

Annual status report 2010

Deep Water Fin Fish Fishery



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Fishery profile 2009–10	
Species targeted Blue eye trevalla, bar cod	Total number of commercial licences in 2009–10 7
Total harvest from all sectors 50 tonnes	Commercial licences accessing the fishery in 2009–10 4
Commercial harvest 50 tonnes	Fishery season Predominantly the winter months
Recreational harvest Nil using multi-hook apparatus	Fishery symbols L8 (in conjunction with RQ when coral reef fin fish are retained)
Indigenous harvest Nil using multi-hook apparatus	Monitoring undertaken Commercial logbooks (CFISH), quota monitoring
Charter harvest Nil using multi-hook apparatus	At-sea observer days conducted in 2009–10 Nil
Commercial Gross Value of Production (GVP) Approximately \$230 000	Accreditation under the EPBC Act Expires 28 October 2011
Allocation between sectors Commercial fishery only using multi-hook method	Logbook validation Yes—completed September 2006
Total exports Negligible—most product sold domestically	Quota managed Yes—for reef quota (RQ) species only. Six L8 licences are also endorsed with an RQ symbol.
Key fish resources	Stock status
Bar cod (<i>Epinephalus ergastularius</i>)	Uncertain
<p>Comments: Reported commercial catches decreased from approximately 6 t to less than 3 t in 2009–10, with less effort applied to the fishery. A time series of age and length data is required to provide more certainty in status. A small number of bar cod collected from the commercial fishing sector have been aged and macroscopically sexed as females, with a maximum age of between 40–50 years. A new research project aimed at collecting more biological data and completing an updated risk assessment for the fishery has commenced.</p>	
Blue eye trevalla (<i>Hyperoglyphe antarctica</i>)	Uncertain
<p>Comments: Blue eye trevalla comprises the highest catch (36 t) of any species in the deep water fishery in 2009–10. No local biological information available. The species is at its northern limit in Queensland, and it was noted that NSW has assigned a status of fully fished to their stocks. More information on catch and effort details will be gathered through the observer program in 2011.</p>	

Fishery profile 2009–10	
Key fish resources	Stock status
Rosy jobfish (<i>Pristipomoides filamentosus</i>)	Uncertain
<p>Comments: Catch remains low (<10 t), with some catch still likely reported in logbooks as ‘Jobfish – unspecified’. Observers in the line fisheries in 2011 will aid in better defining the species composition of unspecified jobfish. This species is currently monitored as a key OS species through the Performance Measurement System (PMS).</p>	
Bass groper (<i>Polyprion americanus</i>)	No Assessment Made
<p>Comments: Catch in 2009–10 decreased to 4 t from approximately 10 t the year before. Possible misidentification issues with hapuka. No biological information or local research for the species. No assessment made until the observer program, operating in the line fisheries in 2011, can provide more information on fishery interactions. A new research project aimed at collecting more biological information of deep water fish species and completing an updated risk assessment for the fishery has commenced.</p>	

Introduction

The Deep Water Fin Fish Fishery (DWFFF) is a small commercial multi-hook line fishery that operates in Queensland east coast waters east of the 200 m bathometric line (Figure 1). This report covers the period 1 July 2009 – 30 June 2010.

Fishery Description

Fishing area and methods

Commercial operators working in the DWFFF 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. Multi-hook apparatus cannot be used in the GBRMP.

Key Species

Blue eye trevalla (*Hyperoglyphe antarctica*) inhabit the outer continental slope and shelf waters of the southern hemisphere and are found as far north as Tin Can Bay in Queensland (White and Sumpton 2002). Juveniles inhabit surface waters and exhibit schooling behaviour making them easier to catch. Adults are most common over or near rocky areas,



Figure 1: Map of fishery area

especially at edges of canyons at 100–300 m depth, but are caught at depths of over 600 m. They generally remain close to the seabed during the day and move up in the water column at night, following concentrations of food.

Blue eye trevalla attain a maximum length of 140 cm total length (TL) and live to at least 42 years. The average sizes at which sexual maturity is reached are 72 cm (11–12 years) for females and

62 cm (8-9 years) for males. A brief two month spawning period occurs from early March–May each year. Females spawn between 2 and 11 million eggs yearly depending on their size (Baelde 1995).

Bar cod (*Epinephalus ergastularius*) is the dominant species caught by the NSW deep water line fishery and makes up a significant proportion of the catch in the Queensland fishery. Adults are found at depths of 110–370 m and juveniles between 15–130 m. Bar cod are only known to exist in the south west Pacific off the eastern coast of Australia between 18°S and 36°S. The greatest reported size is 157 cm TL and 66 kg (Heemstra and Randall 1993). Nothing is known about their biology.

Rosy snapper (*Pristipomoides filamentosus*) are caught by handline and dropline in Queensland and, in some years, make up a significant proportion of the catch of the L8 fishery. The high catch rates of rosy snapper in particular areas might be due to its tendency to aggregate in large shoals in up-current localities (Mees 1993). The maximum reported length is 90cm TL (maturing at 35–50cm TL; Polovina and Ralston 1987) and the maximum reported age is 30 years. The potential vulnerability of rosy snapper to overexploitation has been shown in Samoa, where commercial development of a multiple hook fishery saw a subsequent depletion of rosy snapper over the seamounts and large fish (over 61cm) had disappeared altogether in just nine years (Langi and Langi 1989).

Main management methods used

A comprehensive set of management arrangements is in place under the Fisheries Regulation 2008 and the Fisheries (Coral Reef Fin Fish) Management Plan 2003 to manage the coral reef fin fish harvest component of this fishery. The range of input and output controls used to manage the DWFFF includes:

- Limited entry
- Prohibition on taking barramundi (*Lates calcarifer*), pink snapper (*Pagrus auratus*), Spanish mackerel (*Scomberomorus commerson*), red emperor (*Lutjanus*

sebae), and coral trout (*Plectropomus spp*) when using multi-hook apparatus.

- Minimum size limits (for coral 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.

Catch statistics

In 2009–10, the top ten species¹ captured were:

- Blue eye trevalla (*Hyperoglyphe antartica*)
- Bass groper (*Polyprion americanus*)
- Bar cod (*Epinephalus ergastularius*)
- Flame snapper (*Etelis coruscans*)
- Mahi mahi (*Coryphaena hippurus*)
- Rosy jobfish (*Pristipomoides filamentosus*)
- Rusty jobfish (*Aphareus rutilans*)
- Amberjack (*Seriola dumeril*)
- Lavender snapper (*Pristipomoides sieboldii*)
- Pearl perch (*Glaucosoma scapulare*)

Figure 2 summarises the variability in catch and effort as reported in logbooks for the ten years to 2009–10. Previous to 2007–08, Fisheries Queensland data extraction for the L8 fishery was extremely difficult, and was based around calculating catches from specific L8 fishing grids from the main data set. Some fishing grids overlap with other line fishing areas. A new logbook introduced in July 2007 allows for more accurate data reporting and analysis.

In 2009–10, the total catch landed for the DWFFF decreased to approximately 50 tonnes. Analysis of higher catches reported in 2008–09 revealed that fishers reported increased levels of ‘Shark–unspecified’ catch. This was likely a factor of the

¹ The total weights recorded for each species cannot be reported due to Fisheries Queensland five-boat confidentiality policy, however Fisheries Queensland do monitor catch rates and compositions annually.

investment warning issued for reform to the shark fishery in 2007–08. Since new management arrangements for shark were introduced in 2009, it appears that the catch has returned to regular levels seen previously for this fishery.

There is no recreational, charter or Indigenous component to this fishery.

Spatial issues / trends

Most of the fishing effort is applied in areas where the 200 m depth contour is relatively close to the coast. Areas off Fraser Island are regularly fished, particularly over recent years when secondary species in the rocky reef fin fish fishery (e.g. pearl perch) have been targeted. The current DWFFF operators are based predominantly in the south of the state.

Socio-economic characteristics and trends

The DWFFF is primarily a winter fishery. Most product is sold domestically, with occasional exports. Prices obtained on the domestic market range from \$5 to \$10 per kg whole weight on average at the wharf, depending on the species and marketability.

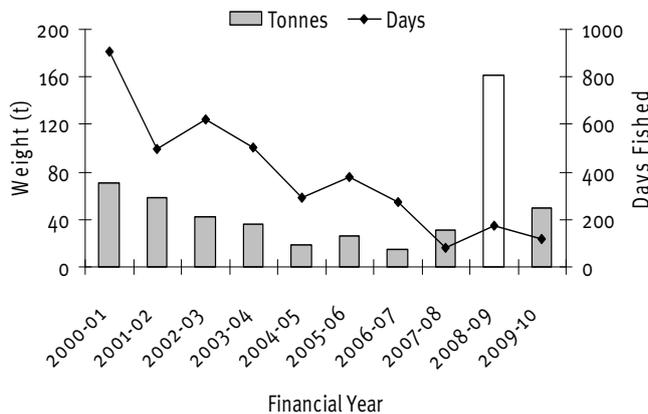


Figure 2: Total catch and days fished in the L8 fishery 2000–01 to 2009–10 (Source: Fisheries Queensland CFISH database; accessed 19/11/10)

Biological and ecological information

Monitoring programs

There is currently no fishery independent monitoring specific to the DWFFF; however some species taken in the DWFFF are captured in independent monitoring surveys undertaken for coral reef fin fish. However, these surveys do occur outside the area of the deep water fishery, using different gear. Notwithstanding this, some biological information is collected on species that overlap line fisheries. Similarly, a new fishery dependent monitoring program has been developed for the rocky reef fishery to collect a range of biological information for inclusion in assessments on a number of species including pearl perch. For more information refer to the annual status reports for the coral reef fin fish and rocky reef fin fish fisheries.

At-sea observing

The Fisheries Observer Program (FOP) provides an effective method of obtaining a wide variety of information from the DWFFF. The primary objectives for the program are to collect information regarding the species composition of catch and bycatch from the observed fisheries.

Due to the size and complexity of Queensland's fisheries, the FOP allocates its observing resources for each year according to the priority needs that have been identified by Fisheries Queensland. East coast line fisheries will be targeted in 2011, with particular emphasis on fishers operating in deep water using mechanical reels. Whilst this sector does not exclusively comprise L8 holders, the biological information obtained will assist fisheries managers in their decision making for this multi-hook fishery.

Bycatch

Bycatch information has been collected through Long Term Monitoring Program (LTMP) structured line surveys, as well as by fishery observers on commercial operations (see Monitoring Programs and Results section).

Interactions with protected species

There were no reported interactions with protected species during the reporting period.

Ecosystem impacts

There are minimal ecosystem impacts associated with selective line fishing.

Sustainability Assessment

Performance against fishery objectives

In 2008, Fisheries Queensland began annual reporting on a joint performance measurement system for the CRFF and DWFF fisheries. The PMS functions as a transparent reporting framework that outlines the measures against which Fisheries Queensland assesses and reports on the performance of the fisheries (Table 3). Within three months of becoming aware that a performance measure has been triggered, Fisheries Queensland is required to finalise a clear timetable for implementation of appropriate management responses.

In the 2009 Annual Status Reports, Performance Measure 5, relating to the catch taken under OS line units and Performance Measure 10, relating to maximising economic efficiency, were triggered. These same performance measures were triggered in the Coral Reef Fin Fish Fishery, which is responsible for the majority of OS catch.

After reviewing the data for Performance Measure 5, Fisheries Queensland has determined that no management action is required at this stage based on the fact that the total reported catches of nannygai (saddletail and crimson snapper), red

emperor and rosy snapper were below pre-quota levels and will continued to be monitored next year.

Fisheries Queensland also considered Performance Measure 10, and has acknowledged that both RTE and OS quotas have been significantly undercaught since quota was introduced in July 2004. The continued under catch of OS quota does not represent a problem with fish stocks, but reflects the lower relative value of OS species. The majority of OS quota is taken in the L1, L2 and L3 fishery areas.

In late 2009 the PMS for the CRFFF and DWFFF fisheries was reviewed as per the commitments made by Fisheries Queensland to do so in the original document. It was decided, based on current management arrangements and separate WTO's, that the PMS be separated into two documents. The review has resulted in more robust performance measures and seen the removal of former economic and ecosystem measures that added little value to the previous document. Fisheries Queensland, through the Industry Development and Economic teams, will endeavour to develop appropriate performance indicators in the future. The new PMS for the DWFFF and the outcomes for 2009–10 are outlined below. Fisheries Queensland will review the triggered performance measures for this reporting period in early 2011, and report on the outcomes in the 2011 annual status report for this fishery.

Table 3: Performance measures and outcomes relating to the DWFFF in 2009–10.

Performance measure	Performance
<i>Target species</i>	
(i) The catch (>2 t) of key OS and non-RQ species is at least 20% higher or 40% lower than the preceding quota year.	<p><i>Triggered</i></p> <p>Five of the key OS species had more than 2 t catch in 2009–10. Each of these species had a greater than 40% decline in catch since 2008–09.</p> <p>Blue eye trevalla – 49% decline Bass groper – 57% decline Bar cod – 50% decline Flame snapper – 52% decline Mahi mahi – 83% decline</p>

Performance measure	Performance
<p><i>If (i) is triggered:</i></p> <p>(ii) There is a 20% decrease in CPUE each consecutive year over 3 years, OR a 30% decrease from the preceding year for the triggering species or species group.</p>	<p><i>Triggered</i></p> <p>There was approximately 50 days less fished in 2009–10; however the CPUE for three species still triggered the performance measure.</p> <p>Blue eye trevalla – >20% each year over three years, and >30% from last year</p> <p>Flame snapper – >20% each year over three years, and >30% from last year</p> <p>Mahi mahi – >30% from last year</p>
Bycatch and protected species	
<p>(i) Observer information [over a three year period] shows the amount of discards exceeds 10% of the total catch (by numbers of fish).</p> <p>(ii) Percentage of any category of protected species released alive falls below 90%.</p>	<p><i>Not measured</i></p> <p>Observer information has not yet been collected for a three year period for this fishery.</p> <p><i>Not triggered</i></p> <p>There were no interactions with protected species reported in 2009–10.</p>
Social	
<p>(i) That the rate of compliance falls below 92.5% in the commercial fishery.</p>	<p><i>Not triggered</i></p> <p>Compliance rate for the DWFFF was at 100% in 2009–10.</p>

Current sustainability status and concerns

The DWFFF is a small-scale fishery operating over a large geographical area, with multi-hook line apparatus permitted for use on only seven commercial licences. Based on current harvest levels, catch rates and management arrangements, the fishery is considered sustainable.

Research

Recent research and implications

There was no new research undertaken specifically relating to the DWFFF during 2009–10. For information relating to research being conducted on some of the non-RQ species that may be harvested in this fishery (e.g. pearl perch), please refer to the 2010 Rocky Reef Fin Fish Fishery Annual Status Report.

Collaborative research

No collaborative research is being undertaken specific to the DWFFF.

Fishery management

Compliance report

During 2009–10, 27 inspections in the DWFFF were undertaken, with no offences detected.

Education forms an important component of the compliance strategy for all of Queensland's fisheries. Queensland Boating and Fisheries Patrol (QBFP) are proactive in their education programs which include attending events, such as boating and fishing shows and Seafood Industry events, to liaise with fishers, delivering lectures, utilising various forms of media to release important

information, answering enquiries and conducting extensive one on one education with both commercial and recreational fishers during the course of field patrols and inspections.

During inspections officers hand out recreational fishing guides and flyers which contain information on size and in-possession limits and answer queries from commercial fishers on an ad hoc basis. Education plays a particularly important role when new legislation is implemented and QBFP make every effort to ensure that all fishers have a good understanding of their rights and responsibilities.

Changes to management arrangements in the reporting year

No changes were made to management arrangements in 2008–09.

Communication and education

Promotion of regulations applying to both commercial and recreational fishers, including those relating to deep water fin fish species, is an ongoing role for Fisheries Queensland. Approximately 950 recreational fishing survey identification guides containing pictures and other biological information were sent out to diary program participants, as well as a regular recreational fishing update newsletter which is distributed to approximately 500 stakeholders each quarter.

Consultation with stakeholders in the fishery mainly occurs through the Queensland Fisheries Advisory Committee (QFAC) with meetings generally held twice a year. QFAC provides advice to Fisheries Queensland on management measures for the fishery. Consultation with stakeholders also occurred as part of the PMS development process.

Complementary management

Fisheries managers routinely discuss complementary management between jurisdictions for a range of line fisheries. Discussions with the Australian Fisheries Management Authority (AFMA), New South Wales Department of Primary Industries, and industry usually revolve around a range of line

and trap fisheries taking these same or similar species, not just the DWFFF.

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Acknowledgements

Amy Jones, Nadia Engstrom, David McCorkindale, Dr Julia Davies, Stephanie Slade, Dr Brigid Kerrigan.

Image

Flame snapper (*Etelis coruscans*)

