **Primary Industries and Fisheries**

QI06070
ISSN 0727-6273

The Department of Primary Industries and Fisheries (DPI&F) seeks to maximise the economic potential of Queensland's primary industries on a sustainable basis.

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Introduction

The Queensland Finfish (Stout Whiting) Trawl Fishery (FTF) is a demersal otter trawl fishery. The FTF harvests stout whiting (*Sillago robusta*) and permitted byproduct species off southern Queensland, from Sandy Cape south to Caloundra. Stout whiting also constitutes a proportion of the bycatch from the Queensland East Coast Otter Trawl Fishery (ECOTF) and a proportion of retained catch in the New South Wales Ocean Prawn Trawl Fishery (NSWOPTF).

There are a range of legislative and voluntary management arrangements in place for the fishery, with high levels of licence holder involvement in the management and monitoring processes.

This report covers the fishing period from April through to December 2005.

Fishery profile

Total FTF harvest of all species: approximately 1167 t (in 2005)

Queensland stout whiting harvest: 1130 t (in 2005)

Recreational harvest: no estimate available but considered negligible

Indigenous harvest: no estimate available but considered negligible

Commercial Gross Value of Production (GVP): approximately $2.5 million

Number of licences: five

Commercial boats accessing the fishery: five

Fishery season: 1 April – 31 December (excluding 20 September – 1 November)

Description of the fishery

Fishing methods

The FTF employs otter trawl methods, where single multi-filament nets pass over the seabed to harvest stout whiting. Total net length (combined head rope and foot rope) is restricted to a length of 88 m, sweep length is restricted to a maximum of 128 m each and mesh size is regulated with a minimum of 38 mm and a maximum of 60 mm.[1] Commercial fishers with a T4 fishery symbol are authorised to operate in the fishery.

[1] Schedule 14, Section 4 (2) and (4) of the *Fisheries Regulation 1995*.

Fishing area

Stout whiting are endemic to Australia, occurring between Shark Bay and Fremantle in Western Australia and between Bustard Head and northern New South Wales (NSW) along the east coast.[2]

The FTF fishery area, known as the T4 fishery region (Figure 1), is defined in legislation as the area between the 20 and 50 fathom (36 and 90 m) depth contours from Sandy Cape (24°42' S, 153°15' E) to Caloundra[3] (26°40' S, 153°8' E).

The T4 designated area has an inshore boundary at 20 fathoms in order to protect juvenile stout whiting habitats from being trawled by the FTF.

Figure 1: FTF region.

Main management methods used

The FTF is managed under the Queensland *Fisheries Act 1994* and in accordance with the Queensland *Fisheries Regulation 1995*. Management of the T4 fishery is based on a range of input and output controls to ensure the sustainable harvest of target and byproduct species, whilst minimising impacts on bycatch and the environment.

The input and output controls are a combination of voluntary agreements, permits and legislation. Controls in the FTF include:

- limited entry to the fishery with a maximum of five licence holders
- vessel and gear restrictions, including boat length, net length, sweep length and mesh size
- an annually reviewed voluntary commercial total allowable catch (TAC) based on a regular stock assessment
- a combination of mandatory and voluntary seasonal closures
- a restricted fishery area to ensure that the FTF does not have access to the entire distribution of stout whiting
- in-possession limits on byproduct species to ensure these species are not being actively targeted
- prevention of interactions with endangered species through the enforcement of closed waters and the introduction of mandatory use of turtle exclusion devices (TEDs).

Licence holders in the FTF contribute significantly to the management of the fishery through voluntary closures, provision of biological samples for assessment purposes and compliance with the voluntary commercial TAC.

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2 O'Neill, M, Yeomans, K, Breddin, I, Jebreen, E, and Butcher, A 2003, *The Queensland Stout Whiting Fishery 1991 to 2002*, Department of Primary Industries, Brisbane, Australia.

3 Schedule 14, Section 2 of the *Fisheries Regulation 1995*.

Approximate allocation between sectors

The FTF is predominantly a commercial fishery.[4] Stout whiting are not known to take baited hooks and are generally not large enough to be targeted by recreational or Indigenous fishers. Therefore, the harvest of stout whiting by recreational, charter and Indigenous sectors is considered negligible.

Fishery accreditation under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)

The FTF was granted a Wildlife Trade Operation approval on 16 November 2004 under Part 13A of the Australian Government EPBC Act. This accreditation acknowledges that the FTF is being managed in an ecologically sustainable manner and allows the export of landed catch. This approval expires on 24 November 2007.

Catch statistics

Principal species

Stout whiting is targeted by the FTF and NSWOPTF. Prior to 2000, stout whiting were also retained in the ECOTF (T1). However, since 2000, stout whiting has been removed from the list of permitted species in the ECOTF, now making up part of the discarded bycatch in that fishery.

The total estimated east coast commercial catch of stout whiting in 2005 was 3248 t (Figure 2). This figure is based on total stout whiting landed weights from logbook data in the T4 fishery, an estimated total weight of stout whiting bycatch in the T1 fishery from on-board observer data and an estimated stout whiting harvested weight in the NSWOPTF.

Approximately 1130 t of this catch was landed and retained in the FTF, which represents 35% of the total east coast stout whiting catch for 2005. The ECOTF takes the majority of the total stout whiting catch, which is subsequently discarded.

All five FTF operators also hold a T1 fishery symbol, allowing them to operate in the ECOTF. The reported retained stout whiting catch by FTF fishers using prawn nets in the T1 fishery and stout whiting nets in the T4 fishery (Figure 2), increased from 557 t in 1991 to 2436 t in 1994. The total annual catch decreased to a low of 498 t in 2000, when a ban was introduced on retaining stout whiting while operating in the ECOTF.

The annual catch increased in 2001 and has remained relatively constant up to 2005, with the exemption of 2003. According to logbook data, the FTF caught approximately 1130 t of stout whiting in 2005. Approximately 24 t of stout whiting were discarded in the FTF in 2005, which were most likely unmarketable due to their size. Harvest levels were low in 2003, due to market pressures creating low prices and operators electing not to fish.

[4] O'Sullivan, S, Jebreen, E, Leigh, G and O'Neill, M 2005, *Fisheries Long Term Monitoring Program—Stout Whiting Report: 1991–2004*, Department of Primary Industries and Fisheries, Brisbane, Australia.

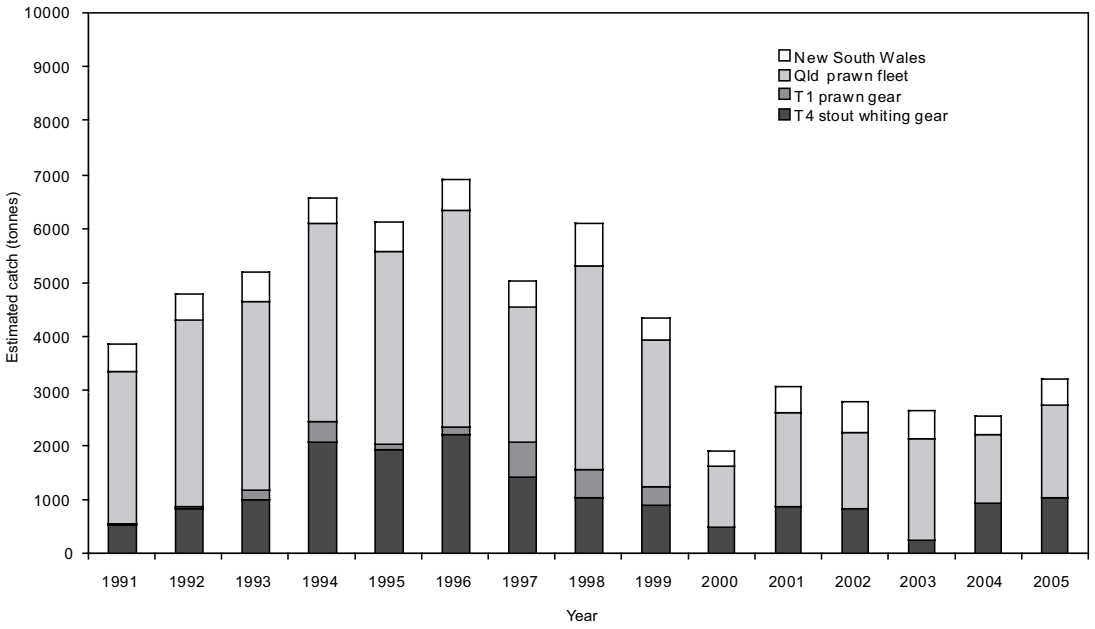

Figure 2: Estimated total east coast stout whiting catch (1991–2005).

With the exception of 2005, annual fishing effort in the FTF varies with total annual catch (Figure 3). A general decline in effort has been observed since 1999, consistent with a general increase in biomass as estimated from annual stock assessments. There was a slight decline in effort between the 2004 and 2005 seasons. The decline in 2003 is attributed to low prices and low demand, which led to only two vessels operating for the season.

The 2004 annual stock assessment showed an increase in stout whiting biomass, which led to an increase in commercial TAC for the 2005 season (1000 t in 2004; 1150 t in 2005). This resulted in higher total catches of stout whiting being recorded in the 2005 fishing season (Figure 3).

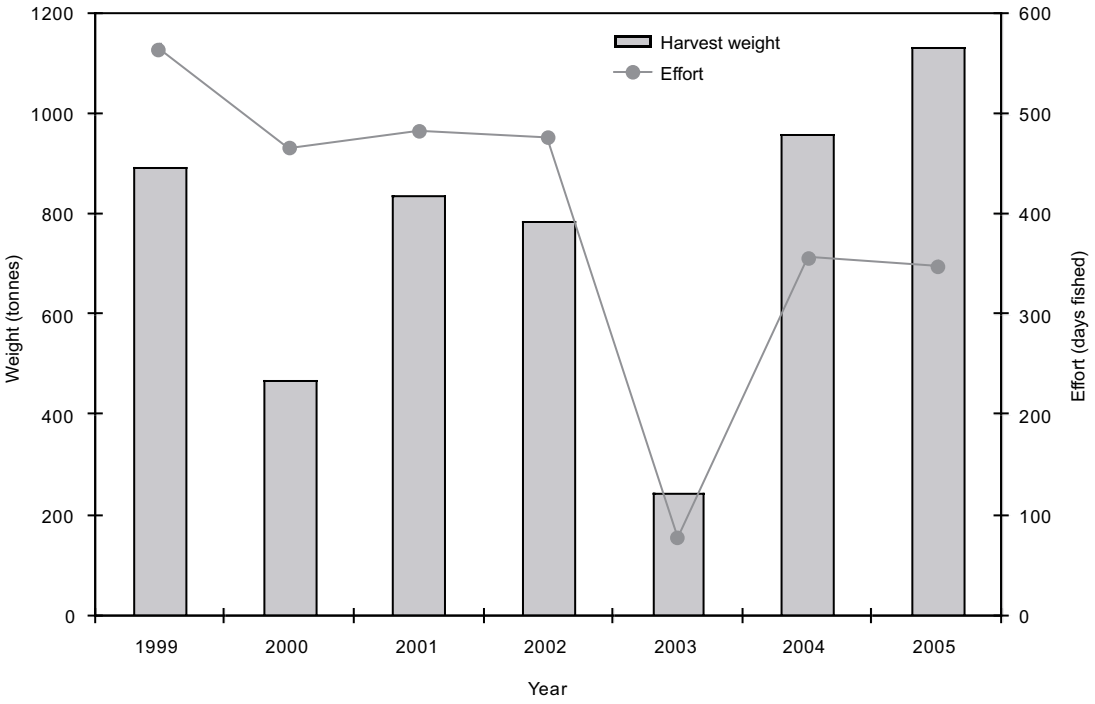

Figure 3: Effort and catch in the FTF (1999–2005).

Permitted fish catches

Permitted fish catch limits in the FTF are reviewed annually and set at the start of each season. Licence holders are required to apply for an annual permit, which allows them to harvest a variety of permitted species (Table 1).

The decline in the 2003 permitted species catch mirrors the catch of target species, and can be attributed to a lower market demand for the target species and fewer days fished in the fishery. The increase in cuttlefish and Balmain bugs caught between 2002 and 2004 is consistent with changes to annual vessel trip limits for those species.

Table 1: FTF permitted species and associated annual limits per vessel (2002–2005).

Common name	Species name	2002	2003	2004	2005
Yellowtail scad*	*Trachurus novaezelandiae*	35 boxes[1]	20 000 kg[3]	20 000 kg[3]	20 000 kg[3]
Goatfish*	Family Mullidae	70 boxes[2]	20 000 kg[3]	20 000 kg[3]	20 000 kg[3]
Pinkies	Family Nemipteridae	34 boxes[2]	41 boxes[2]	41 boxes[2]	41 boxes[2]
Octopus	*Octopus* sp.	17 boxes[2]	20 boxes[2]	20 boxes[2]	20 boxes[2]
Cuttlefish	*Sepia* spp.	44 boxes[2]	52 boxes[2]	52 boxes[2]	52 boxes[2]
Squid	*Nototodarus* spp., *Photololigo* spp. and *Sepioteuthis* spp.	0	52 boxes[2]	52 boxes[2]	52 boxes[2]
Balmain bugs	*Ibacus* spp.	1000 individuals	no limit	no limit	no limit
Moreton Bay bugs	*Thenus* spp.	0	no limit	no limit	no limit

1 Refers to the standard '10 kg' box, which may hold up to 16 kg of product
2 Refers to the standard '5 kg' box, which may hold greater than 5 kg of product
3 Refers to an annual limit as opposed to trip limits
* Only two vessels operating in the FTF are permitted to take goatfish and yellowtail scad, of which the entire catch must be sold to Sea World and/or UnderWater World.

In 2005, in addition to stout whiting, the FTF harvested approximately 36 t of permitted species (Table 2). In 2005 there was an increase in landed squid.

Table 2: Retained catch (kilograms) of permitted byproduct species in the FTF (1999–2005).

Species	1999	2000	2001	2002	2003	2004	2005
Pinkies				902	330	852	2 113
Balmain bugs				205	177	462	104
Cuttlefish				1 943	1 992	2 953	1 362
Goatfish	5		13 202	19 913	1 805	17 777	10 583
Octopus				1 929	142	177	438
Yellowtail scad			18 685	44 470	5 429	28 111	20 085
Squid			20	12	26		2 019
Moreton Bay bugs							69
Total weight	**5**	**0**	**31 907**	**69 374**	**9 901**	**50 332**	**36 773**

Catch in other fisheries

Stout whiting forms a substantial portion of the bycatch taken with T1 gear by fishers operating in the southern section of the ECOTF. An estimated 1705 t of stout whiting was discarded in the ECOTF in 2005 (Figure 4). The observed increase in prawn fleet discards in 2005 needs to be interpreted with caution, as the figure is estimated based on a bycatch rate calculated on data collected from a representative sample of boats in the T1 fishery in 2004. This increase reflects an increase in fishing effort from the T1 fleet along the coast of Fraser Island during the 2005 season. To more accurately determine the total weight of discards, an increase in on-board observer days in the T1 fishery has been planned for 2006.

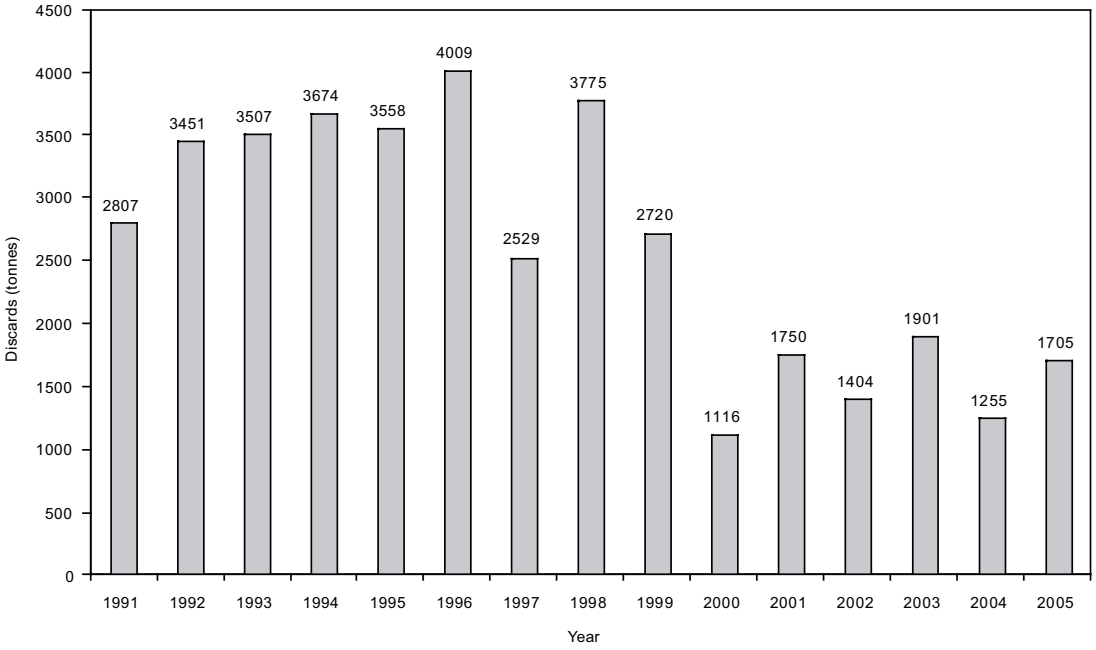

Figure 4: Estimated stout whiting discard in the ECOTF (1991–2005) based on representative boats in the T1 fishery in 2004.

Spatial issues/trends

Since 2000, a general decrease in the number of 6 nm logbook grids fished is consistent with decreasing fishing effort (days fished). Fishers have indicated that stout whiting has not been caught around the Mooloolaba to Double Island Point region in the last few years.[5] Twenty-seven 6 nm grids were fished in 2005.

Socio-economic characteristics and trends

Stout whiting is principally sold for processing in Thailand, China, Vietnam, Japan or Taiwan. A portion of the processed product is re-exported back to Australian markets.[6]

On average, stout whiting sells for $1.50–$4.50/kg. In 2005, gross value for stout whiting was between $2.47 million and $2.63 million, assuming a market value range of $2.19/kg and $2.33/kg.[7] The market price in the 2005 season was down from the 2004 value of approximately $3.50/kg.

Fishery performance

Appraisal of fishery in regard to sustainability

The FTF is managed via a range of input and output controls which are informed by annual stock assessments. This combination of management arrangements allows the Department of Primary Industries and Fisheries (DPI&F), with continued cooperation from FTF licence holders, to ensure the fishery is managed in a manner that applies and balances the principles of ecologically sustainable development.

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5 S Gaddes, Department of Primary Industries and Fisheries, pers. comm., March 2006.

6 O'Neill, M, Yeomans, K, Breddin, I, Jebreen, E and Butcher, A 2002, *The Queensland Stout Whiting Fishery 1991 to 2002*, Department of Primary Industries, Brisbane, Australia.

7 M Scott, Mooloolah River Fisheries Pty Ltd, pers. comm., April 2006.

Progress in implementing Department of the Environment and Heritage (DEH) recommendations

Recommendations	Progress
DPI&F to inform DEH of any intended amendments to the management arrangements that may affect sustainability of the target species or negatively impact on byproduct, bycatch, protected species or the ecosystem.	*Ongoing* The commercial TAC was increased from 1150 t in 2005 to 1200 t in 2006, in response to an increase in the estimated available biomass of stout whiting (result of stock assessment).
By December 2006, DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for target, byproduct, bycatch, protected species and impacts on the ecosystem.	*Proposed* A Performance Measurement System will be developed for the fishery in 2006.
DPI&F to monitor the status of the fishery in relation to performance measures, once developed. Within three months of becoming aware of a performance measure not being met, DPI&F to finalise a clear timetable for the implementation of appropriate management responses.	*Proposed* The Performance Measurement System will review the monitoring required. Age structure of the stout whiting catch is monitored currently through the Long Term Monitoring Program (LTMP).[8]
DPI&F to formalise and make publicly available all of the management arrangements for the FTF, including the process for setting the TAC, the use of VMS, spatial and/or temporal closures and any fishery specific objectives, performance indicators and performance measures developed for the FTF.	*Completed* A Statement of Management Arrangements has been completed and is available online at: www.dpi.qld.gov.au/fishweb/18235.html
From 2005, DPI&F to report publicly on the status of the fishery on an annual basis, including explicit reporting against each performance measure once developed.	*Ongoing* This annual status report is the second to be completed.
DPI&F to continue to cooperate with NSW to pursue complementary management and research of shared stocks for all target and byproduct species in the FTF which may be affected by cross-jurisdictional issues.	*Ongoing* Catch data is obtained from NSW and utilised in formal stock assessments.
DPI&F to develop and implement a robust system to validate catch and effort logbook data and the accuracy of the Species of Conservation Interest (SOCI) logbook data, once the SOCI logbook is implemented.	*In progress* DPI&F's logbook validation strategy encompasses a range of activities that may be undertaken across different fisheries. For the purposes of the FTF, information from the observer program and LTMP are predominantly used. Weigh bridge landing dockets are used to validate catch data recorded in logbooks.
By the end of 2006, DPI&F to develop and implement a system sufficient to identify changes in the composition of bycatch in the FTF over time.	*In progress* Bycatch monitoring is being addressed in parallel to the ECOTF through an on-board observer program. Samples were collected in 2005 by observers.
DPI&F to conduct a risk assessment of bycatch captured in the FTF. Appropriate management responses will be developed to reduce risks to species or groups identified as high-risk.	*Proposed* An Ecological Risk Assessment and stakeholder workshop is planned for late 2006/early 2007.
DPI&F to pursue a reduction in the amount of bycatch taken in the FTF and continue to support the investigation of methods for increasing the survivability of bycatch species. Any effective and appropriate methods identified should be implemented within 18 months of identification.	*In progress* DPI&F recently made the use of TEDs mandatory in the FTF.
DPI&F to promote research into the impact of the fishery on protected species and implement measures to reduce protected species interactions.	*In progress* DPI&F collects information through SOCI logbooks. DPI&F is also undertaking research into the vulnerability of sea snakes to trawl fisheries, and the associated rates of survival after capture.
The spatial management system in the ECOTF is to be reviewed by DPI&F. Should this review identify any ECOTF areas that overlap with the FTF for closure, DPI&F to consider also closing those areas to the FTF.	*Proposed* A review of closures in the ECOTF is planned to commence in 2007.

8 Recent Long Term Monitoring Program report available online at: www.dpi.qld.gov.au/fisheriesmonitoringprogram/11867.html

Management performance

DPI&F intends to meet with stakeholders in late 2006 to formulate performance measures for target, byproduct, bycatch and protected species, and impacts on the ecosystem. Industry collaboration will be important to the outcomes of this process.

Resource concerns

To assist in reducing resource concerns, an annual review of the commercial TAC for the target species is undertaken. This process ensures that the harvest rate in the FTF remains sustainable and allows the stock to remain at a level above that which supports maximum sustainable yield.

Ecosystem

Non-retained species/bycatch

According to fishers' logbooks, the FTF discarded approximately 24 t of stout whiting in 2005 (Table 3). This is lower than the amount discarded in 2002 and 2004 (28 t and 27 t respectively). Discards in 2003 were much lower due to the reduced effort and small number of boats operating in the fishery (two).

Overall, the fishery discarded approximately 228 t (Table 3) of bycatch species in 2005; an increase compared to 2004 (208 t). Interpreting the trends in these data is difficult as logbook reporting methods and vessel owners have changed over the years.

The reported weights of non-retained and permitted species have varied over recent years due to changes in trip limits, reporting requirements, market prices and effort levels. The decrease in Moreton Bay bug discards is attributed to their addition to the permitted retained species list. Discards of cuttlefish and octopus have continued to decrease, which is a reflection of the increase in trip limits from 2003 (Table 1).

Table 3: Non-retained FTF species weight (kilograms).

Species	1999	2000	2001	2002	2003	2004	2005
Stout whiting	7 359	224	2 662	28 419	13 949	26 817	23 513
Pinkies				4 932	17 885	35 997	87 512
Yellowtail scad			19 909	56 478	3 162	68 033	100 275
Goatfish	8 929		14 620	7 585	510	12 253	2 916
Octopus			5 467	2 751	238	830	66
Cuttlefish			16 298	2 535	121	1 681	299
Balmain bugs				5		56	60
Moreton Bay bugs				16	120	995	136
Squid			20 696	6 198	1 850	6 720	672
Prawns			3 956	6 260	1 850	6 720	3 545
Bugs unspecified			1 471	730	10	285	
Pipefish						5	2
Blue swimmer crabs	3 482		914	3 356	1 264	15 653	4 642
Whiptail			72 075	80 937	2 364	34 730	580
Shark			3 312	42	66	352	3 255
Three spot crab							20
Total	**19 770**	**224**	**161 380**	**200 244**	**42 348**	**207 794**	**227 568**

Interactions with protected species

All fishers operating within the FTF also hold a T1 trawl licence. All T1 operators were issued with a SOCI logbook in January 2003, for recording interactions with protected species occurring as a result of fishing with T1 gear. In 2004, FTF fishers were also asked to use the SOCI01 logbook in conjunction with the FTF logbook (SW03) to record SOCI interactions occurring as a result of stout whiting gear operations. Over the 2005 season, there were eight interactions with sea snakes (*Hydropiidae*)[9] reported. Of the eight interactions, seven were reported alive and only one specimen was reported dead.

In 2005, during the three days when observers were on board, no interactions with protected species were reported (see Fishery Observer Program).

To reduce the level of impact of stout whiting trawling on turtles and other large bycatch species interactions, FTF operators are required (as part of their licence conditions) to have TEDs fitted to their nets. In the 2005 reporting period there were no interactions with turtles recorded.

Only two individual pipefish were recorded in the SW03 logbook in 2005 as caught and discarded by the FTF. Consistently low numbers of pipefish catch (five in 2004; total of 14 individuals since 1999) indicates that the fishery poses a negligible risk to these species.

Fishery impacts on the ecosystem

Trawling in the FTF occurs over the mid-continental shelf between 36 m and 90 m. According to anecdotal evidence from fishers, it is assumed that the trawling activity occurs over sandy substrates.[10] Trawling over bare, flat substrate is likely to have less impact than trawling over more undulating substrates or substrates supporting significant benthos.[11]

Studies have found that repeated trawling has the capacity to reduce biomass and abundance of benthic organisms and lead to long-term shifts in benthic species composition.[12] In such circumstances, trawling has the ability to reduce the habitat complexity of the trawl grounds.[13]

To reduce the impact of trawl fisheries, bycatch reduction devices (BRDs) have been introduced and have, to some extent, demonstrated to be effective in prawn trawl fisheries. It is difficult to implement BRDs in the FTF without research targeted at separating the stout whiting being targeted from other fish species (e.g. flatfishes). Overseas experience suggests that separating fish species is possible[14], however the relatively small size of stout whiting compared to the target species of finfish trawl fisheries elsewhere will most likely complicate the identification of an effective BRD.

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9 Sea snakes are listed marine species protected under the *Environment Protection and Biodiversity Conservation Act 1999*.

10 Robins, J and Courtney, A in McCormack, C 2006, *Annual Status Report 2005 Finfish (Stout Whiting) Trawl Fishery*, Department of Primary Industries and Fisheries, Brisbane, Australia.

11 Zeller, B et al. 2003, *Ecological Assessment of the Queensland Finfish (Stout Whiting) Trawl Fishery*, Department of Primary Industries, Brisbane, Australia.

12 Engel, J and Kvitek, R 1998, *Effects of Otter Trawling on a Benthic Community in Monterey Bay National Marine Sanctuary*, Conservation Biology, vol. 12, no. 6, pp. 1204–1214.

13 National Research Council 2002, *Effects of trawling and Dredging on Seafloor Habitat*, Prepublication Draft. National Academy Press, Washington, D.C.

14 Boudreau, M 1991, *The performance of a horizontal split level trawl in the Gulf of St Lawrence segregating cod from flatfish*, Fishery and Acquatic Science and Technology, Ancona.

Research and monitoring

Recent research and implications

Regular stock assessment

Stock assessments for stout whiting are based on commercial catch and effort logbook data, and research surveys of age, length and gender of fish sampled through the LTMP. An age-structured model is used to estimate the size (biomass) of the stout whiting population and the sustainable exploitation levels to determine the voluntary commercial TAC for the FTF.

A stock assessment was undertaken in 2004, resulting in a commercial TAC of 1150 t for the 2005 fishing season. The observed increase in commercial TAC from 1000 t in 2004 is a reflection of the increase in estimated stout whiting biomass in recent years (Figure 5).

For 2006, the commercial TAC has been set at 1200 t based on an observed increase in the estimated biomass in the 2005 assessment (Figure 5).

The stock assessment indicates that the biomass of stout whiting is remaining above the level which supports maximum sustainable yield (MSY). The commercial TAC remains precautionary to allow for the uncertainty of the ECOTF stout whiting discards. While the FTF is yet to formalise performance measures, the fishery currently has a strategy in place for building the stock size to 1.2 times the current estimated biomass at MSY.

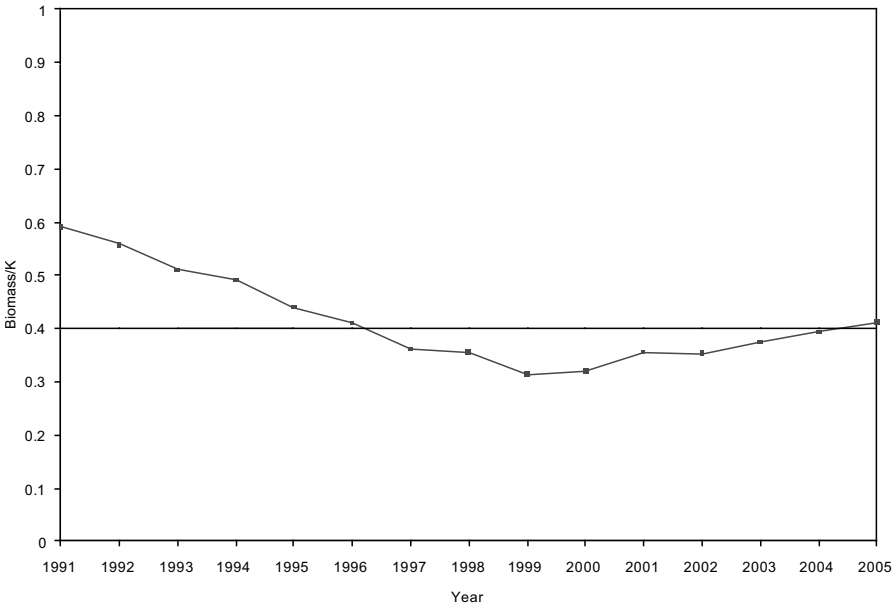

Figure 5: FTF estimated biomass ratio for 1991–2005 (K= estimated virgin biomass).

FRDC Project 2005/053: Reducing the impact of trawl fisheries on protected sea snakes

In July 2005, DPI&F commenced work on a three-year research project intended to measure the impact of trawling on sea snakes[15] in the ECOTF. The principal aim of this research is to reduce the incidence of sea snake–trawl interactions in the ECOTF[16] through the documentation of post-capture mortality and development of improved handling techniques. This research, although focused on the ECOTF, has potential to be applied to operations within the FTF. The research into interactions with sea snakes in the FTF will aid in addressing the DEH recommendation to promote research into the impact of the fishery on protected species and implement measures to reduce protected species interactions.

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[15] Sea snakes are listed marine species protected under the *Environment Protection and Biodiversity Conservation Act 1999*.

[16] B Schemel, Department of Primary Industries and Fisheries, pers. comm., March 2006.

Monitoring programs and results

Compulsory logbook program

Catch and effort information for the FTF continues to be monitored through the compulsory daily logbook program. A new FTF logbook (SW03), introduced in 2000, has improved DPI&F's ability to monitor catch and effort as well as discards in the fishery.

Long Term Monitoring Program

DPI&F, through its LTMP, monitors long-term changes in the length, sex and age distribution of stout whiting in the FTF for incorporation into stock assessment models. Each vessel operating within the fishery donates two 5 kg boxes from each trip in order to gather information on lengths, weights, gonad weights and sex. Otoliths are also taken and used to determine the age of the fish.

The *Fisheries Long Term Monitoring Program Stout Whiting Report: 1991–2004* was published in 2005. Major findings of the report include the following:

- Stout whiting in the fishery ranged from 70 mm – 230 mm in fork length and from 7.5 g – 129.4 g in weight across all years.
- Ages ranged from zero to eight years across all years, the majority aged between zero and four years. Those aged five years or older represented less than 1% of the annual catches.
- The amount of stout whiting caught and discarded by the ECOTF, observed over 17 nights in 2004, ranged from 4 kg – 450 kg/night.

A copy of this report is available at: www.dpi.qld.gov.au/fisheriesmonitoringprogram/11867.html

Fishery Observer Program

The objective of the Fishery Observer Program in the FTF is to independently validate logbook data, estimate the discards produced from the fishery and to monitor changes in catch composition over time. The program commenced in September 2005 with a three-day trip off the southern end of Fraser Island. Observers recorded catch details from every shot and also collected 10 kg of random bycatch samples, which were later analysed in the laboratory for species composition. The Fishery Observer Program aims to complete 20 observed days in the fishery between April and September every year. In 2005, a total of three observer days were completed.

The major findings from observed trips include the following:

- The observer independently recorded the number of boxes packed with stout whiting after every shot. A comparison was made when the fisher submitted their logbooks and the results showed there was a 100% agreement with logbook information.
- No protected species were encountered during observations.
- The average catch rate of stout whiting was 400 kg/hour trawled.
- The average discards catch rate was 338 kg/hour trawled.
- Stout whiting contributed 54% of the total catch.
- Discards contributed 46% of the total catch.

As part of the survey, the observers recorded species that were considered to be of recreational importance (Table 4). The observations demonstrated that an extremely small proportion of the total catch comprised of recreational species, with only three species recorded (Table 4). Due to the small number of observer days completed in the 2005 season (three days in total), no catch rates can be accurately estimated on such limited data.

Table 4: Species of recreational importance.

Common name	Species name
Black kingfish	Rachycentron canadus
Tailor	Pomatomus saltatrix
Red emperor	Lutjanus sebae

Collaborative research

The sea snake research discussed earlier in this report (see Recent research and implications) is an FRDC collaborative research project between DPI&F and CSIRO. This research may also have the capacity to reduce the FTF's impact on sea snakes.

Fishery management

Compliance report

Compliance and enforcement in the FTF is the responsibility of DPI&F's Queensland Boating and Fisheries Patrol (QBFP). A new Compliance Activity System was implemented on 1 July 2005 that records detailed information on activities performed by QBFP. The system records:

1. breach reports issued (including offences and court outcomes)
2. unattended breach reports
3. fisheries infringement notices issued
4. all field activities (from new field occurrence logs)
5. complaints made via the Fishwatch hotline (including follow up actions).

All offences and field activities are recorded to 6 nm grids. This allows enforcement activities and offences to be represented spatially and to guide reviews of compliance strategies.

During the 2005–06 financial year (up to and including 15 April 2006), three commercial units were inspected in the FTF with no offences detected. In addition to the above inspections, several marketer premises were inspected during the period.

A compliance risk assessment was completed for Queensland's trawl fisheries in 2005. The risk assessment identified compliance with BRD provisions and closed water provisions as the highest priorities for enforcement and compliance for the trawl fisheries. There were also a number of activities rated as having a moderate risk, which are also being addressed but at a lower priority.

Changes to management arrangements in the reporting year

Commercial TAC increased from 1000 t in 2004 to 1150 t in 2005 based on the assessment undertaken for the fishery. In 2006, the commercial TAC has been set at 1200 t based on the 2006 fishery assessment.

Complementary management

DPI&F is continuing its efforts to collaborate with NSW scientists to enable a more complete assessment of the east coast stout whiting fishery stocks.

Information compiled by

Fiona Hill

Acknowledgements

Claire Andersen, Shane Gaddes, Len Olyott, Brad Zeller, Martin Hicks, Tracey Scott-Holland, Michael O'Neill, Sandra O'Sullivan, George Leigh, Eddie Jebreen, Malcolm Dunning

Image

Stout whiting (*Sillago robusta*)