



Australian Government

Department of the Environment and Water Resources

Assessment of the
Gulf of Carpentaria Line Fishery

August, 2007

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This document is an assessment carried out by the Department of the Environment and Water Resources of a commercial fishery against the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries*. It forms part of the advice provided to the Minister for the Environment and Water Resources on the fishery in relation to decisions under Parts 13 and 13A of the *Environment Protection and Biodiversity Conservation Act 1999*. The views expressed do not necessarily reflect those of the Minister for the Environment and Water Resources or the Australian Government.

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Table 1: Summary of the Gulf of Carpentaria Line Fishery (GOCLF)

<p>Publicly available information relevant to the fishery</p>	<ul style="list-style-type: none"> • Queensland (QLD) <i>Fisheries Act 1994</i>. • QLD <i>Fisheries Regulation 1995</i>. • <i>Fisheries (Gulf of Carpentaria Inshore Fin Fish) Management Plan 1999</i> (the Gulf Management Plan). • QLD <i>Marine Parks Act 2004</i>. • Annual Status Report Gulf of Carpentaria Line Fishery, 2007. • Annual Status Report Gulf of Carpentaria Line Fishery, November 2006. • Annual Status Report 2005 QLD Gulf of Carpentaria Line Fishery, February 2006. • Ecological Risk Assessment of Queensland-managed Fisheries in the Gulf of Carpentaria, 2006. • Assessment of the Queensland Gulf of Carpentaria Line Fishery, August 2004 (Department of the Environment and Heritage). • Ecological Assessment of the Gulf of Carpentaria Line Fishery, February 2004 (Queensland Fisheries Service).
<p>Area</p>	<p>The GOCLF extends from Slade Point near the tip of Cape York Peninsula westward to the Northern Territory (NT) border and operates in all tidal waterways out to the 25 nm line. 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.</p>
<p>Fishery status</p>	<p>The 2007 Annual Status Report for the GOCLF notes that an assessment of Spanish mackerel stocks in Northern Australia in 1997 suggested the GOCLF was fully exploited at sustainable levels. Given the low number of operators in the fishery, the remoteness of the fishery area and the fact that the major target species (Spanish mackerel) is a highly migratory fish, the Department of Primary Industries and Fisheries (DPI&F) consider there is no risk of localised depletion or overfishing occurring.</p> <p>Although full stock assessments of other species taken in the fishery have not been conducted, they are being harvested at very low levels and are considered to be at negligible risk of overfishing.</p>
<p>Target Species</p>	<p>The GOCLF mainly targets Spanish mackerel, although key byproduct species include emperors (red throat emperor, red emperor), coral trout, red snapper (<i>Lutjanus erythropterus</i> and <i>L. malabaricus</i>), sweet lip, black kingfish, trevally, shark, grey mackerel and catfish.</p> <p>Information on the biology of these species can be found in the then Department of the Environment and Heritage (DEH)'s initial assessment of the fishery at: http://www.environment.gov.au/coasts/fisheries/qld/line/report/pubs/qld-goc-line-assessment.pdf</p>
<p>Gear</p>	<p>Commercial operators use hand-hauled, hand winch-hauled, electric/hydraulic winch-hauled lines and heavy rod-and-reel lines. Combinations of these gears vary according to areas fished, weather</p>

	<p>conditions, frequency of catch and time of day.</p> <p>Recreational fishers primarily use hook and line gear while Indigenous use recreational fishing methods as well as traditional subsistence fishing methods.</p>
Season	The fishery is open year-round.
Commercial harvest 2004-2006	<p>2006: 237 t</p> <p>2005: 251 t</p> <p>2004: 212 t</p> <p>Spanish mackerel catches increased in 2005 to be the highest on record since 1997. Since 1992, approximately 90% of the catch from the GOCLF has been Spanish mackerel.</p> <p>Catches of other coral reef demersal species, including coral trout, red throat emperor and other snapper species, were also higher in 2005. In 2003 and 2004 unusually high catches of red snapper were recorded (8.4 and 8.9 t respectively). However, a single operator was taking 75% of the red snapper harvest during those years and targeting of red snapper to that extent was not considered normal fishing activity in the GOCLF. Catches of red snapper in 2005 declined significantly to 0.7 t which is comparable to previous years. Catches of shark increased in 2006 to 3.4 t.</p>
Commercial Gross Value of Product, 2006	\$1.6 million.
Take by other sectors	<p>An estimated 44 t of reef-related species were harvested recreationally (retained) in 2005. Mackerel species appear to be a minor component of the total catch (approximately 0.2%), while demersal species such as tropical snappers, coral trout and cod appear to be more important to recreational fishers, accounting for 15% of the total catch.</p> <p>Commercial tour operators retained an estimated 26 t of fish in 2006, the major species were red emperor (5.3 t), Spanish mackerel (3.8 t), spotted mackerel (3.3 t) and coral trout (2.6 t).</p> <p>Harvest of Indigenous fishers solely within the bounds of the GOCLF has not been estimated. However a survey of Indigenous fishing across northern Australia indicated that sea perch/snappers and emperors are the species most commonly targeted by this sector while mackerels represent only a minor component.</p>
Commercial licences issued	47 primary licences have been issued. Of these, only 27 accessed the fishery in 2006. The commercial fishery operates as a small boat fishery with a number of tender boats operating from a mother boat (<20m).
Management arrangements	<p>Management arrangements in the GOCLF include a combination of input and output controls as outlined below.</p> <p><u>Input Controls</u></p> <ul style="list-style-type: none"> • Limited entry - limited to the number of vessels operating within the fishery

	<ul style="list-style-type: none"> • Closed area - South Mitchell River • Gear Restrictions <ul style="list-style-type: none"> – Fish may only be taken by using hand held fishing lines and fishing rods with hand or mechanically operated reels and lines. – Each fishing line must have no more than 6 hooks attached to it. – A fishing line may have lures attached to it. – The person in control of a boat must ensure that a person does not use more than 3 fishing apparatus from the boat at a time. – Boat replacement and licence surrender/transfer provisions. <p><u>Output Controls</u></p> <ul style="list-style-type: none"> • Size and number regulations - A range of regulations for size and number of fish that may be retained. • Permitted Species - GOCLF authorised to take all fish other than barramundi, black jewfish, blue threadfin, jewel fish, king threadfin, queenfish and spotted grunter.
Export	Product from the GOCLF is predominantly sold on the Australian domestic market. No product is currently exported, although fishers are constantly seeking new marketing opportunities so this may change in the future.
Bycatch	<p>Bycatch in the GOCLF is considered negligible given the fishing gear and species targeting practices which limit the take of species other than Spanish mackerel and the main demersal fish species. In addition, gear is always attended during fishing operations in the GOCLF which also limits the amount of bycatch. The 2006 observer trip confirmed low bycatch levels in this fishery (12% of total catch and 10 species).</p> <p>Recreational fishers are likely to have a higher level of bycatch given the practice of ‘catch and release’. However the post release mortality of recreationally caught species is likely to be low for average sized fish if they are not unduly harmed during the handling and release stages.</p> <p>A joint DPI&F/Reef Cooperative Research Centre/Fisheries Research and Development Corporation (FRDC) project is currently investigating post-release survival of line caught reef species and should provide a better indication of line fishing on bycatch. Preliminary results indicate that short-term survival rates vary between 78 and 100% for released coral trout, red and red throat emperors and crimson snappers.</p>
Interaction with Protected Species	No interactions with protected species were recorded between 2004 and 2006. A Species of Conservation Interest logbook has been implemented in the commercial fishery in 2006 and is likely to provide improved reporting of protected species interactions.
Ecosystem Impacts	Line fishing is relatively benign in nature and therefore unlikely to cause significant impacts to the physical ecosystem. In addition, impacts on the foodweb are unlikely given that take of the target species is currently limited to ecologically sustainable levels.

Table 2: Progress in implementation of recommendations and conditions made in initial assessment of the GOCLF

Condition	Progress	Recommended Action
Operation in accordance with the management regime.	The fishery has operated in accordance with the legislated management regime over the course of the current export approval.	This condition has been met and will continue to apply under the new export approval for this fishery (Wildlife Trade Operation (WTO) Condition 1).
<p>Annual reporting on the following:</p> <ul style="list-style-type: none"> • Progress on implementation of the recommendations; • Description of the status of the fishery including annual catch and catch per unit effort (CPUE) trends and data; • Performance against objectives, performance measures and reference points; and • Research undertaken or completed relevant to the fishery. 	<p>An annual status report for the GOCLF was prepared for the 2004, 2005 and 2006 fishing years. These reports are publicly available from the DPI&F website. The reports contain information on progress in implementing recommendations, catch and effort trends and research undertaken or completed relevant to the fishery. DPI&F advise that performance measures have been developed and endorsed by the Gulf Management Advisory Committee (GulfMAC) but are awaiting DPI&F implementation. Consequently, the annual status reports have not included explicit reporting against review events to date, but will once the performance measures are implemented.</p>	<p>DEW considers that this condition has been met and notes that, as part of the new export approval this will continue to apply for this fishery (WTO Condition 3).</p>
Recommendation	Progress	Recommended Action
DPI&F to inform DEH of any intended amendment to the management arrangements that may affect the sustainability of the target species or negatively impact on byproduct, bycatch, protected species or the ecosystem.	The L4 and L5 fisheries were amalgamated in 2006 to streamline management arrangements. Apart from this there have been no changes to the approved management regime.	None. The Department of the Environment and Water Resources (DEW) expects that DPI&F will advise of any changes to the management regime in the future. This recommendation remains in force under the new export approval (WTO Condition 2).
By the end of 2006 DPI&F to develop fishery specific objectives linked to performance indicators and performance	A draft Performance Measurement System (PMS) has been developed and endorsed by GulfMAC and is awaiting DPI&F implementation. The GOCLF will be measured against the PMS in the 2008 Annual	While DEW commends DPI&F on the development of the draft PMS we consider that further refinement of the performance measures and reference points are required. Specifically, a

<p>measures for target, byproduct, bycatch, protected species and impacts on the ecosystem.</p>	<p>Status Report. The draft performance measures and reference points discussed below are those included in the draft PMS.</p> <p>The draft performance measure for Spanish mackerel is that the estimated catch by all sectors does not exceed the sustainable yield of Spanish mackerel. As a sustainable yield for this species is currently not available, a draft interim reference point of total fishery catch declining by 30% over the calendar year has been included.</p> <p>The draft reference point for byproduct relates to byproduct increasing to 20% of the total landings over the calendar year.</p> <p>The draft reference point for bycatch relates to bycatch increasing to over 10% of the total catch over the calendar year.</p> <p>No performance measures or reference points are identified for protected species interactions or impacts on the ecosystem.</p>	<p>performance measure and reference point should be included for protected species interactions to demonstrate on an annual basis the low interaction rate of the GOCLF and to identify if interactions increase.</p> <p>In addition, DEW considers that the draft interim performance measure for Spanish mackerel could also be refined by incorporating catch rate and looking at both increases and decreases to catch and catch rate (Recommendation 4).</p> <p>DEW accepts that the ecosystem impact of the GOCLF is likely to be negligible and therefore does not prioritise the development of associated performance measures and reference points for this fishery.</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>GulfMAC has developed a draft PMS. However, the draft PMS for the GOCLF does not stipulate that a timetable for any management change be identified within 3 months of becoming aware of the performance measure not being met. DEW notes that this was incorporated into the draft PMS for the Gulf of Carpentaria Inshore Finfish Fishery (GOCIFF).</p>	<p>DEW does not consider that the draft PMS for the GOCLF addresses this recommendation and therefore, recommends DPI&F add this to the PMS as a priority (Recommendation 5).</p>

<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>An annual status report for the GOCLF was prepared for the 2004, 2005 and 2006 fishing seasons. These reports are publicly available from the DPI&F website. In addition, DPI&F advise that performance measures have been developed but are awaiting implementation. Consequently, the annual status reports have not included explicit reporting against performance measures to date.</p>	<p>DEW commends DPI&F for their commitment to producing annual status reports on the GOCLF and recommends DPI&F to continue such reporting into the future. DEW expects that, once the performance measures have been approved and implemented, future annual status reports will include explicit reporting against these.</p>
<p>Within 18 months, DPI&F to undertake a risk assessment, in conjunction with other relevant jurisdictions where possible, to identify target, byproduct 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>DPI&F report that an Ecological Risk Assessment (ERA) covering all Gulf of Carpentaria fisheries species has been completed (DPI&F, 2006). The ERA found that a number of species taken as byproduct in the GOCLF were identified as being at some risk, however these species only represent a very small proportion of the total catch from the fishery. Consequently, they were considered in the context of the GOCIFF, which harvests the majority of those species. Impacts on non-retained species, including protected species, were found to be negligible while impacts on the general ecosystem were found to be low or negligible. The ERA found that the GOCLF represented a moderate risk to the target species, Spanish mackerel, breeding stock and outlined proposed management actions to address this risk.</p>	<p>DEW commends DPI&F for completing a comprehensive ERA for all Gulf fisheries and encourages DPI&F to implement the proposed management actions to address risks to species identified as being of ‘moderate’ or ‘high’ risk, such as Spanish mackerel, as a priority.</p>
<p>DPI&F to implement a commercial catch data validation mechanism in the GOCLF by the end of 2006.</p>	<p>DPI&F report that a new logbook that enables improved reporting of target and non-target species was provided to fishers in May 2007. The new logbook provides for the reporting of Spanish mackerel, grey mackerel, crimson snapper, saddletail snapper and up to 4 more target/byproduct fish species. Separate recordings are also included for hammerhead shark, black tip whalers, shovelnose ray, guitarfish and sawfish and up to 3 other shark</p>	<p>None. DEW considers that the new logbooks and the on-going, 3 yearly observer coverage, is appropriate for validation of fishery-dependant data for the GOCLF.</p>

	<p>species.</p> <p>The 2007 Annual Status Report also makes reference to the use of at-sea observers in the GOCLF. DPI&F reports that a single fisheries observer trip was run at the end of 2006 for the GOCLF. 12 species were recorded, with Spanish mackerel comprising 73% of the observed catch. Next most common species caught were giant trevally (4%) and giant barracuda (3%). The observer trip also verified the low volume of bycatch in the GOCLF, with only 12% of the catch discarded.</p> <p>Given the highly selective fishing methods of GOCLF with low amounts of bycatch and protected species interactions this fishery is not due to have observer coverage again until 2009.</p>	
<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>The implementation of this recommendation is on-going. DPI&F continue to assess methodologies and designs of pilot studies to collect Indigenous fisher data and improve the collection of Recreational Fishing Information System (RFISH) data. With respect to Indigenous fishers, this process is being developed in collaboration with southern Gulf of Carpentaria (GoC) communities.</p> <p>In 2007 DPI&F released the report, <i>Experimental results from the third statewide Recreational Fishing Information System diary program (2002)</i> (DPI&F, 2007), which provided estimates of catch and release numbers for recreationally caught species in Queensland.</p>	<p>DEW acknowledges the work DPI&F is undertaking to improve the estimates of recreational and Indigenous take on a finer spatial scale, and supports this with a recommendation (Recommendation 3).</p>
<p>DPI&F to continue to seek out alternative cost effective fishery</p>	<p>DPI&F continue to review alternative, cost-effective fishery independent sampling and monitoring</p>	<p>The implementation of this recommendation is on-going. DPI&F have made significant progress in</p>

<p>independent sampling techniques, particularly for target species, and report outcomes in the annual status report from 2005.</p>	<p>techniques for target species of the GOCLF. At this stage, no suitable methods have been identified, in part due to the low value and small scale of the fishery.</p> <p>The 2007 Annual Status Report provides details on the information collection systems in place for GOCLF species.</p> <p>Spanish mackerel have been monitored as part of the Long Term Monitoring Program (LTMP) on the east coast for several years, with sampling for age structure commencing in the GoC in 2007. The at-sea observer program in the GOCLF collects information on the composition and length frequencies of the retained catch, 73% of which is Spanish mackerel. One observer trip was conducted in 2006 and in line with the rolling observer program is due again in 2009.</p> <p>The size and age composition of red snapper (seaperch) is being collected through the LTMP and at at-sea observer program for the GoC Developmental Finfish Trawl Fishery.</p>	<p>gathering information on the GOCLF through the introduction of an at-sea observer program. Observer coverage is planned in the GOCLF on a rolling, 3 yearly basis, next due in 2009.</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 Red Snapper.</p>	<p>The draft PMS indicates that a 1200 t sustainable yield estimate has been developed for the two species of red snapper (<i>Lutjanus erythropterus</i> and <i>L. malabaricus</i>). This sustainable yield estimate has been set as the reference point for these species.</p> <p>The draft PMS also refers to a sustainable yield estimate for Spanish mackerel, however no figure is provided. An assessment of the status of Spanish mackerel stocks will be undertaken after 2008 which</p>	<p>While the implementation of this recommendation is on-going DEW is satisfied that, over the 3 year term of this declaration, DPI&F will make significant progress in determining a sustainable yield estimate for Spanish mackerel.</p> <p>To strengthen the interim reference point included in the draft PMS, DEW has recommend that DPI&F refine the current reference point for Spanish mackerel (Recommendation 4). DEW is</p>

	<p>will assist in providing a sustainable yield estimate.</p> <p>In the interim, DPI&F have incorporated reference points into the draft PMS related to this species.</p>	<p>confident that once refined this reference point which is reviewed annually, will alert DPI&F to any emerging issues with stock status. DEW will review the progress made on stock assessment for Spanish mackerel in the next review of the GOCLF in 2010.</p>
<p>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.</p>	<p>DPI&F report that a list of target and byproduct species that was developed as part of the ERA has been adopted by management. It is intended that these lists be included in future descriptions of the fishery.</p> <p>The GOCLF retained species list included in the ERA includes a general 'shark' category. DEW understands that sharks currently make up a very small component of the GOCLF catch, but notes in 2006 catches tripled from the previous two years (to 3.4 t).</p>	<p>DEW commends DPI&F for formalising the list of species permitted to be targeted in the fishery. However, given there is no commitment to regularly reviewing the ERA, it does not appear that a clear process for including or removing target species on the list has been developed. DEW encourages DPI&F to develop such a process as a priority.</p>
<p>By the end of 2006 DPI&F to implement a program to collect information on the composition and abundance of bycatch.</p>	<p>DPI&F advise that at-sea observers are collecting information on the composition and abundance of bycatch. The 2006 observer trip verified the low volume of bycatch in the GOCLF, with only 12% of the catch discarded. This comprised 10 species including undersize or unmarketable Spanish mackerel, giant trevally, queenfish, blacktip sharks, sailfish, mackerel tuna, spotted mackerel, school mackerel, long tail tuna and giant barracuda.</p> <p>Given the GOCLF has demonstrated no significant bycatch issues and a low level of protected species interactions, a target of 50 days observer coverage in 2009 is planned.</p>	<p>DEW considers that this recommendation has been met. Given the rolling 3 yearly observer program developed by DPI&F is risk based, DEW considers it appropriate that further observer work is carried out in the GOCLF in 2009.</p>

Table 3: The Department of the Environment and Water Resources (DEW) assessment of the Queensland Gulf of Carpentaria Line Fishery (GOCLF) against the requirements of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) related to decisions made under Parts 13 and 13A

Part 13

Section 208A Minister may accredit plans or regimes	DEW assessment of the GOCLF
<p>Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <ul style="list-style-type: none"> (c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is: <ul style="list-style-type: none"> i. made by a State or self-governing Territory; and ii. in force under a law of the State or self-governing Territory; <p>if satisfied that:</p> <ul style="list-style-type: none"> (f) the plan or regime requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed threatened species (other than conservation dependent species) are not killed or injured as a result of the fishing; and (g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the survival or recovery in nature of the species. 	<p>The GOCLF will be managed under the Queensland <i>Fisheries Act 1994</i> and the Queensland <i>Fisheries Regulation 1995</i>.</p> <p>The management regime for the GOCLF was accredited in August 2004. The management arrangements for the GOCLF have not significantly changed since this accreditation was granted. However, DEW has become aware that the management arrangements for the GOCLF allow the retention of EPBC Act listed species, including spartooth shark and freshwater sawfish. In order to satisfy 208(A) (d), DEW considers a new Part 13 declaration with an associated condition is required. As DPI&F have agreed to a three year export approval and a recommendation to prohibit the retention of any EPBC Act listed species, DEW considers the condition should reflect this recommendation, with DPI&F to prohibit the retention of all EPBC Act listed Chondrichthyan species in the GOCLF as a priority, but by no later than 31 July 2009.</p> <p>Currently, logbook and observer data suggests that the GOCLF has an extremely low level of interaction with listed threatened species. No protected species interactions have been reported between 2004 and</p>

	<p>2006. Therefore, DEW considers the current operation of the GOCLF is not likely to adversely affect the survival or recovery in nature of any threatened species.</p>
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Section 222A Minister may accredit plans or regimes	DEW assessment of the GOCLF
<p>Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <ul style="list-style-type: none"> (c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is: <ul style="list-style-type: none"> i. made by a State or self-governing Territory; and ii. in force under a law of the State or self-governing Territory; <p>if satisfied that:</p> <ul style="list-style-type: none"> (f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed migratory species are not killed or injured as a result of the fishing; and (g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the survival or recovery in nature of a listed migratory species. 	<p>The GOCLF will be managed under the Queensland <i>Fisheries Act 1994</i> and the Queensland <i>Fisheries Regulation 1995</i>.</p> <p>The management regime for the GOCLF was accredited in August 2004. The management arrangements for the GOCLF have not significantly changed since this accreditation was granted, therefore DEW considers the GOCLF still takes all reasonable steps to ensure listed migratory species are not killed or injured.</p> <p>The report provided by DPI&F indicates that there have been no interactions with migratory species in the GOCLF. Therefore, DEW considers the current operation of the GOCLF is not likely to adversely affect the survival or recovery in nature of any listed migratory species.</p>

Section 245 Minister may accredit plans or regimes	DEW assessment of the GOCLF
<p>Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <ul style="list-style-type: none"> (c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is: <ul style="list-style-type: none"> i. made by a State or self-governing Territory; and ii. in force under a law of the State or self-governing Territory; <p>if satisfied that:</p> <ul style="list-style-type: none"> (f) the plan, regime or policy requires persons engaged in fishing under the plan to take all reasonable steps to ensure that cetaceans are not killed or injured as a result of the fishing; and (g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a species of cetacean or a population of that species. 	<p>The GOCLF will be managed under the Queensland <i>Fisheries Act 1994</i> and the Queensland <i>Fisheries Regulation 1995</i>.</p> <p>The management regime for the GOCLF was accredited in August 2004. The management arrangements for the GOCLF have not significantly changed since this accreditation was granted, therefore DEW considers that the GOCLF still takes all reasonable steps to ensure that cetaceans are not killed or injured.</p> <p>The report provided by DPI&F indicates that no interactions with any cetacean species have been reported. Therefore, DEW considers the current operation of the GOCLF is not likely to adversely affect the conservation status of a species of cetacean or a population of that species.</p>

Section 265 Minister may accredit plans or regimes	DEW assessment of the GOCLF
<p>Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <ul style="list-style-type: none"> (c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is: <ul style="list-style-type: none"> i. made by a State or self-governing Territory; and ii. in force under a law of the State or self-governing Territory; <p>if satisfied that:</p> <ul style="list-style-type: none"> (f) the plan requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishing; and (g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a listed marine species or a population of that species. 	<p>The GOCLF will be managed under the <i>Queensland Fisheries Act 1994</i> and the <i>Queensland Fisheries Regulation 1995</i>.</p> <p>The management regime for the GOCLF was accredited in August 2004. The management arrangements for the GOCLF have not significantly changed since this accreditation was granted, therefore DEW considers that the GOCLF still takes all reasonable steps to ensure that listed marine species are not killed or injured.</p> <p>The report provided by DPI&F indicates that no interactions with listed marine species (including syngnathids) have been reported. Therefore, DEW considers the current operation of the GOCLF is not likely to adversely affect the conservation status of a listed marine species or a population of that species.</p>

Section 303AA Conditions relating to accreditation of plans, regimes and policies	DEW assessment of the GOCLF
This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265.	DEW recommends that the GOCLF be accredited under sections 208A, 222A, 245 and 265.
The Minister may accredit a plan, regime or policy under that section even though he or she considers that the plan, regime or policy should be accredited only: <ul style="list-style-type: none"> (a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with In such a case, the instrument of accreditation is to specify the period, circumstances or condition.	To satisfy the requirements of section 208A we recommend that the GOCLF be accredited under Part 13 subject to a condition that requires DPI&F to prohibit the retention of all EPBC Act listed Chondrichthyan species in the GOCLF as a priority, but by no later than 31 July 2009. The Part 13 instrument for the GOCLF specifies this condition.
The Minister must, in writing, revoke an accreditation if he or she is satisfied that a condition of the accreditation has been contravened.	

Part 13A

Section 303DC Minister may amend list	DEW assessment of the GOCLF
Minister may, by instrument in published in the Gazette, amend the list referred to in section 303DB (list of exempt native specimens) by: <ul style="list-style-type: none"> (a) including items in the list; 	No amendment to the list of exempt native specimens (LENS) is required as product sourced from the GOCLF approved wildlife trade operation is already included on the LENS.

Section 303FN Approved wildlife trade operation	DEW assessment of the GOCLF
The Minister may, by instrument published in the <i>Gazette</i> , declare that a specified wildlife trade operation is an <i>approved wildlife trade operation</i> for the purposes of this section.	
The Minister must not declare an operation as an approved wildlife trade operation unless the Minister is satisfied that:	

<p>(a) the operation is consistent with the objects of Part 13A of the Act; and</p> <p>(b) the operation will not be detrimental to:</p> <p>i. the survival of a taxon to which the operation relates; or</p> <p>ii. the conservation status of a taxon to which the operation relates; and</p> <p>(ba) the operation will not be likely to threaten any relevant ecosystem including (but not limited to) any habitat or biodiversity; and</p> <p>(c) if the operation relates to the taking of live specimens that belong to a taxon specified in the regulations – the conditions that, under the regulations, are applicable to the welfare of the specimens are likely to be complied with; and</p>	<p>The GOCLF is consistent with objects of Part 13A (listed after this table) as:</p> <ul style="list-style-type: none"> ▪ the capture of species listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) listed species is minimal and DEW have recommended that DPI&F review the GOCLF management arrangements for all CITES listed species (Recommendation 2); ▪ there are management arrangements in place to ensure that the resource is being managed in an ecologically sustainable way (see Table 1); ▪ the operation of the GOCLF is unlikely to be unsustainable and threaten biodiversity within the next 3 years; and ▪ the EPBC Regulations 2000 do not specify fish as a class of animal in relation to the welfare of live specimens. <p>DEW considers that the GOCLF will not be detrimental to the survival or conservation status of a taxon to which it relates within the next 3 years, given the management measures currently in place, which include: limited entry, spatial closures, gear restrictions and regulations on the type, size and number of fish that may be retained.</p> <p>DEW considers that the GOCLF will not threaten any relevant ecosystem within the next 3 years, given the management measures currently in place, which include: limited entry, spatial closures, gear restrictions and regulations on the type, size and number of fish that may be retained.</p> <p>The EPBC Regulations 2000 do not specify fish as a class of animal in relation to the welfare of live specimens.</p>
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<p>(d) such other conditions (if any) as are specified in the regulations have been, or are likely to be, satisfied.</p>	<p>No other conditions are specified in relation to commercial fisheries in the EPBC Regulations 2000.</p>
<p>In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have regard to:</p> <p>(a) the significance of the impact of the operation on an ecosystem (for example, an impact on habitat or biodiversity); and</p> <p>(b) the effectiveness of the management arrangements for the operation (including monitoring procedures).</p>	<p>DEW considers that the GOCLF will not have a significant impact on any relevant ecosystem within the next 3 years, given the management measures currently in place, which include: limited entry, spatial closures, gear restrictions and regulations on the type, size and number of fish that may be retained.</p> <p>The management arrangements that will be employed for the GOCLF are likely to be effective. Management arrangements for the GOCLF are included in the Queensland <i>Fisheries Act 1994</i> and the Queensland <i>Fisheries Regulation 1995</i>. Management arrangements include limited entry, spatial closures, gear restrictions and regulations on the type, size and number of fish that may be retained and rolling observer coverage. The performance of the GOCLF will be reviewed annually, against a series of objectives, performance measures and reference points once the PMS for the GOCLF is finalised.</p>
<p>In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have regard to:</p> <p>(a) whether legislation relating to the protection, conservation or management of the specimens to which the operation relates is in force in the State or Territory concerned; and</p> <p>(b) whether the legislation applies throughout the State or Territory concerned; and</p> <p>(c) whether, in the opinion of the Minister, the legislation is effective.</p>	<p>The GOCLF will be managed under the Queensland <i>Fisheries Act 1994</i> and the Queensland <i>Fisheries Regulation 1995</i>.</p> <p>The Queensland <i>Fisheries Act 1994</i> and the Queensland <i>Fisheries Regulation 1995</i> apply throughout Queensland waters.</p> <p>The management arrangements that will be employed for the GOCLF are likely to be effective. Management arrangements include limited entry, spatial closures, gear restrictions and regulations on the type, size and number of fish that may be retained and rolling observer</p>

	coverage. The performance of the GOCLF will be reviewed annually, against a series of objectives, performance measures and reference points once the PMS for the GOCLF is finalised.
For the purposes of section 303FN, an operation is a wildlife trade operation if, and only if, the operation is an operation for the taking of specimens and: (d) the operation is a commercial fishery.	The GOCLF is a commercial fishery.
In deciding whether to declare that a commercial fishery is an approved wildlife trade operation for the purposes of this section, the Minister must rely primarily on the outcomes of any assessment in relation to the fishery carried out for the purposes of Division 1 or 2 of Part 10.	No assessment of the GOCLF has been carried out under Part 10 of the EPBC Act.
The above does not limit the matters that may be taken into account in deciding whether to declare that a fishery is an approved wildlife trade operation for the purposes of this section.	

Section 303FR Public consultation	DEW assessment of the GOCLF
Before making a declaration under section 303FN, the Minister must cause to be published on the Internet a notice: (a) setting out the proposal to make the declaration; and (b) setting out sufficient information to enable persons and organisations to consider adequately the merits of the proposal; and (c) inviting persons and organisations to give the Minister, within the period specified in the notice, written comments about the proposal.	DEW considers that consultation requirements of the EPBC Act for declaring a WTO have been met. A public notice, which set out the proposal to declare the GOCLF a WTO and included the submission, was released for public comment which closed on 3 August 2007 with no submissions received.
A period specified in the notice must not be shorter than 20 business days after the date on which the notice was published on the Internet.	A public notice, which set out the proposal to declare the GOCLF a WTO and included the submission, was released for public comment on 2 July 2007 and closed on 3 August 2007, a total of 25 business days.
In making a decision about whether to make a declaration under	No public comments about the proposal were received.

section 303FN, the Minister must consider any comments about the proposal to make the declaration that were given in response to the invitation in the notice.	
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Section 303FT Additional provisions relating to declarations	DEW assessment of the GOCLF
This section applies to a declaration made under section 303FN, 303FO or 303FP.	A declaration for the GOCLF will be made under section 303FN.
The Minister may make a declaration about a plan or operation even though he or she considers that the plan or operation should be the subject of the declaration only: <ul style="list-style-type: none"> (a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with. In such a case, the instrument of declaration is to specify the period, circumstances or condition.	The standard conditions applied to commercial fishery WTOs include: <ul style="list-style-type: none"> • operation in accordance with the management regime; and • notifying DEW of changes to the management regime; and • annual reporting. It is recommended the standard conditions are applied to the GOCLF WTO declaration.
A condition may relate to reporting or monitoring.	One of the standard conditions relates to reporting.
The Minister must, by instrument published in the <i>Gazette</i> , revoke a declaration if he or she is satisfied that a condition of the declaration has been contravened.	
A copy of an instrument under section 303FN, 303FO or 303FP or this section is to be made available for inspection on the Internet.	The instrument for the GOCLF made under sections 303FN and 303FT will be gazetted and made available on the DEW website.

Section 391 Minister must consider precautionary principle in making decisions	DEW assessment of the GOCLF
The Minister must take account of the precautionary principle in making a decision under section 303DC and/or section 303FN, to the extent he or she can do so consistently with the other provisions of this Act.	The precautionary principle must be considered when making a decision to include specimens on the LENS.
The precautionary principle is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage.	

Objects of Part 13A

- (a) to ensure that Australia complies with its obligations under CITES and the Biodiversity Convention;
- (b) to protect wildlife that may be adversely affected by trade;
- (c) to promote the conservation of biodiversity in Australia and other countries;
- (d) to ensure that any commercial utilisation of Australian native wildlife for the purposes of export is managed in an ecologically sustainable way;
- (e) to promote the humane treatment of wildlife;
- (f) to ensure ethical conduct during any research associated with the utilisation of wildlife; and
- (h) to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife.

Final recommendations to DPI&F for the GOCLF

The material submitted by DPI&F demonstrates that the management arrangements for the GOCLF meet most of the requirements of the Australian Government Guidelines for the ecologically sustainable management of fisheries. Management arrangements include: limited entry, spatial closures, gear restrictions and regulations on the type, size and number of fish that may be retained and rolling observer coverage. As such, DEW considers that overall the management regime aims to ensure that fishing is conducted in a manner that does not lead to over-fishing and for fishing operations to be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.

While the fishery is relatively well managed, DEW has identified a number of risks and uncertainties that must be managed to ensure that impacts are minimised:

- prohibiting the retention of EPBC Act listed Chondrichthyan species;
- reviewing management arrangements for CITES listed species, especially those of the Pristidae family;
- roll-out of the Fisheries Resource Assessment schedule, which plans a stock assessment for Spanish mackerel after 2008; and
- finalisation of the Performance Measurement System.

DEW is satisfied that the fishery will not be detrimental to the survival or conservation status of the taxon to which it relates in the short term. Similarly, it is not likely to threaten any relevant ecosystem in the short term. To contain and minimise the risks in the longer term the recommendations listed below have been made. The key challenges for this fishery will be improving protection for EPBC Act and CITES listed species and obtaining a sustainable yield estimates for Spanish mackerel. DEW considers that, until it can be demonstrated that these issues have been adequately dealt with, a 3-year Wildlife Trade Operation declaration is appropriate.

Given the low level of protected species interactions under current fishing operations, DEW considers that the operation of the fishery does not, or is not likely to, adversely affect the survival in nature of a listed threatened species or population of that species, or the conservation status of a listed migratory species, cetacean or listed marine species or a population of any of those species. Given DPI&F's commitment to prohibiting the retention of EPBC Act listed DEW considers a new Part 13 accreditation should be granted, with a condition requiring DPI&F to prohibit the retention of all EPBC Act listed Chondrichthyan species in the GOCLF as a priority, but by no later than 31 July 2009.

Unless a specific time frame is provided in the recommendation each recommendation must be addressed within the life of the declaration (3 years). Note that a standard condition of a WTO is an annual reporting requirement, the details of which are provided in Table 4.

Table 4: Gulf of Carpentaria Line Fishery (GOCLF) Assessment– Summary of Issues, Conditions and Recommendations, August 2007

	Issue	DEW Part 13 Condition
1	<p>A number of byproduct species that could potentially be captured by the GOCLF are listed under the EPBC Act. Speartooth shark (<i>Glyphis</i> sp. A) is critically endangered and freshwater sawfish (<i>Pristis microdon</i>) is listed as vulnerable. In addition, green sawfish (<i>P. zijsron</i>) is currently under consideration for listing. A requirement of section 208A of the EPBC Act is that all reasonable steps need to be taken to avoid killing or injuring listed species. To satisfy this requirement, DEW has recommended that DPI&F prohibit the retention of EPBC Act listed species (Recommendation 1). DEW considers that the implementation of this recommendation is necessary to meet the requirements of section 208A of the EPBC Act and therefore recommends that this be included as a condition to this accreditation.</p>	<p>Condition 1: DPI&F to prohibit the retention of all EPBC Act listed Chondrichthyan species in the GOCLF as a priority, but by no later than 31 July 2009.</p>
	Issue	DEW WTO Condition
2	<p><u>General Management</u> Export decisions relate to the arrangements in force at the time of the decision. In order to ensure that these decisions remain valid, DEW needs to be advised of any changes that are made to the management regime and make an assessment that the new arrangements are equivalent or better, in terms of ecological sustainability, than those in place at the time of the original decision.</p>	<p>Condition 1: Operation of the fishery will be carried out in accordance with the Queensland <i>Fisheries Regulation 1995</i> in force under the Queensland <i>Fisheries Act 1994</i>. [Generic condition]</p> <p>Condition 2: DPI&F to inform DEW of any intended amendments to the management arrangements that may affect the criteria on which EPBC Act decisions are based. [Generic condition]</p>
3	<p><u>Annual Reporting</u> It is important that reports be produced and presented to DEW annually in order for the performance of the fishery and progress in implementing the recommendations in this report and other managerial commitments to be</p>	<p>Condition 3: DPI&F to continue to produce and present reports to DEW annually. Reports to include:</p> <ul style="list-style-type: none"> i. Information sufficient to allow assessment of the

	<p>monitored and assessed throughout the life of the declaration (3 years). Annual reports should include a description of the fishery, management arrangements in place, recent catch data for all sectors of the fishery, status of target stock, interactions with protected species, impacts of the fishery on the ecosystem in which it operates, progress in implementing DEW recommendations and research and monitoring outcomes.</p>	<p>progress of DPI&F in implementing the recommendations made in the Assessment of the QLD Gulf of Carpentaria Line Fishery 2007; and</p> <p>ii. A description of the fishery, management arrangements in place, recent catch data for all sectors of the fishery, status of target stock including performance of the fishery against objectives, performance indicators and measures, interactions with protected species, impacts of the fishery on the ecosystem in which it operates and research and monitoring outcomes.</p> <p>Information should only be provided on those aspects which are relevant to the fishery and that articulate ‘changes’ since the last annual report. [Generic condition]</p>
	<p>Issue</p>	<p>DEW Recommendation</p>
<p>4</p>	<p><u>EPBC Act listed species and CITES species</u></p> <p>DEW acknowledges that the GOCLF is unlikely to have significant interactions with sharks and rays as it is a line fishery that targets teleost fish. This was reflected in the FRDC project, <i>Northern Australian sharks and rays: the sustainability of target and bycatch species Phase 2</i> (Salini <i>et al</i>, 2007) which considered that elasmobranch species captured by pelagic troll line and demersal line fisheries were sustainable.</p> <p>However, a number of byproduct species that could potentially be captured by the GOCLF are listed under the EPBC Act. Spartooth shark (<i>Glyphis</i> sp. A) is critically endangered and freshwater sawfish (<i>Pristis microdon</i>) is listed as vulnerable. In addition, green sawfish (<i>P. zijsron</i>) is currently under consideration for listing.</p>	<p>Recommendation 1: DPI&F to prohibit the retention of all EPBC Act listed Chondrichthyan species in the GOCLF.</p> <p>Recommendation 2: DPI&F to specifically consider the management of CITES listed species, in particular members of the Pristidae family, in the GOCLF.</p>

	<p>In addition, the recent Convention of Parties for the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) added all species of Pristidae to Appendix I. One exception was made with the addition of freshwater sawfish to Appendix II for the exclusive purpose of allowing international trade in live animals for primarily conservation purposes.</p> <p>DEW commends DPI&F on current research underway on habitat preferences, movement patterns and residency of sawfish and spartooth sharks in the Mapoon area and considers this will assist in mitigating the impacts of commercial fisheries on these species. DEW also acknowledges the work being conducted by the Northern Australian Fisheries Management (NAFM) workshops with regard to the harvest and sustainability of northern shark species.</p> <p>However, a requirement of the EPBC Act is that all reasonable steps need to be taken to avoid killing or injuring listed species. To satisfy this requirement, DEW recommends that DPI&F prohibit the retention of EPBC Act listed species. Given Australia's CITES obligations, DEW recommends that DPI&F specifically consider the management of CITES species, in particular species of the Pristidae family, in the GOCLF.</p> <p>It should also be noted that products derived from EPBC Act listed species are not permitted to be exported under the current approvals for the GOCLF and export of species listed under Appendix I of CITES for commercial purposes is prohibited.</p>	
5	<p><u>Accounting for all removals in stock assessments</u> DPI&F recognise that illegal, unregulated and unreported (IUU) fishing in GoC waters represents a serious threat to the sustainability of northern</p>	<p>Recommendation 3: DPI&F to continue to improve estimates of recreational and Indigenous harvest. Once</p>

<p>Australian fisheries and that a greater understanding of such activities is needed to ensure the future sustainability of northern Australian fish stocks. DEW recommends that precautionary management of the GOCLF should take into account estimates of the level of take from this source. DPI&F has been collaborating with the Commonwealth and Northern Territory and Western Australian governments on this issue and DEW commends DPI&F for being proactive. Once estimates of the level of take from IUU fishing are available, these should be taken into account in stock assessments for the fishery and in management of the fishery.</p> <p>DEW commends DPI&F for the work undertaken to date on obtaining recreational fishing data. DEW recommends that DPI&F should continue work on improving the RFISH data and on gathering Indigenous catch estimates.</p>	<p>available, DPI&F to take estimates of IUU fishing, recreational and Indigenous harvests into account in stock assessments and to introduce management arrangements to mitigate any risks identified.</p>
<p>6 <u>Performance Measurement System</u> A recommendation was made in the 2004 EPBC Act assessment of the GOCLF regarding development of a range of objectives and performance measures for target, byproduct, bycatch, protected species and impacts on the ecosystem. A second recommendation required DPI&F to monitor the status of the fishery in relation to the performance measures once developed and finalise a clear timetable for the implementation of appropriate management responses within 3 months of becoming aware that a performance measure was breached.</p> <p>DPI&F have developed a draft Performance Measurement System (PMS) for the GOCLF containing objectives, performance measures and reference points for Spanish mackerel, byproduct and bycatch.</p> <p>While DEW commends DPI&F on the development of the draft PMS we consider that further refinement of the performance measures and reference</p>	<p>Recommendation 4: As a part of the development of the Performance Measurement System, DPI&F to include a reference point related to protected species interactions and to refine the current reference point for Spanish mackerel.</p> <p>Recommendation 5: DPI&F to monitor the status of the fishery in relation to the Performance Measurement System once finalised. 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>

points are required. Specifically, a reference point should be included for protected species interactions to demonstrate on an annual basis the low interaction rate of the GOCLF and to identify if interactions increase.

In addition, DEW considers that the interim performance measure for Spanish mackerel could also be refined by incorporating catch rate and looking at both increases and decreases to catch and catch rate.

DEW accepts that the ecosystem impact of the GOCLF is likely to be negligible and therefore does not prioritise the development of associated performance measures and reference points for this fishery.

The draft PMS for the GOCLF does not stipulate that a timetable for any management change be identified within 3 months of becoming aware of a performance measure not being met. DEW notes that this was incorporated into the draft PMS for the Gulf of Carpentaria Inshore Finfish Fishery (GOCIFF).

References

Department of Primary Industries and Fisheries. 2007. *Experimental results from the third statewide Recreational Fishing Information System diary program (2002)*. 40 pages.

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Acronyms

CPUE	Catch per unit effort
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DEH	Department of the Environment and Heritage
DEW	Department of the Environment and Water Resources
DPI&F	Department of Primary Industries and Fisheries
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ERA	Ecological Risk Assessment
FRDC	Fisheries Research and Development Corporation
GoC	Gulf of Carpentaria
GOCIFF	Gulf of Carpentaria Inshore Finfish Fishery
GOCLF	Gulf of Carpentaria Line Fishery
GulfMAC	Gulf Management Advisory Committee
IUU	Illegal, unregulated and unreported fishing
LENS	List of exempt native specimens
LTMP	Long term monitoring program
NAFM	Northern Australian Fisheries Management workshop
NT	Northern Territory
PMS	Performance Measurement System
QLD	Queensland
RFISH	Recreational Fishing Information System
WTO	Wildlife Trade Operation