

Annual status report

Gulf of Carpentaria Line Fishery

2007



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

While every care has been taken in preparing this publication, the State of Queensland accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained in this report.

© The State of Queensland, Department of Primary Industries and Fisheries 2007.

Copyright protects this material. Except as permitted by the *Copyright Act 1968* (Cth), reproduction by any means (photocopying, electronic, mechanical, recording or otherwise), making available online, electronic transmission or other publication of this material is prohibited without the prior written permission of the Department of Primary Industries and Fisheries, Queensland.

Inquiries should be addressed to:
Intellectual Property and Commercialisation Unit
Department of Primary Industries and Fisheries
GPO Box 46
Brisbane Qld 4001

or

copyright@dpi.qld.gov.au

Tel: +61 7 3404 6999

Introduction

The Gulf of Carpentaria Line Fishery (GOCLF) targets Spanish mackerel (*Scomberomorus commerson*) using surface troll lines. Small quantities of demersal (bottom-dwelling) fish species including cods, tropical snappers, wrasses and sweetlip are also taken using set hand lines. Product from the GOCLF is predominately sold on the Australian domestic market. It is likely that there is only limited export from this fishery (for example, grey mackerel).

This report covers fishing activity during the 2006 calendar year.

Fishery profile 2006

Total harvest of all species: 263 t + Indigenous and recreational

Commercial harvest: 237 t

Recreational harvest 2005: Approximately 44 t of retained reef-related species (estimated from RFISH data)

Indigenous harvest 2000–01: Approximately 220 000 fish (north Queensland estimate only—includes communities outside the Gulf of Carpentaria)

Charter harvest: 26 t

Commercial Gross Value of Production (GVP): \$1.6 million

Number of licences: 47 primary licences

Commercial fishing boats accessing the fishery in 2006: 27

Fishery season: All year

Description of the fishery

Fishing methods

The commercial line fishery operates as a small-boat fishery, with a number of tender boats operating from a mother boat (<20 m), or as small trolling boats targeting pelagic fish.

Commercial operators use hand-hauled, hand winch-hauled or electric/hydraulic winch-hauled lines, and heavy rod-and-reel lines. Combinations of these gear types vary according to areas fished, weather conditions, frequency of catch and time of day.

Recreational fishers primarily use hook and line to catch target and by-product species.

The Indigenous communities in the Gulf of Carpentaria (GOC) use traditional subsistence fishing methods for traditional and customary purposes, as well as recreational fishing practices. Traditional fishing methods include the use of spears, stone fish traps and nets, and are used to supply product solely for the community.

Fishing area

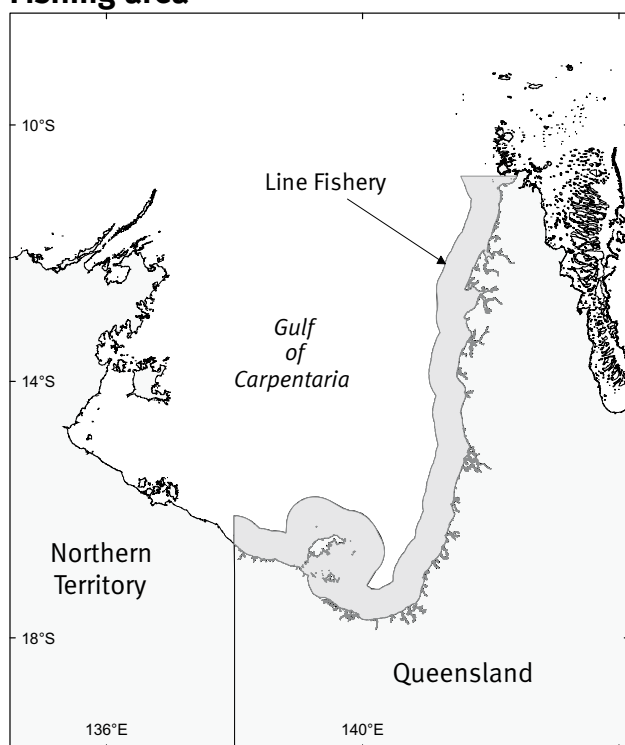


Figure 1: Map of Gulf of Carpentaria Line Fishery.

The GOCLF area extends from Slade Point near the tip of Cape York Peninsula to the Queensland–Northern Territory border and includes all tidal waterways offshore to the 25 nm line (Figure 1). On 1 July 2006, the inshore fishery (L5—out to 3 nm from the coast) and the offshore fishery (L4—out to 25 nm from the coast) were amalgamated under the fishery symbol L4 to streamline management arrangements.

Main management methods used

The Queensland Fisheries Joint Authority (QFJA), through the Queensland *Fisheries Act 1994*, manages all northern demersal and pelagic finfish in waters adjacent to Queensland in the GOC that are shared with the Northern Territory and the Commonwealth.

Management measures used in the GOCLF are a combination of input and output controls that include limited access and gear and vessel restrictions. The full description of input and output controls can be found in the Department of Primary Industries and Fisheries (DPI&F) report *Ecological Assessment of the Gulf of Carpentaria Inshore Finfish Fishery*¹ and can be downloaded from: www.environment.gov.au/coasts/fisheries/qld/line/pubs/line-fishery-submission.pdf

There is limited overlap between the finfish species caught by GOC recreational, Indigenous and charter boat fishing tour sectors and those taken by commercial operators in the GOCLF.

DPI&F manages the GOCLF with advice from the Gulf Management Advisory Committee (GulfMAC) in accordance with the Queensland *Fisheries Act 1994*, the Queensland Fisheries Regulation 1995 and the Fisheries (Gulf of Carpentaria Inshore Finfish) Plan 1999.

¹ A Roelofs, 'Ecological Assessment of the Gulf of Carpentaria Line Fishery—A report to the Environment Australia on the sustainable management of a multi-species tropical line fishery', unpublished report to Environment Australia, Department of Primary Industries and Fisheries, Brisbane, Australia, 2003.

Approximate allocation between sectors

The GOCLF is mainly a commercial fishery. At present the estimated participation of the Indigenous and recreational sector in the fishery is considered minor.

Fishery accreditation under the EPBC Act

A Wildlife Trade Operation (WTO) approval was granted in 2004 under Parts 13 and 13A of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and expires in September 2007.

Catch statistics

Commercial

Catches and catch rates (kg/day) in the small-scale GOCLF were in the range of recorded harvest levels over the last 7 years (Table 1). About 90% of the total GOCLF harvest is Spanish mackerel (Figure 2). Spanish mackerel catches in 2006 were lower compared with the record high catches recorded for 2005 (Figure 3). Mesh net and finfish trawl commercial fisheries and the Northern Prawn Fishery (NPF) also harvest Spanish mackerel in the Queensland GOC—mesh net fisheries 23 t (2006), finfish trawl fisheries 13 t (2005), NPF 0.1 t (2005). In-possession limits in the NPF reduce the potential harvest by that fishery of Spanish mackerel (and red snappers). The annual take of Spanish mackerel in finfish trawl fisheries is expected to reduce after the implementation of an in-possession limit in the fishery.²

Table 1: Total commercial catch (in tonnes), effort information (number of boats in the fishery and days fished), catch rates (kilograms/day) and GVP (\$ million) for the GOCLF 2000–06 (Source: DPI&F CFISH database, 11 April 2007).

	2000	2001	2002	2003	2004	2005	2006
Catch (t)	141	158	212	197	212	251	237
Boats	29	32	41	33	27	31	27
Days	919	858	1274	1254	930	1171	969
kg/day	153	184	166	157	227	215	245
GVP (\$ million)	1.0	1.1	1.5	1.3	1.5	1.8	1.6

No catches of red snapper (*Lutjanus malabaricus* and *L. erythropterus*) were recorded in 2006 (Table 2). As Table 2 shows, red snappers are a minor byproduct species in the fishery.

Catches of other minor species in the fishery from 2000 to 2006 continue to be variable, with no apparent catch trend (Table 2). Fishing for demersal species is generally opportunistic and overall catches are small in the GOCLF. Fishers generally only target coral reef species outside the peak Spanish mackerel season, or when weather conditions are not conducive to trolling.

² Permit conditions for the Gulf of Carpentaria Developmental Finfish Trawl Fishery have prescribed possession limits for Spanish and grey mackerels of 20 per species per trip.

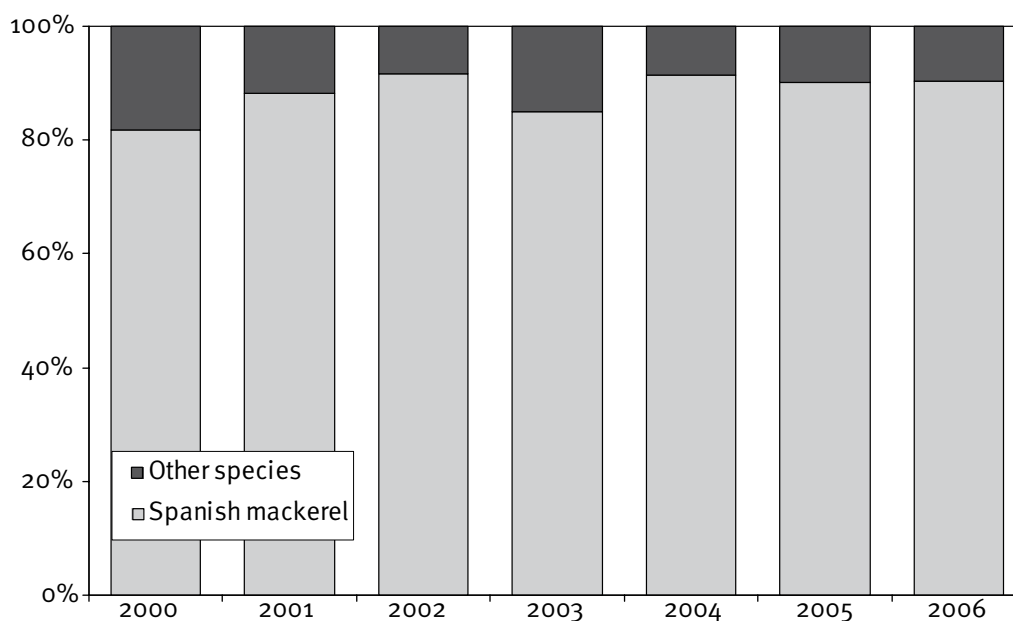


Figure 2: Contribution of Spanish mackerel to the total commercial catch compared with other species (all species combined) in the GOCLF 2000–06 (Source: DPI&F CFISH database, 11 April 2007).

Table 2: Commercial catch (in tonnes) of minor species in the GOCLF 2000–06 (Source: DPI&F CFISH database, 11 April 2007).

Species groups	2000	2001	2002	2003	2004	2005	2006
Coral trout—all*	9.3	0.8	2.3	0.9	0.2	6.2	0.2
Emperor—red	3	0.3	0.9	0.6	1.3	2.2	0.3
Emperor—red throat	0.7	0.1	0.2	0.4	0.2	4.9	<0.1
Mackerel—grey	1.9	7.5	2.7	0.3	1.7	2.1	8.3
Queenfish—unspecified*	0.9	1.1	0.2	6.5	0.9	0.7	1.9
Red snapper*	1.0	0.5	1.2	5.5	5.4	0.4	0
Shark—all	0.9	0.4	2.5	3.2	1.4	1.1	3.4
Other fish*	8.1	8.1	7.5	12.3	7.3	7.1	8.4
Total	25.9	18.8	17.6	29.6	18.4	24.6	22.7

* The harvest includes a number of species.

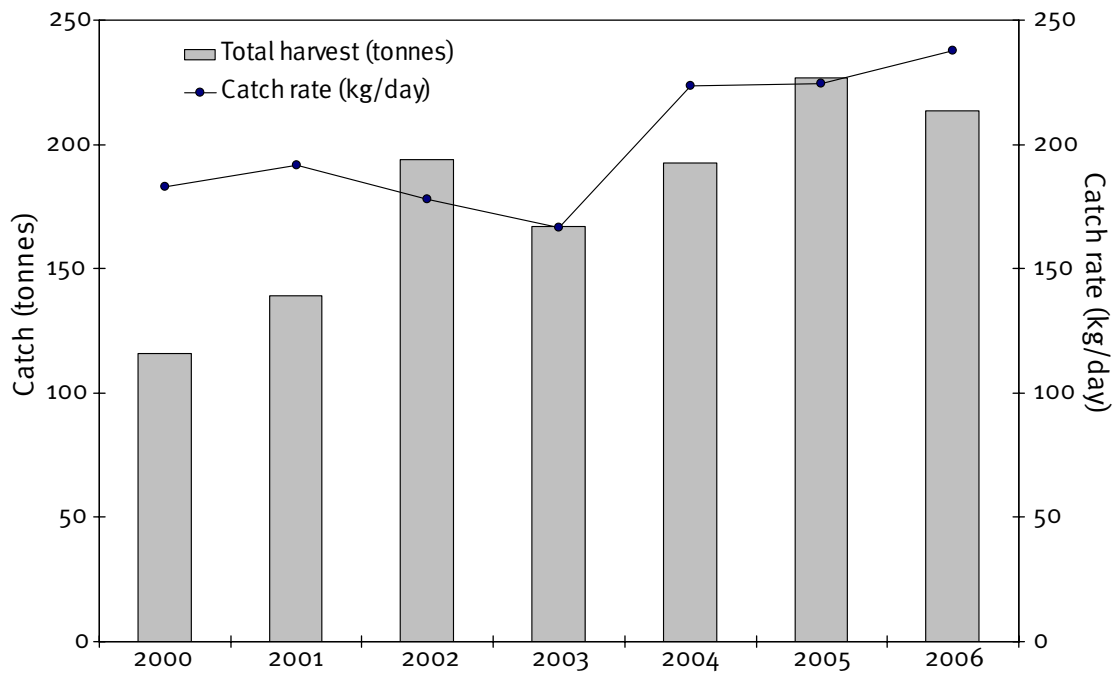


Figure 3: Total commercial catch (tonnes) and catch rate (kg/day) of Spanish mackerel in the GOCLF 2000–06 (Source: DPI&F CFISH database, 11 April 2007).

Recreational

DPI&F collected data on recreational fishers in Queensland as part of the RFISH program in 1997, 1999, 2002 and 2005. From this data, an estimated 44 t of reef-related species were harvested recreationally (retained) in 2005.³

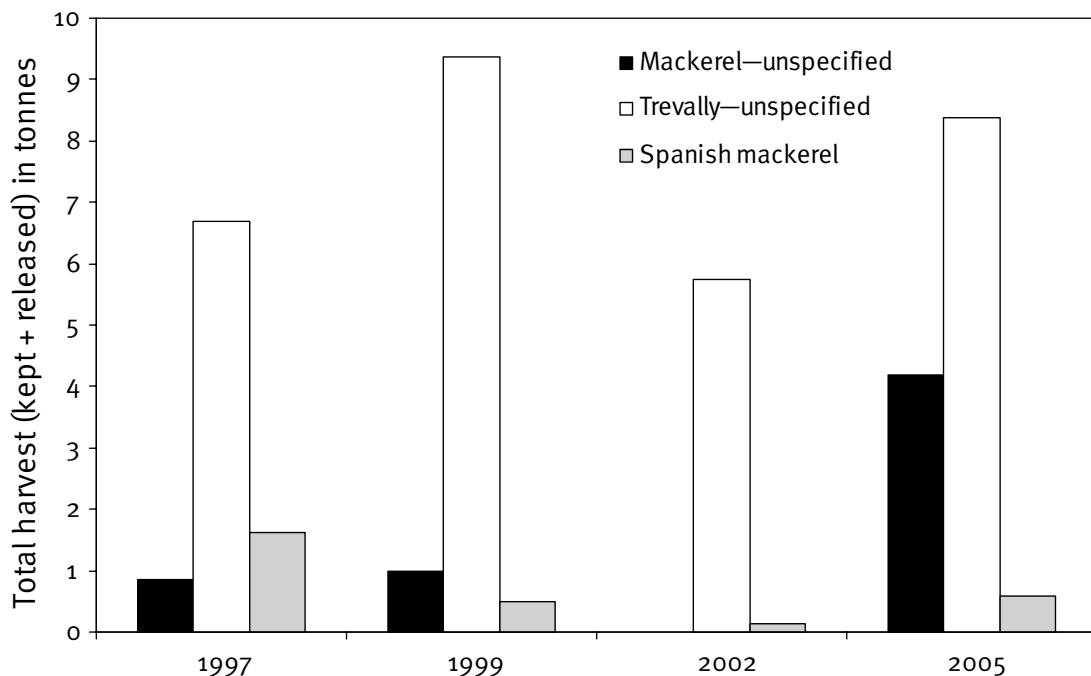


Figure 4: Indicative harvest trends (kept and released combined) for Spanish mackerel, unspecified mackerel and trevally species for the recreational fishing sector in the GOC region, based on expanded RFISH diary information selected by nearest town to fishing location (1997, 1999, 2002 and 2005 diary data rounds).⁴

³ Recreational catch data for 2005 are preliminary as of April 2007. The Australian Bureau of Statistics (ABS) is currently calculating the associated standard errors for the estimated recreational harvest of these species.

⁴ *ibid.*

Figure 4 shows preliminary indicative trends in the total harvest (kept and released) of Spanish mackerel and some other popular pelagic species that are by-product species in the GOCLF.⁵ There appear to be no trends in harvest for the key target species, Spanish mackerel, or the by-product species.

Charter

Charter operations harvested an estimated 26 t of fish and released approximately 39 t in 2006 (Table 3). As in 2005, retained catches were dominated by red emperor (5.3 t), coral trout (2.6 t) and Spanish mackerel (3.8 t). Charter operations generally release substantially more fish than they retain, especially for species such as queenfish. Mackerel and coral trout species, however, show the reverse of this release trend. These species are highly prized for their eating quality and substantially more are kept by anglers than are released.

Table 3: Total retained and released (in brackets) harvest (in kg) by commercial tour operators of target and by-product species in the GOCLF 2003–06 (Source: DPI&F CFISH database, 11 April 2007).

Common name	2003	2004	2005	2006
Cod—all*	1651 (9479)	1451 (9207)	1433 (8025)	1001 (6354)
Coral trout*	2118 (1129)	2621 (985)	3276 (1665)	2614 (763)
Emperor—red	3437 (1449)	4676 (1955)	6409 (3422)	5301 (3282)
Emperor—red throat	31 (31)	– (30)	170 (189)	27 (50)
Fish—mixed reef*	376 (4623)	262 (969)	177 (394)	9 (337)
Hussar—unspecified*			6 (12)	
Mackerel—grey	126 (1430)	130 (819)	139 (1574)	568 (657)
Mackerel—school	275 (253)	774 (608)	1414 (1232)	2416 (1695)
Mackerel—shark		– (28)	13 (–)	– (28)
Mackerel—Spanish	2447 (2073)	2552 (2612)	3183 (3630)	3809 (1876)
Mackerel—spotted	110 (439)	64 (184)	– (182)	3332 (193)
Mackerel—unspecified*	665 (3572)	506 (3415)	708 (1525)	204 (914)
Mangrove jack	407 (2599)	503 (2698)	316 (2522)	119 (1288)
Painted sweetlip*				– (6)
Perch—Moses	2053 (2015)	1124 (1771)	824 (1508)	576 (1166)
Queenfish—all*	1651 (26 121)	2235 (25 556)	2738 (21 897)	1909 (17 003)
Red snapper*	1055 (414)	1410 (318)	2001 (658)	1453 (220)
Sweetlip—grass	1193 (6)	1524 (56)	1879 (344)	1255 (546)
Tropical shark—all*	523 (1342)	1069 (2239)	1797 (2065)	1166 (2944)
Total	18 117 (56 976)	20 902 (53 449)	26 481 (50 845)	25 760 (39 322)

* The harvest includes a number of species.

Indigenous

The only estimates of harvest by Indigenous fishers solely within the bounds of the GOCLF are compiled in the 2000–01 National Recreational and Indigenous Fishing Survey (NRIFS). The NRIFS collected data on Indigenous fishing across northern Australia but presented results only for north Queensland (from communities between Cairns and the NT border).⁶ The survey results

⁵ *ibid.*

⁶ GW Henry and JM Lyle (eds), *National Recreational and Indigenous Fishing Survey*, FRDC Project No. 99/158, NSW Fisheries, Australia, 2003.

indicate that seaperch/snappers and emperors (about 11% of the total catch composition) are one of the species groups more commonly harvested by the Indigenous sector, while mackerels are relatively minor (about 0.6%).

Spatial issues/trends

The Spanish mackerel fishery in the GOC has shown similar annual spatial harvest patterns since 2003. The highest Spanish mackerel catches continue to be centred around Weipa and Mornington Island.

Socio-economic characteristics and trends

Participation rates in the commercial fishery were lower in 2006 than in 2005, with four fewer boats accessing the GOCLF. This resulted in a decrease in estimated GVP from \$1.8 to \$1.6 million (Figure 5).

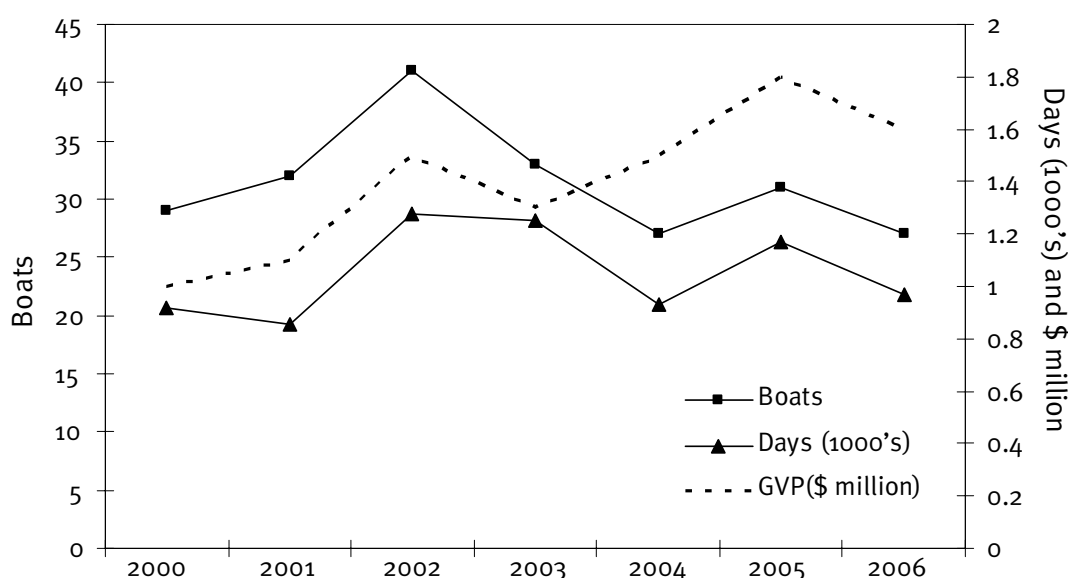


Figure 5: Number of commercial line boats accessing the GOCLF, annual days fished and whole fishery GVP (\$million) figures, 2000–06 (Source: DPI&F CFISH database, 11 April 2007).

Fishery performance

Appraisal of fishery in regard to sustainability

An assessment of Spanish mackerel and shark stocks in Northern Australia in 1997⁷ suggested that Spanish mackerel in the GOCLF were fully exploited at sustainable levels. Other commonly caught species—although comprehensive stock assessments have not been made—are being harvested at very low levels and are considered to be at negligible risk of overfishing.

Given the low numbers of operators allowed in the fishery, and the vast geographic area and remoteness of the fishery, DPI&F believes the GOCLF is presently being managed in a sustainable manner, with low risk of localised depletions or overfishing.

⁷ CJ Walters and RC Buckworth, 'Shark and Spanish mackerel stocks assessed', *Northern Territory Fishing Industry News*, 8: 14–15, July 1997.

Progress in implementing Department of the Environment and Water Resources (DEW) recommendations

Recommendation	Progress	Improvements to management regime
<p>DPI&F to inform DEW of any intended amendments to the management arrangements that may affect sustainability of the target species or negatively impact on protected species or the ecosystem.</p>	<p><i>Ongoing</i></p> <ul style="list-style-type: none"> • DEW advised of amalgamation of L4 and L5 fisheries. Fisheries amalgamated on 1 July 2006. • There have been no further amendments to GOCLF management arrangements during the reporting period. • An amendment to extend the fishery offshore to all Queensland GOC waters is proposed and is awaiting the Regulatory Impact Statement public consultation process, before decisions are made on future implementation. 	<p>N/A</p>
<p>By the end of 2006 DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for target, by-product, bycatch, protected species and impacts on the ecosystem.</p>	<p><i>In progress</i></p> <p>DPI&F held a workshop with fisheries managers, researchers and industry representatives in 2006 to develop operational objectives and performance measures for the GOCLF. Outcomes of this process were reviewed by GulfMAC and the final version will be implemented as policy and provided to DEW in 2007.</p>	<p>The effectiveness of fisheries management in ensuring the sustainable use of GOCLF fish stocks and minimising any impacts on the broader ecosystem is being measured.</p>
<p>DPI&F to monitor the status of the fishery in relation to the performance measures once developed. Within 3 months of becoming aware that a performance measure has not been met, DPI&F to finalise a clear timetable for the implementation of appropriate management responses.</p>	<p><i>Ongoing</i></p> <p>Performance measures will be regularly assessed and reported against in the time frames specified within the Performance Measurement System (PMS) itself. PMS to be implemented in 2007.</p>	<p>N/A</p>

Recommendation	Progress	Improvements to management regime
<p>From 2005, DPI&F to report publicly on the status of the fishery on an annual basis, including explicitly reporting against each performance measure, once developed.</p>	<p><i>Ongoing</i></p> <p>The 2007 Annual Status Report will be the third to be completed for the GOCLF.</p>	<p>Public reporting on the status of Queensland's fisheries is an important aspect of managing fisheries on behalf of the Queensland community. These reports provide an important catalogue of historical information on the status of Queensland fisheries, links to ecological assessments demonstrating to the Australian Government that fisheries meet sustainability guidelines, assessment of management effectiveness against performance measures, and the most up-to-date information on Queensland's fisheries.</p>
<p>Within 18 months, DPI&F to undertake a risk assessment, in conjunction with other relevant jurisdictions where possible, to identify target, by-product and bycatch species most at risk from the fishery. Actions seeking to reduce risk to be implemented as appropriate within a further 12 months.</p>	<p><i>Completed</i></p> <p>DPI&F conducted an Ecological Risk Assessment (ERA) with fisheries managers, researchers and industry representatives in November 2004 to determine the level of risk to protected, bycatch, by-product and target species from fishing activities in the GOCLF. The risk assessment has informed the development of operational objectives and performance measures for the fishery. A report on the ERA was published in June 2006.</p>	<p>Completion of an ERA is one of many aspects of DPI&F's commitment to progress sustainable fisheries management. The ERA identified that only the primary target species, Spanish mackerel, was ranked at moderate risk to sustainability from fishing activities in the GOCLF. All other by-product, bycatch or protected species were ranked at low or negligible risk.</p> <p>DPI&F have developed management actions in response to this moderate level of risk.</p>
<p>DPI&F to implement an appropriate catch data validation mechanism in the GOCLF by the end of 2006.</p>	<p><i>Completed</i></p> <p>A new logbook that enables fishers to record target and non-target species was sent out in May 2007.</p> <p>At-sea observers are being used to assist validation of logbook data.</p>	<p>Catch validation will ensure greater management confidence in the use of commercial logbook data in monitoring fishery performance for the GOCLF.</p>

Recommendation	Progress	Improvements to management regime
<p>Within 18 months, DPI&F to develop a process to improve estimates of recreational and Indigenous take and factor these into stock assessments and management controls to ensure overall catch levels are sustainable.</p>	<p><i>In progress</i></p> <p>DPI&F is assessing methodologies and designs of pilot studies to collect Indigenous fisher data and improve the collection of RFISH data. Initial pilot studies on information-collecting schemes for Indigenous fisheries are being developed in collaboration with southern GOC communities. The challenge is to develop an information system that is culturally appropriate and respects intellectual protocol for recording traditional ecological knowledge.</p>	<p>Improvement in the level of knowledge of harvest by the Indigenous and recreational sectors will allow more accurate estimates of sustainable yields in the GOC. It will also increase our understanding of the breadth of fish species important to these sectors, which can be used in future Ecosystem Based Fisheries modelling.</p>
<p>DPI&F to continue to seek out alternative cost effective fishery independent sampling techniques, particularly for target species, and report outcomes in the annual status report from 2005.</p>	<p><i>In progress</i></p> <p>DPI&F are reviewing alternative cost effective fishery independent sampling/monitoring techniques, particularly for target species in the GOCLF. No suitable cost effective methods have been identified, given the low value and small scale of the fishery.</p> <p>Age-structure information is being collected through the LTMP (see below).</p>	<p>N/A</p>
<p>DPI&F to continue to work towards developing sustainable yield estimates of target species to determine sustainable harvest levels, particularly for Spanish mackerel and seaperch.</p>	<p><i>In progress</i></p> <p>Precautionary limit reference points have been developed for target, by-product and bycatch species in the GOCLF PMS.</p> <p>Information collection systems for Spanish mackerel are being implemented through the DPI&F Long Term Monitoring Program (LTMP) in 2006.</p> <p>Red snapper (seaperch) size and age composition data are being collected in the GOC Developmental Finfish Trawl Fishery in 2006 (at-sea observers and LTMP).</p> <p>Commercial fisher participation in the data collection programs is being investigated. This is viewed as the most cost effective way of collecting information.</p>	<p>DPI&F will monitor the performance of the GOCLF against precautionary limit reference points in the PMS while sustainable yield estimates are being developed.</p>

Recommendation	Progress	Improvements to management regime
DPI&F to develop a species-specific target list. DPI&F to develop a clear process for the inclusion of any additional species on the list.	<i>Completed</i> Management has adopted the list of target and by-product species developed during the ERA workshop. This list will be included in future descriptions of this fishery.	The clearly defined target species list has assisted in refining the development of stock assessment and monitoring programs for the GOCLF.
By the end of 2006 DPI&F to implement a program to collect information on the composition and abundance of bycatch.	<i>Completed</i> At-sea observers are collecting information on the composition and abundance of bycatch.	The ERA for GOCLF indicates that the fishery presents a negligible risk to the sustainability of bycatch species. DPI&F will consider additional information collected on the level and composition of bycatch in the GOCLF during the annual monitoring of the bycatch performance measure.

Management performance

A new Performance Measurement System (PMS) was developed for the GOCLF in consultation with the Gulf Management Advisory Committee (GulfMAC) in 2006. The PMS is awaiting final DPI&F implementation.

Resource concerns

This fishery is regarded as sustainable, based on current management arrangements and levels of effort.

Ecosystem

Non-retained species/bycatch

Bycatch in the GOCLF has been assessed as negligible. The fishing gear and species targeting practices limit the take of species other than Spanish mackerel and the main demersal fish species. GOCLF fishing methods include the use of troll lines and hand lines, which are always attended during fishing operations. This allows fishers to release any unwanted species alive.

Recreational fisheries have high levels of bycatch because of a growing movement towards the practice of catch and release of fish for sporting reasons, and to comply with regulated fish sizes and species. The fate of fish species discards in the recreational fishery is not known; however, survival is likely to be high for average-size fish that are not unduly harmed during the handling and release stages. A DPI&F-led Cooperative Research Centre (CRC) and Fisheries Research and Development Corporation (FRDC) project (FRDC 2003/019)⁸ is investigating post-release survival of line-caught reef species and is providing a better indication of the impact of line fishing on bycatch. Preliminary results for short-term survival rates indicate that between 78% and 100% of released coral trout, red and red throat emperors and crimson snappers survived for at least three days. The project also investigated damage caused by the fishing

⁸ For more information, go to www.dpi.qld.gov.au/far/18716.html

hook and recommended that smaller hooks and circle (not offset) hooks be used to maximise survival.

No data on the level of bycatch in the Indigenous subsistence sector of the fishery are available, although the level is thought to be very low.

Interactions with protected species

CFISH logbook data indicate that there were no interactions with endangered, threatened or protected species in the GOCLF for 2006. A Species of Conservation Interest (SOI) logbook has been developed to provide more detailed information on the level of interactions with protected species across all Queensland fisheries. The SOI logbook was implemented with new catch logbooks for the GOCLF in 2006.

Fishery impacts on the ecosystem

It is unlikely that there is any significant physical impact on the ecosystem from the fishery, because of the predominantly troll line fishing method used.

Other ecosystem impacts

Foreign and illegal fishery activities

The recent reported increase in illegal, unreported and unregulated (IUU) fishing vessel incursions into GOC waters is a serious threat to the sustainability of northern Australian fisheries. IUU activities appear to be targeting sharks and other pelagics as well as demersal finfish. Concerns are also held for the observed take of protected species and other species of conservation interest.

The lack of accurate information on IUU harvest levels may affect the accuracy of resource assessments and in turn may influence the effectiveness of sustainable management practices in the region. DPI&F are awaiting results of assessment by the Australian Fisheries Management Authority (AFMA) on levels of IUU effort and catch.

Research and monitoring

Recent research and implications

DPI&F is collaborating on a multi-state, multi-agency FRDC-funded project determining stock boundaries for grey mackerel, which commenced in July 2005. This approach has benefited fisheries for northern Australian Spanish mackerel and red snapper, with jurisdictions pursuing an integrated 'across-the-top' strategy for fishery management.

Other projects relevant to the GOCLF in which DPI&F is or has been an active participant in include:

- FRDC 2002/035—Northern Prawn Fishery Bycatch Monitoring (2002–06); and
- AFMA—Estimating Reliable IUU Fishing Effort from Coastwatch Surveillance and Apprehension Data.

Monitoring programs and results

DPI&F conducted a workshop in 2006 to establish a monitoring strategy for Spanish mackerel in the GOC. The workshop involved representatives from DPI&F fishery resource management and stock assessment groups, the LTMP and Northern Territory Fisheries.

The objectives of the new monitoring program are to collect length, sex and age structure data of commercial and recreational catches for stock assessments and thus address the DEW recommendation to develop sustainable yield estimates of target species to determine sustainable levels, particularly for Spanish mackerel.

Sampling protocols for Spanish mackerel in the GOC were modelled on the existing LTMP Spanish mackerel sampling protocol.⁹ Commercial line and net fishers have been contacted to enlist their involvement in the program. Sampling is expected to begin in 2007.

Fisheries Observer Program

The DPI&F voluntary Fisheries Observer Program was active in the commercial sector of the GOCLF in 2006. The program objectives are to collect information on the composition and length frequencies of the retained catch and bycatch, as well as interactions with protected species.

A single observer trip was conducted in the GOCLF fishery in 2006, with a total of 12 different species of fish recorded from the observed catch. Spanish mackerel was the most common, comprising 73% of the observed catch by number, followed by giant trevally (*Caranx ignobilis*) and giant barracuda (*Sphryaena jello*) (4% and 3% respectively).

At-sea fishery observers provide information on bycatch quantity and composition in the GOCLF. The data collected so far reinforce the efficient nature of fishing operations in targeting Spanish mackerel. In 2006, 12% of the catch was observed to be discarded, comprising 10 species. The majority (97%) of the bycatch is not marketable or are regulated (undersized) species for this fishery.

In total, 82% of all hooked Spanish mackerel were retained; 4% were undersized and released alive, 4% were taken by sharks during capture and 10% were hooked but were not captured.

No interactions with protected species were observed during 2006.

Collaborative research

The stock structure of Spanish mackerel throughout northern Australia was studied recently using genetic material examination, chemical analysis of otoliths and parasite distributions. The research showed that there are separate Spanish mackerel stocks across northern Australia and that movement between these stocks appeared minimal.

Fishery management

Compliance report

During 2006, 726 line fishing units were inspected in the GOC. Of these, eight were commercial vessel inspections. The majority of the remaining inspections were of recreational fishers,

⁹ Department of Primary Industries and Fisheries, *Fisheries Long Term Monitoring Program sampling protocol—Spanish mackerel (2004 onwards)*, Section 1, Department of Primary Industries and Fisheries, Brisbane, Australia, 2006.

comprising show sites, camp sites, fishing clubs, charter/tour operators, private property, motor vehicles and marketing premises.

Nine offences were detected, corresponding to a compliance rate of 98.8% on units inspected. A summary of offences is provided in Table 4.

Offences are reported as a Fisheries Infringement Notice (FIN); a Caution (FIN Caution or official caution issued by DPI&F legal officers); or a Prosecution (to proceed by complaint summons).

Table 3: Offences recorded in the Gulf of Carpentaria Line Fishery (2006).¹⁰

Offence	FIN	Prosecution	Caution
Recreational fishers take or possess fish regulated by size	7	-	-
Recreational fisher take or possess fish regulated by number	1	-	-
Total	8	0	1

Changes to management arrangements in the reporting year

The L4 and L5 fisheries symbols were combined as the L4 fishery symbol on 1 July 2006. There have been no further amendments to GOCLF management arrangements during the reporting period.

Consultation, communication and education

Consultation with stakeholders in the GOCLF mainly occurs through GulfMAC. Two meetings were held in 2006. GulfMAC provides advice to the QFJA and DPI&F on management measures for the GOCLF.

Complementary management

Fisheries researchers and managers from state, territory and Commonwealth jurisdictions meet annually at the Northern Australia Fisheries Management Forum to review current research, set research priorities and consider management strategies to facilitate the development and implementation of complementary management for shared fisheries resources. A recent focus of the forum has been the risks to northern Australian fisheries associated with IUU fishing.

Information compiled by

Anthony Roelofs

Acknowledgements

Dr Neil Gribble, Jason Stapley, Nadia Engstrom, Sue Helmke, Wayne Hagedoorn, Dr Malcolm Dunning, Leonard Olyott, Fiona Hill.

Front cover image

Spanish mackerel (*Scomberomorus commerson*)

¹⁰ All offences were made by recreational fishers.

