

# Annual status report

## Deepwater Fin Fish Fishery

July 2006



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## Introduction

The Deepwater Fin Fish Fishery (DFFF) is a relatively small commercial multi-hook, line fishery that operates in Queensland waters deeper than 200 m. Target species include various coral reef fin fish (e.g. emperors, cods and lutjanids) and rocky reef fin fish (e.g. pearl perch) as well as a range of other species (including various pelagics).

This report covers the period up to December 2005.

### Fishery profile

**Total harvest from all sectors:** approximately 25 tonnes in 2005

**Commercial harvest:** approximately 25 tonnes in 2005

**Recreational harvest:** nil using multi-hook apparatus

**Indigenous harvest:** nil using multi-hook apparatus

**Charter harvest:** nil using multi-hook apparatus

**Commercial GVP:** approximately \$130 000 in 2005

**Number of licences:** 7 L8 fishery symbols as at 30/6/05 (5 with L8 and RQ)

**Commercial boats accessing the fishery:** 6 in 2005

## Description of the fishery

### Fishing methods

Commercial operators working in the DFFF are permitted to use multi-hook apparatus on trotline or dropline. A maximum of six vertically set droplines, with not more than 50 hooks on each, can be used at one time. Alternatively, operators can use up to three bottom set trotlines, with no more than a total of 300 hooks.

### Fishing area

Commercial fishers with an L8 fishery symbol are permitted to operate in east coast waters deeper than 200 m (see Figure 1). However, there is some overlap between the L8 fishery area and the Great Barrier Reef Marine Park. No more than six hooks can be used in the GBRMP.

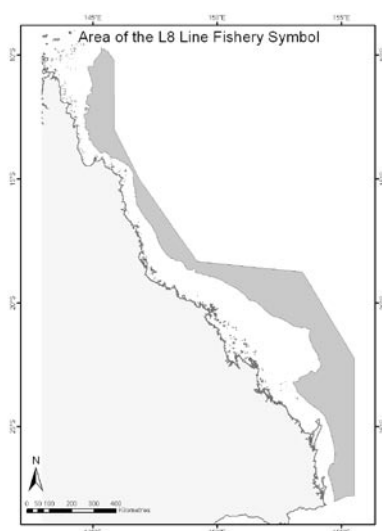


Figure 1: L8 fishery area.

## Main management methods used

A range of input and output controls are used to manage the DFFF. Because of overlap between the Deepwater Fin Fish Fishery and other line fisheries operating in Queensland waters there is a complex array of management arrangements in place, including:

- Limited entry.
- Prohibition on taking barramundi (*Lates calcarifer*), snapper (*Pagrus auratus*), Spanish mackerel (*Scomberomeros commerson*) red emperor (*Lutjanus sebae*) and coral trout (*Plectropomus species*) when using multi-hook apparatus.
- Minimum size limits that apply to a range of species, including coral reef fin fish and rocky reef fin fish.
- Restrictions on the type of apparatus that can be used (i.e. number of lines and hooks).
- Restriction on the size of boat that can be used in the fishery.
- Requirement to have an RQ fishery symbol and quota to retain any coral reef fin fish that are taken.

## Approximate allocation between sectors

The DFFF is a purely commercial fishery. Recreational and charter fishers are not permitted to use any more than six hooks at one time. Recreational and charter fishers do take some of the same species that are targeted in the DFFF; however, they are subject to management restrictions under fisheries legislation.

## Fishery accreditation under the EPBC Act

The Wildlife Trade Operation (WTO) approval granted for the DFFF under the *Environment Protection and Biodiversity Conservation Act 1999* expires in October 2008.

## Catch statistics

Commercial catch statistics are collected through the DPI&F compulsory daily logbook program. However, because a number of east coast commercial line fisheries use the same logbook it can be difficult to accurately separate the catches taken in a single fishery such as the DFFF. While it is difficult to separate past data, the DPI&F is currently introducing a new logbook specific to the DFFF, which will enhance the accuracy of logbook information in future years.

Figure 2 demonstrates the variability in catch composition as reported in logbooks for 1998–2005. A significant shift was detected in 2005, from a catch that has historically been dominated by jobfish and cods towards a fishery where pearl perch, pelagics and flame snapper make up the majority of the catch. This may be an impact of the recently introduced quota system in the Coral Reef Fin Fish Fishery and may reflect catches of those DFFF boats that do not hold RQ fishery symbols.

Independent observers have indicated that from trips undertaken to date, the main target species tend to be flame snapper, ruby snapper, cods, and jobfish. These trips were undertaken on boats endorsed to operate in both the L8 and RQ fisheries.

For the purposes of reporting DFFF catch statistics, data have been filtered to include only catch reported by commercial fishers with an L8 fishery symbol, and that have reported catch within the L8 fishery area (i.e. outside the 200 m depth contour). Despite this filtering, catches of species not permitted to be retained in the fishery (e.g. snapper) are still observed in the data. These reported catches are not cause for concern due to the overlap between fishery areas; it is likely that these catches have been taken legally using standard commercial line fishing apparatus (as opposed to multi-hook apparatus). The introduction of a logbook that will be used by operators only when operating in the DFFF should clarify future catch data. These non-permitted species have been left out of any analysis given they are managed explicitly in other fisheries.

Figure 3 provides an overview of the total catch in the fishery, which has exhibited a decline in parallel with a reduction in the number of days fished since 1998.

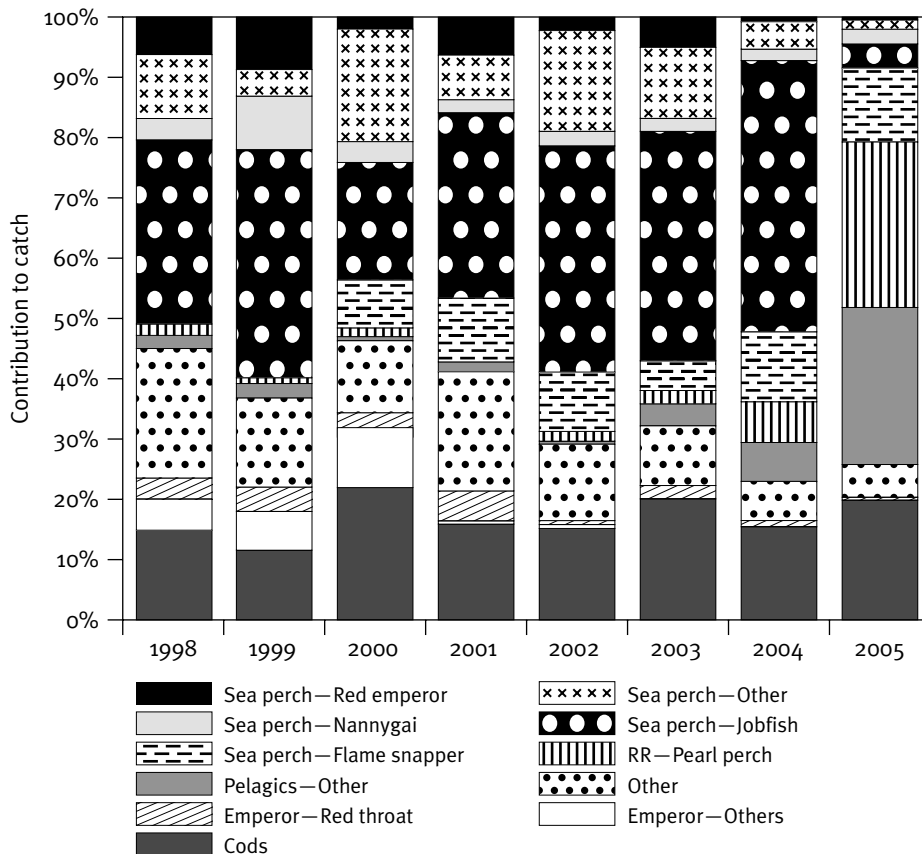


Figure 2: Catch contribution in the Deepwater Fin Fish Fishery from 1998–2005.

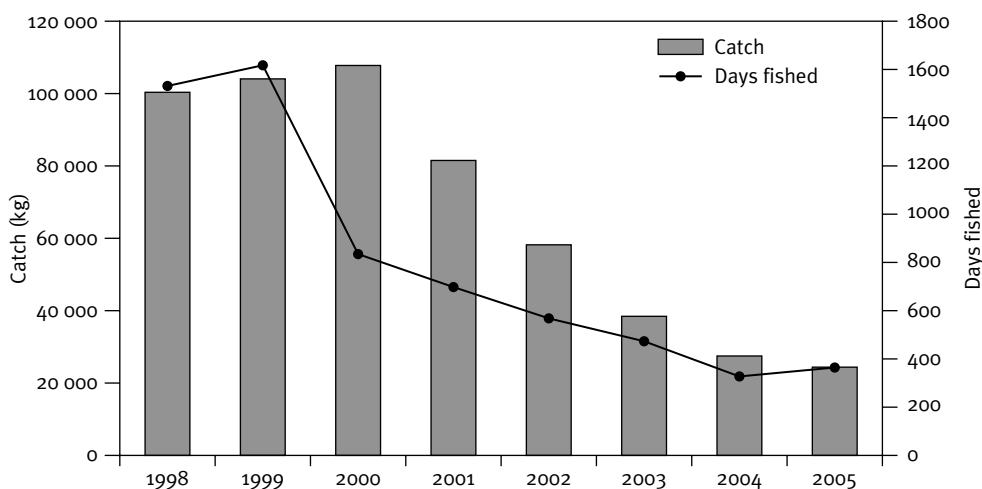


Figure 3: Total catch and days fished in the Deepwater Fin Fish Fishery.

The number of days fished reflects the decline in the number of commercial fishers endorsed to operate in the fishery to an historic low of only seven L8 fishery symbols in 2005. Six operators recorded a total catch of approximately 25 tonnes in 2005. Up until 1 July 2006, L8 fishery symbols were not transferable. In addition, a DPI&F Policy for the fishery required that an L8 symbol be used in order to guarantee annual renewal of that symbol. This Policy is no longer relevant as Commercial Fishing Boat Licences are now ongoing rather than requiring annual renewal.

Figure 4 shows the total catches and catch rates for a range of key species taken in the fishery.

Jobfish represents one of the historically significant key groups of species that are taken in the DFFF. Total catch of jobfish has fallen during the last five years (Figure 4), reflecting the reduction in the number of days fished in general. Over that period catch rate has been variable, but has not shown any consistent trend.

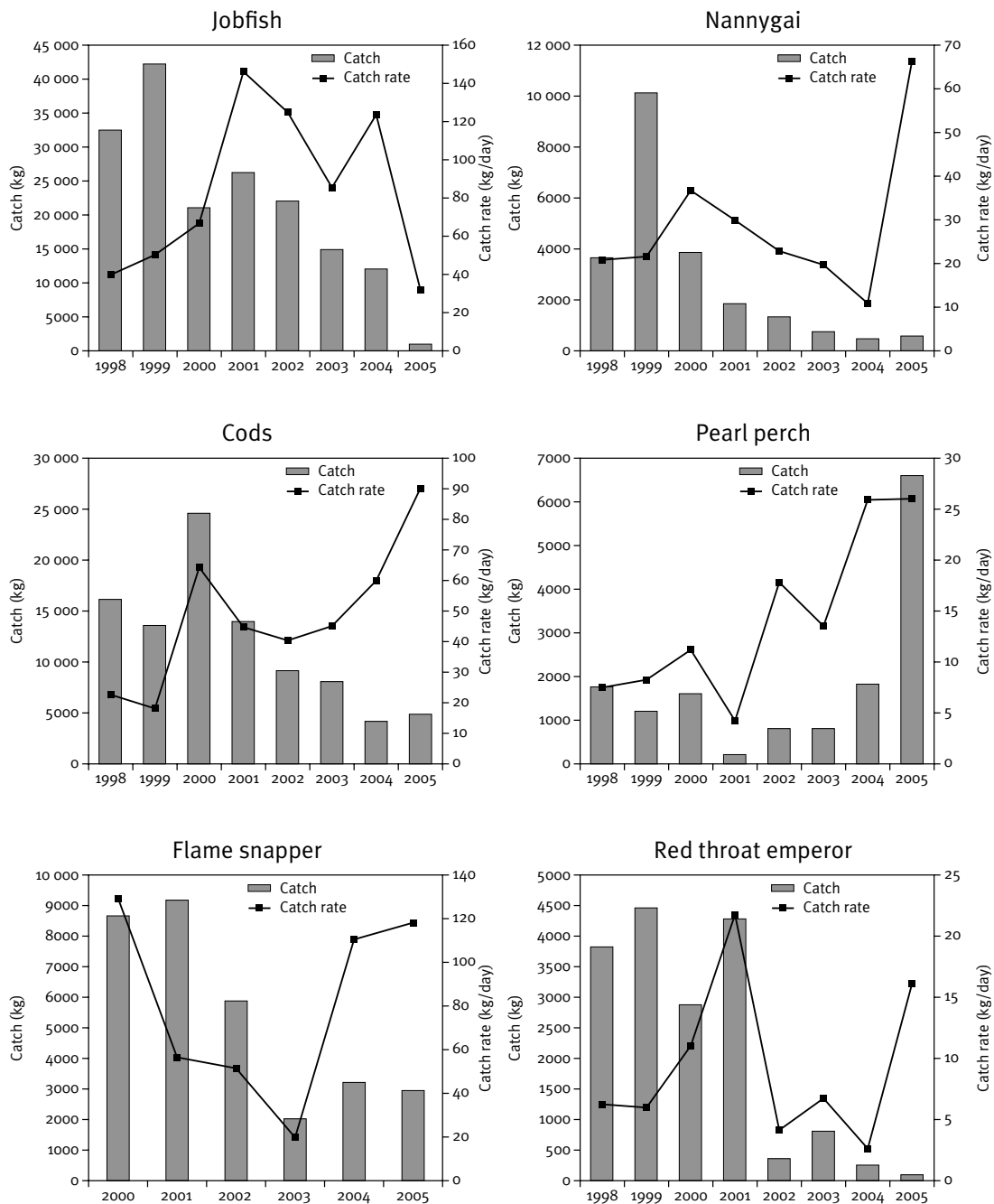


Figure 4: Catch and catch rate for a range of target species 1998–2005.

Nannygai are an important species contributing to the DFFF. Total nannygai catches have declined since 1999, in response to less effort being applied. Catch rates for nannygai have also been variable.

A number of species of cod, predominantly bar cod (*Epinephelus ergastularius*), are regularly taken in the DFFF. Figure 4 shows a decreasing trend in catch since 2000, and an increase in the catch rate.

While pearl perch is predominantly taken in the rocky reef fin fish fishery, it is also permitted to be taken with multi-hook apparatus in the DFFF. The catch and catch rate have increased significantly since 2003. This increase is likely to be a result of difficulties in differentiating catch from rocky reef fin fish fishery and the DFFF but may also be indicative of a shift in behaviour of those non-RQ, L8 endorsed licences.

Total catch of flame snapper has declined since 2002, mirroring other target species in the DFFF. Again, this reflects decreasing effort applied in the fishery. Catch rates for flame snapper have increased since 2003.

Since mid-2004, red throat emperor has been managed explicitly as part of the Coral Reef Fin Fish Fishery through a total allowable commercial catch for the species. The total catch of red throat emperor in the DFFF has declined since 2001 to only a few hundred kilograms a year. It may be that RTE has now become an incidental species in the DFFF, rather than the target species it was prior to 2001.

## **Spatial issues/trends**

Most of the fishing effort is applied in areas where the 200 m depth contour is relatively close to the coast (Figure 5). Areas off Fraser Island are regularly fished, particularly over recent years when rocky reef fin fish have been targeted. Figure 5 also shows the seamount areas between Rockhampton and Mackay where fishing occurs.

The catch in the northern section of the state is likely to be catch from fishers operating in the Coral Reef Fin Fish Fishery outside the 200 m depth contour (i.e. not multi-hook). The current DFFF operators are based predominantly in the southern section of the state.

Because of difficulties differentiating what type of fishing method is used, it is hard to ascertain to which fishery the catch should be attributed. Recent improvements to the logbook should provide greater certainty in this regard.

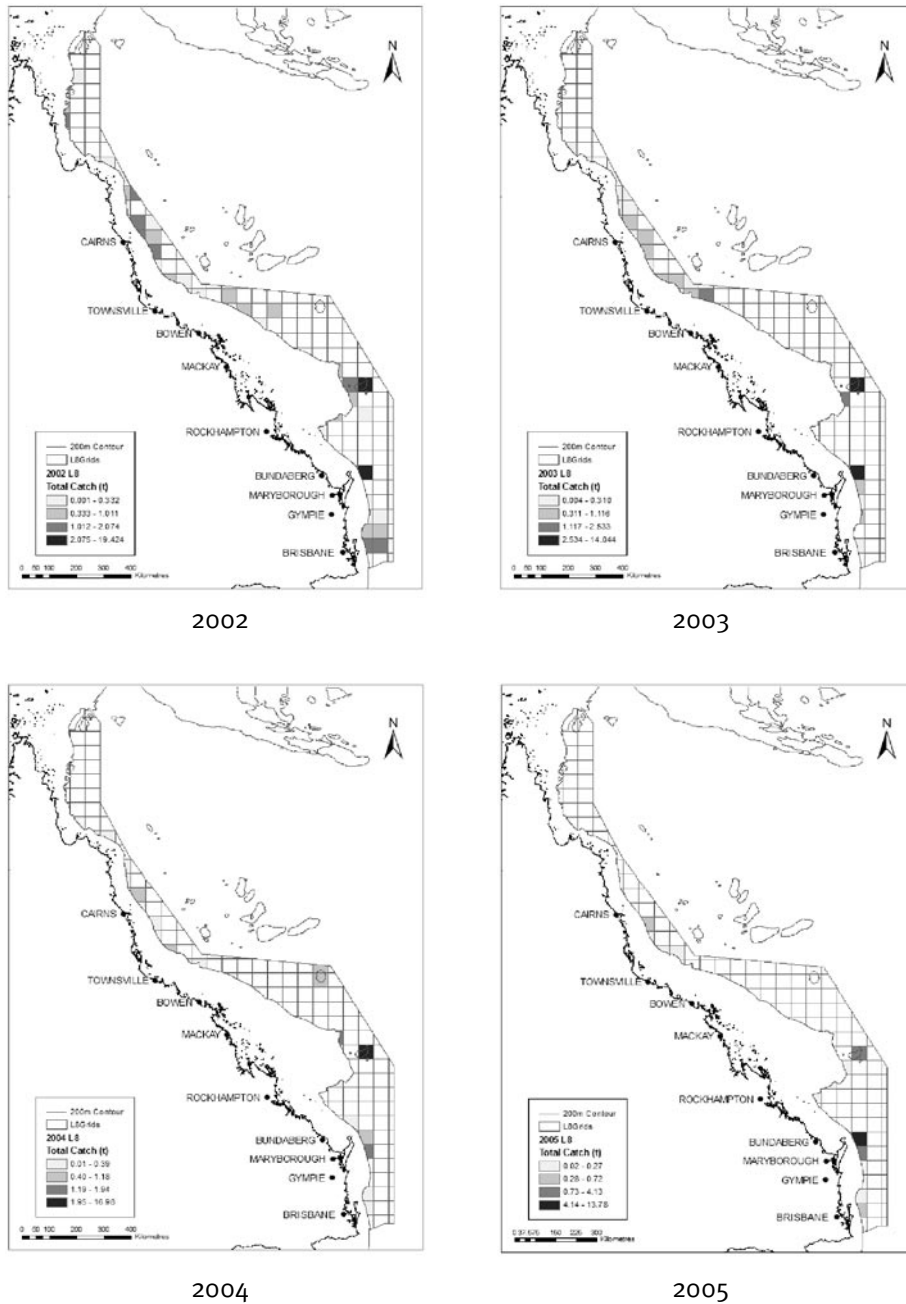


Figure 5: Distribution of catch in the DFFF from 2002–2005.

### Socio-economic characteristics and trends

The DFFF is primarily a winter fishery. Most product is sold domestically, with occasional exports. Prices obtained on the domestic market range from \$5 per kg to \$7.50 per kg depending on the species and marketability.

# Fishery Performance

## Appraisal of fishery in regard to sustainability

The DFFF is a relatively small-scale fishery, with only seven commercial fishers permitted to use multi-hook apparatus. This, combined with a fishery area that can be difficult to access, generally minimises any risks associated with the fishery. Based on current harvest levels, catch rates and management arrangements, the fishery is considered sustainable. Review events contained in the Fisheries (Coral Reef Fin Fish) Management Plan 2003, are designed to help identify if or where there may be increases in the catch of specific species or species groups. Independent fishery observers have been introduced into the fishery on a voluntary basis, which will facilitate improved data collection and consequently better monitoring and assessment of the fishery.

## Progress in implementing DEH recommendations

DEH made a range of recommendations to DPI&F during its assessment of the fishery, in order to address any perceived risks or uncertainties. Further details of the progress DPI&F has made in implementing each of these recommendations are provided in Table 1.

**Table 1: Implementation progress (continued overleaf).**

<b>Recommendation</b>	<b>Progress</b>
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 by-catch, protected species or the ecosystem.	<i>Ongoing</i> No changes were made to management arrangements in 2005.
By the end of 2006 DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for target species, by-catch, protected species (fish species) and impacts on the ecosystem.	<i>In progress</i> DPI&F and the ReefMAC SAG are developing performance measurement systems (PMSs) for a range of line fisheries during 2006. The PMS for the DFFF will be combined with that for the Coral Reef Fin Fish Fishery due to the significant overlap in target species and management arrangements.
DPI&F to monitor the status of the fishery in relation to the 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.	<i>In progress</i> The PMS for the DFFF will identify the monitoring and reporting activities that will be required to support the system.
From 2006, DPI&F to report publicly on the status of the DFFF on an annual basis including explicitly reporting against performance measures, once developed.	<i>Ongoing</i> This annual status report represents the first to be completed for the fishery since its WTO approval was gazetted in late 2005.
DPI&F to implement a program to validate logbook data in the Deepwater Fin Fish Fishery by June 2006.	<i>Completed</i> DPI&F's logbook validation strategy encompasses a range of activities that may be undertaken across different fisheries. For the purposes of the DFFF, DPI&F will use fishery observers to validate logbook data. DPI&F is committed to a voluntary at-sea observer program in this fishery with adequate coverage to address specific tasks being undertaken.

Recommendation	Progress
DPI&F instigate measures to ensure compliance with the CRFFF Management Plan and relevant legislation, in particular compliance with the prohibition of the take of snapper by DFFF operators and take of coral reef fin fish by DFFF operators without appropriate quota symbols.	<i>In progress</i> A Queensland Boating and Fisheries Patrol officer is responsible for coordinating compliance risk assessments and strategies across a range of Queensland fisheries. The DFFF compliance risk assessment workshop was undertaken in June 2006.
DPI&F instigate measures to ensure compliance with the CRFFF Management Plan and relevant legislation, in particular compliance with the prohibition of the take of snapper by DFFF operators and take of coral reef fin fish by DFFF operators without appropriate quota symbols.	<i>In progress</i> A Queensland Boating and Fisheries Patrol officer is responsible for coordinating compliance risk assessments and strategies across a range of Queensland fisheries. The DFFF compliance risk assessment workshop was undertaken in June 2006.
DPI&F to implement an ongoing and robust program to collect information on the composition, abundance and life status of by-catch (including shark species, and discards of target species) in the DFFF by June 2006.	<i>Completed</i> The DPI&F fishery observer program also represents the Department's program for collecting information on the composition, abundance and status of by-catch in the DFFF. See Fishery observer program section
DPI&F to assess the need for by-catch mitigation measures in the DFFF based on relevant research and by-catch data, when collected, and implement such measures where required, by June 2008.	<i>No action necessary at this stage</i> Data collected by independent observers suggests that by-catch in the fishery is extremely low (i.e. 0.4%). Because of the already highly selective nature of the fishery, DPI&F does not consider it necessary at this time to introduce any by-catch mitigation measures. In addition, because the scale of the fishery is small, the level of risk is considered negligible. If the observer program detects a significant increase in bycatch taken in the fishery the need for bycatch mitigation measures will be reviewed.

## Management performance

A performance measurement system (PMS) for the DFFF (combined with the Coral Reef Fin Fish Fishery) will be developed and implemented during 2006. Development of performance measures will be done in consultation with ReefMAC. These measures will be reported against in future status reports for the DFFF.

## Resource concerns

There are currently no concerns for the sustainability of species targeted in the DFFF on the basis that the catch of individual species is quite small, the number of operators in the fishery is low and the area fished is quite large in proportion to the number of operators. However, there is limited biological information on some of the species harvested.

## Ecosystem

### Non-retained species/by-catch

Observer data shows that by-catch in the fishery is negligible (0.4%). All fish captured during observer trips were retained with the exception of a black marlin and two sharks, which were returned to the water alive.

A small number of snapper are thought to be caught in the DFFF area using single hook apparatus. Currently, operators are not permitted to retain snapper caught on multi-hook apparatus. Because of concerns for the sustainability of snapper stocks in general, catch of snapper in the DFFF is being closely monitored.

Sampling undertaken as part of the Assessment of the Deepwater Line Fishery in Queensland<sup>1</sup> in 2002 showed negligible by-catch. No by-catch was recorded on the first two-day research sampling trip, including no undersized fish. On the second sampling trip (two days) the total by-catch consisted of three conger eels and three sharks (species unknown).

### Interactions with protected species

Commercial operators using an LFO<sub>4</sub> logbook are required to fill in a Species of Conservation Interest (SOI) logbook. This requirement will continue with the introduction of the new MHO<sub>1</sub> logbook. However, some operators may still be using the LFO<sub>3</sub> logbook, which does not have a requirement to report interactions with protected species. A review of logbooks is being undertaken for a range of line fisheries. It is expected that, as part of this review, the requirement to report protected species interactions will be expanded across all line fisheries. No interactions with protected species were recorded by line fishers that filled in SOI logbooks in 2005. In addition, fishery observers on L8 vessels have not recorded any interactions to date.

### Fishery impacts on the ecosystem

Line fishing is generally considered a relatively benign form of fishing. The small number of operators in the L8 fishery and the distance offshore from which they operate means that any minor impacts would pose only a negligible risk to the ecosystem.

## Research and monitoring

### Recent research and implications

There was no new research undertaken specifically relating to the DFFF during 2005.

### Monitoring programs and results

There is currently no fishery independent monitoring specific to the DFFF; however, there is independent monitoring undertaken for coral reef fin fish, which are taken in the DFFF. Structured line surveys undertaken for the program occur outside the area of the deepwater fishery, using different gear. Notwithstanding this, some biological information is collected on species that overlap line fisheries. Similarly, a new monitoring program, as part of the DPI&F Long Term Monitoring Program, is currently being developed for the rocky reef fishery to collect a range of biological information on a number of species, including pearl perch.

### *Fishery observer program*

A fishery observer program was introduced in the DFFF in 2005. The aims of the program are to collect information on catch composition, length frequencies, by-catch and any interactions with protected species.

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<sup>1</sup>White, E and Sumpton, W. 2002. *Assessment of the Deep Water Line Fishery in Queensland*. Queensland Department of Primary Industries. Brisbane, Australia.

The most commonly caught species recorded by observers was flame snapper, making up 79% of the catch. Ruby snapper, cods, groupers and jobfish were also taken.

Bycatch in the fishery is negligible (0.4%). All fish captured during observer trips were retained with the exception of a black marlin and two sharks, which were returned to the water alive.

## **Collaborative research**

No collaborative research is undertaken specific to the DFFF. Research is undertaken on coral reef fin fish and rocky reef fin fish. Research information related to these fish groups will be provided as part of the respective annual status reports.

## **Fishery management**

### **Compliance report**

Compliance and enforcement in the Deepwater Fin Fish Fishery is the responsibility of DPI&F, Queensland Boating and Fisheries Patrol (QBFP). On 1 July 2005 a new Compliance Activity System was implemented 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 (FINS) 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 six nautical mile grids. This allows enforcement activities and offences to be represented spatially and to guide reviews of compliance strategies.

During the 2005–2006 financial year (up to and including 15 April 2006), approximately 100 units were inspected in the Deepwater Fin Fish Fishery with a corresponding compliance rate of approximately 96%. The offences detected related to recreational fishers taking/possessing fish regulated by size or number and a commercial fisher contravening a quota.

A compliance risk assessment has been undertaken for this fishery in combination with the compliance risk assessment for the Coral Reef Fin Fish Fishery in order to determine compliance priorities. The outcomes of the assessment will provide the basis for future compliance planning.

### **Changes to management arrangements in the reporting year**

No changes were made to management during 2005.

### **Complementary management**

Fisheries managers routinely discuss complementary management across jurisdictions for a range of line fisheries. Because the DFFF is a small fishery, and because of the overlap with other line fisheries, discussions usually revolve around a range of line fisheries, not just the DFFF.

### **Information compiled by**

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