



Australian Government

Department of Sustainability, Environment, Water, Population and Communities

Assessment of the
Northern Territory Offshore Net and Line Fishery

SEPTEMBER 2012

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This document is an assessment carried out by the Department of Sustainability, Environment, Water, Population and Communities of a commercial fishery against the Australian Government 'Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition'. It forms part of the advice provided to the Minister for Sustainability, Environment, Water, Population and Communities 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 Sustainability, Environment, Water, Population and Communities or the Australian Government.

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Table 1: Summary of the Northern Territory Offshore Net and Line Fishery

Description of the Fishery	<p>The Northern Territory Offshore Net and Line Fishery is a net and longline fishery operating in Northern Territory and Commonwealth waters from the Northern Territory coastline to the outer boundary of the Australian Fishing Zone (although the use of some gear types is restricted to certain areas of the fishery). In 2010, only two licences undertook longline (demersal longline) fishing operations, with 10 licences active in the net fishery.</p> <p>The Offshore Net and Line Fishery harvests grey mackerel and several tropical shark species, predominantly blacktip shark species (blacktip sharks contribute to slightly more than 50 per cent of the total catch of sharks). While net fishers tend to target grey mackerel and may also harvest sharks, the demersal longline operators more specifically target blacktip sharks. The fishery shares stocks of target species with Queensland and Western Australia and a number of fishers operate across all three jurisdictions.</p> <p>Management responsibility for the Offshore Net and Line Fishery rests with the Northern Territory Fisheries Joint Authority, comprising the Australian Government Minister for Agriculture, Fisheries and Forestry and the Northern Territory Minister for Primary Industry and Fisheries. Under an Offshore Constitutional Settlement arrangement between the Australian Government and the Northern Territory Government, the fishery is managed under the Northern Territory legislation. Day to day management is carried out by the Northern Territory Department of Primary Industry and Fisheries.</p> <p>Sharks and mackerels in waters off northern Australia were heavily fished by international fishers during the 1970's prior to the declaration of the Australian Fishing Zone in 1979. Between 1979 and 1986, a bilateral agreement between Australia and Taiwan permitted access to shark stocks in Australian waters. Cessation of foreign fishing in 1986, reduction in illegal foreign fishing to very low levels, a licence reduction program and the implementation of effort controls has allowed stocks to rebuild (Northern Territory Government 2012, in press).</p>
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<p>Publicly available information relevant to the fishery</p>	<ul style="list-style-type: none"> • Northern Territory <i>Fisheries Act</i> • Northern Territory Fisheries Regulations • <i>Northern Territory Offshore Net and Line Fishery - Wildlife Trade Operation (WTO) certification - Final Report - August 2010</i> • <i>Northern Territory Annual Fishery Status Reports 2010</i> • <i>Northern Territory Annual Fishery Status Reports 2009</i> • <i>Northern Territory Annual Fishery Status Reports 2008</i> • <i>Northern Territory Annual Fishery Status Reports 2007</i> • <i>Northern Territory Annual Fishery Status Reports 2006</i> • Department of the Environment and Water Resources - <i>Assessment of the Northern Territory Offshore Net and Line Fishery - November 2007</i> • Department of the Environment and Heritage - <i>Assessment of the Northern Territory Shark Fishery - September 2005</i> • <i>Marine bioregional plan for the North Marine Region 2012</i>
<p>Area</p>	<p>The area of the Offshore Net and Line Fishery includes Northern Territory and Commonwealth waters off the coast of the Northern Territory, extending to the seaward boundary of the Australian Fishing Zone. Spatial restrictions apply to some gear types (see Gear below).</p> <p>The majority of fishing occurs within approximately 12 nautical miles of the coast (net fishing). The highest levels of shark catch come from waters to the north-west of the Northern Territory.</p> <p>Part of the fishery's operation occurs in Australia's North Marine Region (Department of Sustainability, Environment, Water, Population and Communities 2012).</p>

<p>Target Species</p>	<p>Primary (target) species harvested from the fishery include:</p> <ul style="list-style-type: none"> • grey mackerel (<i>Scomberomorus semifasciatus</i>) – approximately 40 per cent of the total catch of primary species, and • ‘blacktip’ sharks (approximately 30 per cent of total annual catch), including: <ul style="list-style-type: none"> – Australian blacktip shark (<i>Carcharhinus tilstoni</i>) – common blacktip shark (<i>C. limbatus</i>), and – spot-tail shark (<i>C. sorrah</i>). <p>Grey mackerel is a pelagic species endemic to waters across northern Australia and Papua New Guinea. Larvae and juveniles depend on estuarine and inshore habitats. Grey mackerel grow to around 100 centimetres (cm) fork length at around 12 years of age. Juvenile grey mackerel are fast growing, reaching reproductive maturity at approximately 60-70 cm fork length at around one year old.</p> <p>Two separate stocks of grey mackerel have been identified - one off the north-west coast of the Northern Territory and another in the Gulf of Carpentaria (Welch et al. 2009), with the Gulf of Carpentaria being shared with the Queensland Gulf of Carpentaria Inshore Fin Fish Fishery. The 2009 ecological risk assessment for the fishery concluded that the Gulf of Carpentaria grey mackerel breeding stock was at moderate risk from fishing and the western stock at low risk.</p> <p>The blacktip shark species complex (Australian blacktip sharks and common blacktip sharks) and spot-tail sharks occur in continental shelf waters in tropical Australia.</p> <p>Australian blacktip sharks grow up to 200 cm total length at between eight to 12 years of age. They reach reproductive maturity at around 120 cm total length at three to four years of age. Two genetically different stocks of Australian blacktip sharks have been identified in waters off the Northern Territory - one stock in waters off the western Northern Territory and Western Australian coast and a Gulf of Carpentaria (Northern Territory and Queensland) stock.</p> <p>The biology of common blacktip sharks is not well known, but they are considered to reach maturity at five to seven years of age, reach a larger total length than Australian blacktip sharks and reproduce only every second year (Northern Territory Government, 2012, in press).</p>
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	<p>Spot-tail sharks grow to approximately 130-150 cm total length at five to seven years of age. They are relatively fast growing, maturing at two to three years of age at 90-95 cm total length. They generally produce up to eight pups during summer months, with a gestation period of approximately ten months. There is considered to be one stock of spot-tail shark off northern Australia, but tagging studies indicate that movement of individuals may be restricted.</p> <p>The 2009 ecological risk assessment for the Offshore Net and Line Fishery considered the breeding stock of Australian blacktip sharks and spot-tail sharks to be at low risk from fishing.</p>
<p>Byproduct Species</p>	<p>Main byproduct species include other shark species, primarily:</p> <ul style="list-style-type: none"> • bull shark (<i>Carcharhinus leucas</i>) • hammerhead sharks (<i>Sphyrna</i> spp.) • lemon shark (<i>Negaprion acutidens</i>) • tiger shark (<i>Galeocerdo curvier</i>), and • wing-head sharks (<i>Eusphyra blochii</i>). <p>Other byproduct species caught in the fishery include pigeye sharks, dusky sharks, milk sharks, spinner shark, Spanish mackerel, tuna and queenfish.</p> <p>While the target and most byproduct species are managed through input controls, catch restrictions apply to the harvest of Spanish mackerel in the fishery.</p> <p>The 2009 ecological risk assessment for the fishery assessed byproduct species as being at negligible or low risk from fishing.</p>
<p>Fishery status</p>	<p>The stock status of primary species in the Offshore Net and Line Fishery is assessed triennially, most recently in 2011.</p> <p>The 2011 stock assessment (Northern Territory Government, 2012, in press) concluded that:</p> <ul style="list-style-type: none"> • the western grey mackerel stock, heavily fished in the 1970s and 1980s by international fishers and illegal longline fishing, is not currently subject to overfishing and is in the process of rebuilding • the Gulf of Carpentaria grey mackerel stock is not overfished and not subject to overfishing, and • blacktip shark stocks have recovered from international fishing pressure during the 1970s and are not subject to overfishing at the current harvest rates.

Gear	<p>Net and longline fishing is permitted in the Offshore Net and Line Fishery:</p> <ul style="list-style-type: none"> • pelagic net is permitted seaward of two nautical miles offshore only. Net operators generally target both grey mackerel and sharks. • demersal longline is permitted throughout the area of the fishery (but is typically used "offshore" in waters deeper than 40 metres). The Northern Territory Department of Primary Industry and Fisheries has indicated that only one or two licences hold more line units than net units and that these operations tend to target sharks rather than grey mackerel • while the use of pelagic longline seaward of three nautical miles offshore is permitted, the Northern Territory Department of Primary Industry and Fisheries advises that pelagic longline is not currently used, and • the use of a restricted bait net (net length, mesh and drop restrictions) is permitted for the taking of bait, for the licensee's use only, within three nautical miles of the coastline only and in not less than 30 centimetres of water. <p>Other gear restrictions include:</p> <ul style="list-style-type: none"> • prohibition of bottom setting of nets • net mesh size restrictions (between 160 and 185 millimetres) • maximum net length (2,000 metres) per licence, with a maximum of 100 meshes drop • maximum total allowable longline length of 15 nautical miles (approximately 27 kilometres) per licence, with a maximum of 1,000 hooks, and • prohibition of the use of automatic baiting devices.
Season	Year-round.

<p>Commercial harvest (2010)</p>	<p>The total catch of all primary (target) species in 2010 was 1,239 tonnes, comprising:</p> <ul style="list-style-type: none"> • grey mackerel - 401 tonnes (32 per cent of the total catch from the fishery), • blacktip sharks - 342 tonnes (28 per cent), and • spot-tail shark - 127 tonnes (ten per cent). <p>332 tonnes of byproduct species were harvested from the fishery in 2010. The dominant byproduct species recorded included:</p> <ul style="list-style-type: none"> • bull shark: 135 tonnes (11 per cent of the total catch from the fishery) • hammerhead sharks: 103 tonnes (eight per cent) • lemon shark: 38 tonnes (three per cent) • tiger shark: 30 tonnes (two per cent), and • wing-head sharks: 15 tonnes (one per cent).
<p>Value of commercial harvest (2010)</p>	<p>Approximately \$3.76 million, primarily:</p> <ul style="list-style-type: none"> • grey mackerel - \$1.38 million • blacktip sharks - \$0.83 million, and • other shark species - \$1.27 million.
<p>Take by other sectors</p>	<p><u>Other commercial fisheries</u></p> <p>The Northern Territory Department of Primary Industry and Fisheries report that catches of grey mackerel in other Northern Territory commercial fisheries are insignificant.</p> <p>The Northern Territory Department of Primary Industry and Fisheries reports that the Offshore Net and Line Fishery accounts for 95 per cent of the total shark catch in the Northern Territory, with incidental take of sharks in other Northern Territory fisheries around five per cent of the total shark catch from all commercial fisheries combined. Possession of sharks is prohibited in the Northern Territory Timor Reef, Demersal, Finfish Trawl and Spanish Mackerel Fisheries. A 500 kilogram converted whole weight limit of shark per trip applies for the Barramundi, Coastal Line and Coastal Net Fisheries. In 2009, the Barramundi Fishery retained 3.4 tonnes of shark, the Coastal Line Fishery retained 3.1 tonnes of shark and the Coastal Net Fishery retained less than 1 tonne of shark.</p> <p>The Gulf of Carpentaria grey mackerel stock and tropical shark stocks are shared with the Queensland Gulf of Carpentaria Inshore Fin Fish Fishery. The Northern Territory Department of Primary Industry and Fisheries collaborates with Fisheries Queensland on management of the two adjacent fisheries. Management changes implemented in the Gulf of Carpentaria Inshore Fin Fish Fishery in 2012 complement the effort based management of the Offshore Net and Line Fishery.</p>

<p>Take by other sectors (cont.)</p>	<p><u>Recreational Sector</u></p> <p>The results of the 2009/2010 survey of recreational fishing in the Northern Territory (West et al., in prep.) indicate that neither sharks nor grey mackerel are key recreational species, with 95 per cent of sharks caught being released. A relatively small amount (3,390 fish) of grey mackerel were caught, with approximately 60 per cent of these retained.</p> <p><u>Fishing Tour Operator Sector</u></p> <p>1,446 mackerel other than Spanish mackerel, observed to be mostly grey mackerel, were caught in 2010 by fishing tour operators. Of these, 69 per cent (995 individuals) were released. In 2010, 98 per cent of sharks (5166 individuals) caught by fishing tour operators were released.</p> <p><u>Indigenous</u></p> <p>Grey mackerel are rarely caught by Indigenous people as the species tends to exist on offshore reefs.</p> <p>Sharks are of cultural significance to Indigenous people in the Northern Territory and there is a relatively high Indigenous take of sharks. The Northern Territory Department of Primary Industry and Fisheries reported that sharks are one of the most important groups of fish caught by Indigenous people in the coastal areas of the Northern Territory. Approximately 12,000 sharks were taken by Indigenous fishers in 2000-01 (Henry and Lyle 2003).</p>
<p>Commercial licences issued (2010)</p>	<p>The Offshore Net and Line Fishery is a limited entry fishery. A licence reduction program was introduced in 1995 and the 39 licences have been reduced to 17, with a final target of 13 licences to remain in the fishery (Northern Territory Government 2003).</p> <p>In 2010, 12 of the 17 allocated licences were active.</p>
<p>Management arrangements</p>	<p>The Offshore Net and Line Fishery is managed under the Northern Territory <i>Fisheries Act</i> and the Northern Territory Fisheries Regulations.</p> <p>On 1 January 2010, the regulations were amended to prohibit the retention of EPBC Act listed chondrichthyan (shark and ray) species including <i>Glyphis</i> species (river sharks) and EPBC Act listed <i>Pristis</i> species (sawfishes) which may occur in the fishery. Provisions have been placed on fishers to ensure that if these species are caught they must be immediately released to the water with as little injury to it as possible and commercial fishers are required to report any interactions in logbooks.</p>

Management arrangements (cont.)

In 2009, the Northern Territory Department of Primary Industry and Fisheries completed an ecological risk assessment of the fishery. The ecological risk assessment concluded that:

- no species are at high risk from fishing in the Offshore Net and Line Fishery
- the western Northern Territory and Gulf of Carpentaria grey mackerel populations are at moderate and low risk from fishing, respectively, and
- all other species considered (target, byproduct and bycatch, including protected species) are at low or negligible risk from fishing.

Current management of the fishery is primarily based on input controls including:

- limited entry - the Northern Territory Fisheries Regulations specify:
 - the maximum number of licences that can be issued in the fishery, and
 - transitional provisions, introduced in 2005, which progressively reduce the number of licenses in the fishery upon surrender, cancellation or transfer of an existing licence
- total allowable effort limits allocated through individually transferable effort units, including:
 - 1,599 net fishing days per annum, and
 - 234 longline fishing days per annum, and
- gear restrictions (see Gear above).

Additional management measures include:

- a catch limit for Spanish mackerel caught incidentally in the fishery, and
- additional management arrangements for sharks to prevent finning.

The fishery is monitored through compulsory catch and effort logbooks requiring fishers to submit monthly summary returns. Scientific monitoring trips also provide biological information surrounding the catch and interactions with threatened, endangered and protected species. The Northern Territory Department of Primary Industry and Fisheries reviews the performance of the fishery annually against a series of objectives, measures and indicators.

The Northern Territory Department of Primary Industry and Fisheries has advised that the industry has initiated a Code of Practice and an Environmental Management System. These aim to improve the survivability of protected species returned to the sea by promoting the use of best practice methods for handling and release.

<p>Export</p>	<p>Shark is marketed domestically and internationally. Most is sent interstate but the Northern Territory Department of Primary Industry and Fisheries estimates that over 20 per cent of the total shark catch is directly exported overseas from the Northern Territory.</p> <p>Grey mackerel is marketed domestically.</p>
<p>Bycatch</p>	<p>The Northern Territory Department of Primary Industry and Fisheries reports that the amount of bycatch depends strongly on location and season.</p> <p>Rays are an uncommon bycatch in the surface set nets and are usually released alive. Some finfish with poor market acceptability (for example some trevally and queenfish) are retained only when there are suitable markets.</p> <p>Apart from protected species and the tawny shark (<i>Nebrius ferrugineus</i>) which has no market, most shark species are now retained as byproduct.</p> <p>The 2009 ecological risk assessment for the fishery assessed bycatch species as being at negligible or low risk from fishing.</p>
<p>Interaction with Protected Species¹</p>	<p>Under Northern Territory legislation, all species listed under Part 13 of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> are protected, meaning that retention of these species by fishers and others is prohibited. Commercial fishers are required to report all interactions with protected species in their logbooks.</p> <p>In the fishery status reports for the Offshore Net and Line Fishery, the Northern Territory Department of Primary Industry and Fisheries reports interactions with the following species:</p> <ul style="list-style-type: none"> • 21 reported interactions in 2007 including; seven green sawfish (<i>Pristis zijsron</i>), ten freshwater sawfish (<i>P. microdon</i>) and four marine turtles. All were released alive. • 28 reported interactions in 2008 including; seven green sawfish, four speartooth sharks (<i>Glyphis sp.</i>) and 17 turtles. All were released alive except for the four speartooth sharks. <p>Several bycatch species which occur in the area of the Offshore Net and Line Fishery are regional conservation priorities for Australia's North Marine Region (Department of Sustainability, Environment, Water, Population and Communities (2012)). Bycatches of sawfish and river sharks (<i>Glyphis</i> species) have been identified as pressures <i>of concern</i> in the region.</p>

¹ 'Protected species' means all species listed under Part 13 of the EPBC Act, including whales and other cetaceans and threatened, marine and migratory species.

<p>Interaction with Protected Species (cont.)</p>	<p>The 2009 ecological risk assessment assessed the risk of the fishery on <i>Pristis</i> spp. and <i>Glyphis</i> spp. breeding stocks as ranging from negligible to low.</p> <p>The Northern Territory Department of Primary Industry and Fisheries has advised that the results from its fishery observer program indicate that interactions with marine turtles are uncommon and, because of the short gear set times used, the majority are released alive. The ecological risk assessment assessed the risk to turtles as negligible due to the survivability of those released alive.</p> <p>The ecological risk assessment also noted the potential to interact with other protected species including whales, dolphins, crocodiles and seabirds. However, due to the lack of recent interactions (only one dolphin in the last couple of years) and management measures in place, a risk rating of negligible was assigned to each species group.</p> <p>The Northern Territory Department of Primary Industry and Fisheries has advised that the commercial industry has initiated a Code of Practice and an Environmental Management System which aims to improve the survivability of protected species returned to the sea by promoting the use of best practice methods for handling and release.</p>
<p>Ecosystem Impacts</p>	<p>The 2009 ecological risk assessment for the Offshore Net and Line Fishery assessed grey mackerel as being at moderate risk from fishing and the remaining target and byproduct species as being at low or negligible risk from fishing. Bycatch species, including protected species, were assessed as being at negligible or low risk from fishing.</p> <p>Fishers operate under an industry initiated Code of Practice and an Environmental Management System which requires operators to make all efforts to retrieve lost fishing gear and dispose of waste appropriately.</p> <p>While an ecological risk assessment of the impacts of the fishery on the ecosystem and the environment generally has not been undertaken for this fishery, the results of the ecological risk assessment for target, byproduct and bycatch species, together with:</p> <ul style="list-style-type: none"> • the relatively low number of operators and effort limits, and • the relatively passive and selective fishing methods used <p>suggests that the fishery is likely to have a relatively low impact on the ecosystem.</p>

Impacts on World Heritage properties

The assessment also considered the possible impacts of the operation of the Offshore Net and Line Fishery on the World Heritage values of the Kakadu National Park World Heritage Area. While the area of the fishery adjoins Kakadu National Park and a number of species utilise both marine and freshwater habitats, given that:

- net fishing is not permitted within two nautical miles of the coastline and that gear restrictions apply to net fishing, and
- demersal longline operates well offshore,

the department considers that impacts within Kakadu National Park itself from the operation of the fishery are unlikely.

On this basis the department considers that an action taken by an individual fisher, acting in accordance with the management regime for the Offshore Net and Line Fishery in force under the Northern Territory *Fisheries Act* and the Northern Territory Fisheries Regulations, would not be expected to have a significant impact on the World Heritage values of the Kakadu National Park World Heritage Area.

Table 2: Progress in implementation of conditions and recommendations made in the 2007 assessment of the Northern Territory Offshore Net and Line Fishery

Condition	Progress	Recommended Action
<p>1. Operation of the NT Offshore Net and Line Fishery will be carried out in accordance with the management regime in force under the NT Fisheries Regulations and the NT <i>Fisheries Act 1988</i>.</p>	<p>The Northern Territory Department of Primary Industry and Fisheries reports that the Offshore Net and Line Fishery continues to be managed in accordance with the management regime made under the Northern Territory Fisheries Regulations and Northern Territory <i>Fisheries Act</i>.</p>	<p>The department considers that this condition has been met.</p> <p>The department considers that a new approved wildlife trade operation declaration for the Offshore Net and Line Fishery specify a similar condition (see Condition 1, Table 4).</p>
<p>2. DPIFM to advise DEW of any intended change to the NT Offshore Net and Line Fishery management arrangements that could affect the criteria on which EPBC Act decisions are based.</p>	<p>The department is satisfied that there have been no changes to the management arrangements that would negatively impact on resource sustainability.</p>	<p>The department considers that this condition has been met.</p> <p>The department considers that a new approved wildlife trade operation declaration for the Offshore Net and Line Fishery specify a similar condition (see Condition 2, Table 4).</p>
<p>3. DPIFM to produce and present reports to DEW annually as per Appendix B to the 'Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition'.</p>	<p>The Northern Territory Department of Primary Industry and Fisheries provided annual reports to the department during the period of the approved wildlife trade operation declaration.</p>	<p>The department considers that this condition has been met.</p> <p>The department considers that a new approved wildlife trade operation declaration for the Offshore Net and Line Fishery specify a similar condition (see Condition 3, Table 4).</p>

Part 13 Condition	Progress	Recommended Action
<p>1. The Northern Territory Department of Primary Industry and Fisheries (formerly Department of Resources) to prohibit the retention of all EPBC Act listed chondrichthyan species in the Northern Territory Offshore Net and Line Fishery by 30 November 2011.</p>	<p>On 1 January 2010, the Northern Territory Fisheries Regulations were amended to prohibit the take of:</p> <ul style="list-style-type: none"> • northern river shark, or spartooth shark, of the genus <i>Glyphis</i>, and • sawfish of the genus <i>Pristis</i> (excluding wide sawfish, <i>Pristis pectinata</i>. Wide sawfish is not listed under Part 13 of the EPBC Act). <p>The Fisheries Regulations (Section 10) also set out that species protected under the <i>Territory Parks and Wildlife Conservation Act</i> (which affords protection to all species listed under Part 13 of the <i>Environment Protection and Biodiversity Conservation Act 1999</i>) are prohibited from being taken.</p>	<p>The department considers that this condition has been met.</p>

Recommendation	Progress	Recommended Action
<p>1. DPIFM to specifically consider the management of CITES² listed species, in particular members of the Pristidae family, in the NT Offshore Net and Line Fishery.</p>	<p>As mentioned above, since January 2010 the Northern Territory Fisheries Regulations prohibit the take of all <i>Pristis</i> species except wide sawfish, making any species listed under the Appendices to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which were likely to be caught in the Offshore Net and Line Fishery, no-take. Therefore, the operation of the fishery is unlikely to adversely affect any species listed under the Appendices to CITES as at that January 2010.</p>	<p>Given the recent listing of scalloped hammerhead, which is retained in small quantities in the Offshore Net and Line Fishery, in Appendix III to CITES, the department considers the need to give attention to management of CITES listed species in the Offshore Net and Line Fishery to be ongoing.</p> <p>(Recommendation 4, Table 4)</p>

² Convention on International Trade in Endangered Species of Wild Fauna and Flora

Recommendation	Progress	Recommended Action
<p>2. DPIFM to investigate management options, and where appropriate, develop and implement management responses to the 12 chondrichthyan species identified from the FRDC Project (2002/064) as least likely to be sustainable to ensure that overall catch levels for these species are sustainable.</p>	<p>The Northern Territory Department of Primary Industry and Fisheries has advised that reports from the fishery observer program have shown that five of the 12 species identified in FRDC Project 2002/64 (listed below) are rarely caught in the Offshore Net and Line Fishery. The low numbers recorded by the observer program supports information from fishery logbooks:</p> <ul style="list-style-type: none"> – dwarf sawfish (<i>Pristis clavata</i>) – green sawfish (<i>P. zijsron</i>) – freshwater sawfish (<i>P. microdon</i>) – nervous shark (<i>Carcharhinus cautus</i>), and – grey sharp-nosed shark (<i>Rhizoprion odonoligolinx</i>). <p>Four species are reportedly caught in low quantities:</p> <ul style="list-style-type: none"> – narrow sawfish (<i>Anoxypristis cuspidate</i>) – grey reef shark (<i>Carcharhinus amblyrhynchoides</i>) – blacktip reef shark (<i>C. melanopterus</i>), and – creek whaler shark (<i>C. fitzroyensis</i>). <p>Of the 12 species, only great hammerhead sharks (<i>Sphyrna mokarron</i>) and winghead sharks (<i>Eusphyra blochii</i>) are known to be caught in significant quantities. The 2009 ecological risk assessment for the fishery determined hammerhead sharks generally to be at low risk from fishing and winghead shark to be at negligible risk from fishing in the Offshore Net and Line Fishery.</p> <p>The Northern Territory Department of Primary Industry and Fisheries considers that the introduction of effort controls to the fishery in 2005 has reduced the risks to shark species in comparison to the FRDC report which was based on data gathered up to 2004.</p> <p>The catch of common blacktip sharks (<i>C. limbatus</i>) is uncertain due to identification issues with <i>C. tilstoni</i> (see Recommendations 3 and 4 below). The Northern Territory Department of Primary Industry and Fisheries has advised that:</p> <ul style="list-style-type: none"> – it continues to monitor captures of the 12 'least sustainable' chondrichthyan species in the Offshore Net and Line Fishery and assesses the data annually, and – if catch levels change significantly, it will investigate options to minimise capture of these species. 	<p>The department considers that this recommendation has been met.</p>

Recommendation	Progress	Recommended Action
<p>3. Within two years, DPIFM to commence investigating the extent of material misidentifying <i>C. limbatus</i> from <i>C. tilstoni</i> and review current performance indicators and trigger reference points to ensure they are appropriately precautionary.</p>	<p>The Northern Territory Department of Primary Industry and Fisheries, through its participation in the Northern Management and Science Working Group of the North Australian Fisheries Committee, remains abreast of research outcomes regarding the separation of <i>C. limbatus</i> (common blacktip shark) from <i>C. tilstoni</i> (Australian blacktip shark). The department acknowledges the results to date and recommends that the Northern Territory Department of Primary Industry and Fisheries continues to collaborate with researchers as appropriate (See Recommendation 4 below). The department recommends that, as more information becomes available, the Northern Territory Department of Primary Industry and Fisheries works towards development of species specific management (e.g. species specific performance indicators and trigger reference points) to ensure that catch levels of individual shark species are ecologically sustainable.</p>	<p>The department considers that this recommendation has been met and is ongoing (Recommendation 1, Table 4).</p>
<p>4. Should the investigation indicate that material misidentification of the two shark species is occurring, DPIFM to investigate a mechanism to accurately identify <i>C. tilstoni</i> and <i>C. limbatus</i> in order to determine the true catch composition of these two shark species in the fishery.</p>	<p>The department is aware that the Northern Territory Department of Primary Industry and Fisheries collaborates closely with researchers investigating species differentiation and stock structure of blacktip sharks off Queensland's east coast.</p> <p>The Northern Territory Department of Primary Industry and Fisheries has initiated a project to test morphological characteristics of these two shark species that could be used for species identification with genetic identification. This work aims to provide a method for observers and fishers to distinguish between the two species in the field. This is expected to lead to more robust catch composition data. The Northern Territory Department of Primary Industry and Fisheries has advised that it is also continuing to collect genetic samples and biological information for each of the two species to analyse catch composition in the Offshore Net and Line Fishery.</p> <p>The Northern Territory Department of Primary Industry and Fisheries has indicated that, with the information from the above projects, it plans to determine an accurate identification method and update the fishery observer program to incorporate any new techniques developed.</p>	<p>The department recognises the progress made in this complex matter and considers that this recommendation remains ongoing (Recommendation 1, Table 4).</p>

Recommendation	Progress	Recommended Action
<p>5. DPIFM to continue stock assessments of target shark species on a triennial basis and incorporate current catch and effort data into stock assessment models. DPIFM to review the adequacy of the current stock assessment model for the target shark species to ensure the ecologically sustainable management of the fishery.</p>	<p>The department notes that stock assessments have been undertaken in 2005, 2008 and 2011 and notes advice that the Northern Management and Science Working Group has made a commitment to triennial assessments of shark stocks.</p> <p>The department understands that the 2008 stock assessment workshop reviewed the Hall and Walters' stock reduction model then used. As a result, a research action plan for research needs for northern Australian shark fisheries was drafted. Actions included the gathering of data to support future stock assessments - for example, the Northern Territory Department of Primary Industry and Fisheries in partnership with industry, Charles Darwin University and the Australian Institute of Marine Science is undertaking the Australian Research Council funded project, <i>Estimating fishing-related mortality and designing sustainable management protocols for shark fisheries in Northern Australia</i>.</p>	<p>The department considers that this recommendation has been met.</p>
<p>6. DPIFM to continue stock assessments of grey mackerel on a triennial basis and continue to refine sustainable catch levels, performance indicators and trigger reference points to ensure the take of grey mackerel is ecologically sustainable.</p>	<p>The department notes that stock assessments have been undertaken in 2005, 2008 and 2011 and notes advice that the Northern Management and Science Working Group has made a commitment to triennial assessments of grey mackerel stocks.</p> <p>The department is aware that annual reviews of the fishery provide the opportunity to review sustainable catch levels, performance indicators and trigger reference points but considers that this process would be strengthened by the adoption of formal reviews of the indicators and reference points themselves on a periodic basis to ensure that there is transparent process to take account of new information relevant to the fishery as it becomes available.</p>	<p>The department considers that this recommendation has been met.</p> <p>The department recommends that the Northern Territory Department of Primary Industry and Fisheries develop a program to review the management objectives, performance measures and trigger reference points on a regular basis (Recommendation 2, Table 4).</p>

Recommendation	Progress	Recommended Action
<p>7. DPIFM to continue to actively pursue identified research priorities and the development of collaborative research with other jurisdictions and agencies and ensure that management arrangements for the NT Offshore Net and Line Fishery continues to take account of the results of research conducted.</p>	<p>The Northern Territory Department of Primary Industry and Fisheries has reported on a number of collaborative research projects (see above). The department acknowledges the research the Northern Territory Department of Primary Industry and Fisheries is conducting in collaboration with other jurisdictions and agencies.</p> <p>The department is aware that the performance of the fishery is reviewed annually against management objectives and that this provides an avenue for modifying management arrangements if necessary. However, the mechanism by which research results are incorporated into management arrangements is unclear (see Recommendation 2, table 4).</p>	<p>The department recognises the ongoing collaboration with other jurisdictions and considers it necessary for the long term sustainability of the stocks that this collaboration remains ongoing (Recommendation 5, Table 4).</p>
<p>8. Within 12 months, DPIFM to conduct an ERA on the impacts of the fishery on target, byproduct, bycatch (other than shark species) and protected species, particularly <i>Glyphis</i> sp. A and <i>Pristis microdon</i>. DPIFM to investigate measures to ensure that issues identified at risk are minimised.</p>	<p>The department received a report of the completed ecological risk assessment from the Northern Territory Department of Primary Industry and Fisheries in September 2009. The assessment concluded that <i>Glyphis</i> sp. and <i>Pristis microdon</i> were at low risk from fishing.</p> <p>The ecological risk assessment did not determine any species to be at high risk from fishing in the Offshore Net and Line Fishery (see Table 1).</p>	<p>The department considers that this recommendation has been met.</p>

Recommendation	Progress	Recommended Action
<p>9. DPIFM to improve estimates of recreational and Indigenous harvest of target species in the NT Offshore Net and Line Fishery. Once available, DPIFM 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>The Northern Territory Department of Primary Industry and Fisheries has taken several steps towards improving estimates of recreational and Indigenous harvest of target species in the Offshore Net and Line Fishery:</p> <ul style="list-style-type: none"> • A comprehensive recreational fishing survey was undertaken in 2009/2010 (West et al., in prep.). The results of the survey were incorporated into 2011 stock assessments for primary species harvested in the Offshore Net and Line Fishery. • The Natural Heritage Trust-funded research project, <i>Pilot Study to develop Methodology to determine Indigenous Fishing Impacts on Sharks and Rays in the Northern Territory</i>, was completed in 2009. The project successfully developed a methodology for working with Indigenous communities to gather information on harvest rates of natural resources and has been applied again in another community to determine the harvest of freshwater sawfish. <p>The department understands that the Department of Primary Industry and Fisheries' ecological risk assessment and stock assessment processes include all information available. This includes illegal, unregulated and unreported, recreational and Indigenous fishing.</p>	<p>The department considers that this recommendation has been met.</p>

Table 3: The Department of Sustainability, Environment, Water, Population and Communities assessment of the Northern Territory Offshore Net and Line Fishery against the requirements of the EPBC Act related to decisions made under Parts 13 and 13A.

Please Note – the table below is not a complete or exact representation of the EPBC Act. It is intended as a summary of relevant sections and components of the EPBC Act to provide advice on the fishery in relation to decisions under Parts 13 and 13A. A complete version of the EPBC Act can be found on the department’s website.

Part 13

<p>Division 1 Listed threatened species Section 208A Minister may accredit plans or regimes</p>	<p>The department’s assessment of the Offshore Net and Line Fishery</p>
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <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> <p>(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 threatened species (other than conservation dependent species) are not killed or injured as a result of the fishing; and</p>	<p>The Offshore Net and Line Fishery will be managed under the Northern Territory <i>Fisheries Act</i> and the Northern Territory Fisheries Regulations.</p> <p>The management regime for the Offshore Net and Line Fishery was most recently accredited under section 208A in November 2007, subject to a condition requiring the Department of Primary Industry and Fisheries to prohibit the retention of all chondrichthyan species listed under Part 13 of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) in the fishery within three years.</p> <p>On 1 January 2010, the Northern Territory Fisheries Regulations were amended to specifically prohibit the take of EPBC Act listed river shark and sawfish species. In addition, the <i>Territory Parks and Wildlife Conservation Act</i> affords protection to all species listed under Part 13 of the EPBC Act.</p> <p>Accordingly, the department considers that the management regime for the Offshore Net and Line Fishery requires persons engaged in fishing to take all reasonable steps to ensure that members of listed threatened species are not killed or injured as a result of the fishing.</p>

<p>(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>	<p>Interactions with sawfish and river sharks have been recorded, in relatively low numbers, from the Offshore Net and Line Fishery. The 2009 ecological risk assessment for the fishery attributed a low to negligible risk from fishing to these species.</p> <p>Taking into account:</p> <ul style="list-style-type: none">• the conclusions from the ecological risk assessment• the gear specifications for net fishing in the Offshore Net and Line Fishery, and• that the fishery operates offshore (net fishing is prohibited within two nautical miles of the coastline), <p>the department considers the current operation of the Offshore Net and Line Fishery is not likely to adversely affect the survival or recovery in nature of any threatened species.</p>
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Part 13 (cont.)

<p>Division 2 Migratory species Section 222A Minister may accredit plans or regimes</p>	<p>The department's assessment of the Offshore Net and Line Fishery</p>
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <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> <p>(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</p> <p>(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 migratory species or a population of that species.</p>	<p>The Offshore Net and Line Fishery will be managed under the Northern Territory <i>Fisheries Act</i> and Northern Territory Fisheries Regulations.</p> <p>The management regime for the Offshore Net and Line Fishery was most recently accredited under section 222A in November 2007. The department considers that the management regime for the Offshore Net and Line Fishery continues to require persons engaged in fishing to take all reasonable steps to ensure that members of listed migratory species are not killed or injured as a result of the fishing.</p> <p>The 2009 ecological risk assessment for the Offshore Net and Line Fishery found all protected species assessed to be at low or negligible risk from fishing. Given the outcomes of the ecological risk assessment, effort limits in the fishery and gear specifications prescribed by regulations, the department considers the current operation of the Offshore Net and Line is not likely to adversely affect the conservation status of a species of a listed migratory species or a population of that species.</p>

Part 13 (cont.)

<p>Division 3 Whales and other cetaceans Section 245 Minister may accredit plans or regimes</p>	<p>The department's assessment of the Offshore Net and Line Fishery</p>
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <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> <p>(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 cetaceans are not killed or injured as a result of the fishing; and</p> <p>(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>	<p>The Offshore Net and Line Fishery will be managed under the Northern Territory <i>Fisheries Act</i> and Northern Territory Fisheries Regulations.</p> <p>The management regime for the Offshore Net and Line Fishery was most recently accredited under section 245 in November 2007. The department considers that the management regime for the Offshore Net and Line Fishery continues to require persons engaged in fishing to take all reasonable steps to ensure that cetaceans are not killed or injured as a result of the fishing.</p> <p>The 2009 ecological risk assessment for the Offshore Net and Line Fishery' reported one dolphin interaction in recent times and no recorded whale interactions. Therefore the fishery was considered to have negligible risk to these species. Given the outcomes of the ecological risk assessment, effort limits in the fishery and gear specifications prescribed by regulations, the department considers the current operation of the Offshore Net and Line is not likely to adversely affect the conservation status of a species of cetacean or a population of that species.</p>

Part 13 (cont.)

<p>Division 4 Listed marine species Section 265 Minister may accredit plans or regimes</p>	<p>The department's assessment of the Offshore Net and Line Fishery</p>
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <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> <p>(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 marine species are not killed or injured as a result of the fishing; and</p> <p>(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>	<p>The Offshore Net and Line Fishery will be managed under the Northern Territory <i>Fisheries Act</i> and Northern Territory Fisheries Regulations.</p> <p>The management regime for the Offshore Net and Line Fishery was most recently accredited under section 265 in November 2007. The department considers that the management regime for the Offshore Net and Line Fishery continues to require persons engaged in fishing to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishing.</p> <p>The 2009 ecological risk assessment for the Offshore Net and Line Fishery found all protected species assessed to be at low or negligible risk from fishing. Given the outcomes of the ecological risk assessment, effort limits in the fishery and gear specifications prescribed by regulations, the department considers the current operation of the Offshore Net and Line is not likely to adversely affect the conservation status of a species of a listed marine species or a population of that species.</p>

Part 13 (cont.)

<p>Section 303AA Conditions relating to accreditation of plans, regimes and policies</p>	<p>The department's assessment of the Offshore Net and Line Fishery</p>
<p>(1) This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265.</p>	<p>The department recommends that the Offshore Net and Line Fishery be accredited under sections 208A, 222A, 245 and 265.</p>
<p>(2) 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:</p> <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. <p>In such a case, the instrument of accreditation is to specify the period, circumstances or condition.</p>	<p>The department considers that no conditions are required for the accreditation of the management regime for the fishery under Part 13.</p>
<p>(7) The Minister must, in writing, revoke an accreditation if he or she is satisfied that a condition of the accreditation has been contravened.</p>	

Part 13A

Section 303BA Objects of Part 13A

(1) The objects of this Part are as follows:

- (a) to ensure that Australia complies with its obligations under CITES³ 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.

³ Convention on International Trade in Endangered Species of Wild Fauna and Flora

Part 13A

Section 303DC Minister may amend list	The department's assessment of the Offshore Net and Line Fishery
<p>(1) Minister may, by instrument published in the Gazette, amend the list referred to in section 303DB (list of exempt native specimens) by:</p> <ul style="list-style-type: none">(a) including items in the list;(b) deleting items from the list; or(c) imposing a condition or restriction to which the inclusion of a specimen in the list is subject; or(d) varying or revoking a condition or restriction to which the inclusion of a specimen in the list is subject; or(e) correcting an inaccuracy or updating the name of a species.	<p>The department recommends that specimens derived from species harvested in the Offshore Net and Line Fishery, other than specimens that belong to species listed under Part 13 of the EPBC Act and specimens that belong to taxa listed under section 303CA of the EPBC Act, be included in the list of exempt native specimens while the Offshore Net and Line Fishery is subject to a declaration as an approved wildlife trade operation.</p>
<p>(1A) In deciding whether to amend the list referred to in section 303DB (list of exempt native specimens) to include a specimen derived from a commercial fishery, 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.</p>	<p>No assessment of the Offshore Net and Line Fishery has been carried out under Part 10 of the EPBC Act.</p>

Section 303DC Minister may amend list	The department's assessment of the Offshore Net and Line Fishery
<p>(1C) The above does not limit the matters that may be taken into account in deciding whether to amend the list referred to in section 303DB (list of exempt native specimens) to include a specimen derived from a commercial fishery.</p>	<p>It is not possible to list exhaustively the factors that you may take into account in amending the list of exempt native specimens. The objects of Part 13A, which are set out above this table, provide general guidance in determining factors that might be taken into account. A matter that is relevant to determining whether an amendment to the list is consistent with those objects is likely to be a relevant factor.</p> <p>The department considers that the amendment of the list of exempt native specimens to include product taken in the Offshore Net and Line Fishery, as described above, would be consistent with the provisions of Part 13A as:</p> <ul style="list-style-type: none"> • the fishery will not harvest any CITES listed species • 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 Offshore Net and Line Fishery during the period of the recommended declaration as an approved wildlife trade operation is unlikely to be unsustainable or threaten biodiversity, and • the Environment Protection and Biodiversity Conservation Regulations 2000 (EPBC Regulations) do not specify fish as a class of animal in relation to the welfare of live specimens.

Section 303DC Minister may amend list	The department's assessment of the Offshore Net and Line Fishery
<p>(3) Before amending the list referred to in section 303DB (list of exempt native specimens), the Minister:</p> <ul style="list-style-type: none"> (a) must consult such other Minister or Ministers as the Minister considers appropriate; and (b) must consult such other Minister or Ministers of each State and self-governing Territory as the Minister considers appropriate; and (c) may consult such other persons and organisations as the Minister considers appropriate. 	<p>The department considers that the consultation requirements have been met.</p> <p>On 10 August 2004, the then Minister for the Environment and Heritage wrote to all fisheries ministers seeking their views on inclusion of product derived from commercial fisheries in the list of exempt native specimens, while subject to declaration as approved wildlife trade operations. Responses in support of the proposal were received from all state and territory fisheries ministers and the Commonwealth minister.</p> <p>The Delegate of the Minister for Sustainability, Environment, Water, Population and Communities consulted with the Northern Territory Department of Primary Industry and Fisheries as the Northern Territory Department of Primary Industry and Fisheries has management responsibilities for the fishery concerned.</p> <p>The public comment period on the Northern Territory Department of Primary Industry and Fisheries' application for the Offshore Net and Line Fishery sought comment on the application and provided sufficient opportunity for consultation with other persons and organisations.</p>
<p>(5) A copy of an instrument made under section 303DC is to be made available for inspection on the Internet.</p>	<p>The instrument for the Offshore Net and Line Fishery made under section 303DC will be gazetted and made available on the department's website.</p>

Part 13A cont'd

Section 303FN Approved wildlife trade operation	The department's assessment of the Offshore Net and Line Fishery
<p>(2) The Minister may, by instrument published in the <i>Gazette</i>, declare that a specified wildlife trade operation is an approved wildlife trade operation for the purposes of this section.</p>	
<p>(3) The Minister must not declare an operation as an approved wildlife trade operation unless the Minister is satisfied that:</p> <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> <ol style="list-style-type: none"> i. the survival of a taxon to which the operation relates; or ii. the conservation status of a taxon to which the operation relates; and 	<p>The department considers that the operation of the Offshore Net and Line Fishery is consistent with the objects of Part 13A (listed above) as:</p> <ul style="list-style-type: none"> • the fishery will not harvest any CITES listed species • 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 Offshore Net and Line Fishery is unlikely to be unsustainable and threaten biodiversity within the next 3 years, and • the EPBC Regulations do not specify fish as a class of animal in relation to the welfare of live specimens. <p>The department considers that the operation of the Offshore Net and Line Fishery during the period of the recommended declaration as an approved wildlife trade operation will not be detrimental to the survival or conservation status of a taxon to which it relates, given:</p> <ul style="list-style-type: none"> • the outcomes of the 2009 ecological risk assessment for the fishery, and • the management measures currently in place (see Table 1), which include: <ul style="list-style-type: none"> - effort limits - gear and area restrictions - stock assessments triennial for primary species - anti-finning provisions for shark species, and - a catch limit for incidental catch of Spanish mackerel.

Section 303FN Approved wildlife trade operation	The department's assessment of the Offshore Net and Line Fishery
<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>(d) such other conditions (if any) as are specified in the regulations have been, or are likely to be, satisfied.</p>	<p>The department considers that the operation of the Offshore Net and Line Fishery during the period of the recommended declaration as an approved wildlife trade operation will not threaten any relevant ecosystem, given:</p> <ul style="list-style-type: none"> • the outcomes of the 2009 ecological risk assessment for the fishery, and • the management measures currently in place (see Table 1), which include: <ul style="list-style-type: none"> - effort limits - gear and area restrictions, including prohibition of bottom setting of nets - stock assessments triennial for primary species - anti-finning provisions for shark species, and - a catch limit for incidental catch of Spanish mackerel. <p>The EPBC Regulations do not specify fish as a class of animal in relation to the welfare of live specimens.</p> <p>No other conditions are specified in relation to commercial fisheries in the EPBC Regulations.</p>

Section 303FN Approved wildlife trade operation	The department's assessment of the Offshore Net and Line Fishery
<p>(4) 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>The department considers that the operation of the Offshore Net and Line Fishery during the period of the recommended declaration as an approved wildlife trade operation will not have a significant impact on any relevant, given:</p> <ul style="list-style-type: none"> • the outcomes of the 2009 ecological risk assessment for the fishery, and • the management measures currently in place (see Table 1), which include: <ul style="list-style-type: none"> - effort limits - gear and area restrictions, including prohibition of bottom setting of nets - stock assessments triennial for primary species - anti-finning provisions for shark species, and - a catch limit for incidental catch of Spanish mackerel. <p>The department considers that the management arrangements for the Offshore Net and Line Fishery are likely to be effective. Management controls (described in Table 1) are included in the Northern Territory <i>Fisheries Act</i> and the Northern Territory Fisheries Regulations. Management measures include:</p> <ul style="list-style-type: none"> • effort limits • gear and area restrictions, including prohibition of bottom setting of nets • stock assessments triennial for primary species • anti-finning provisions for shark species, and • a catch limit for incidental catch of Spanish mackerel. <p>The fishery is monitored through compulsory catch and effort logbooks and monthly summary returns for the commercial sector of the fishery. Scientific monitoring trips also provide biological information surrounding the catch and interactions with threatened, endangered and protected species. The Northern Territory Department of Primary Industry and Fisheries reviews the performance of the fishery annually against a series of objectives, measures and indicators.</p>

Section 303FN Approved wildlife trade operation	The department's assessment of the Offshore Net and Line Fishery
<p>(5) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have regard to:</p> <ul style="list-style-type: none"> (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 (b) whether the legislation applies throughout the State or Territory concerned; and (c) whether, in the opinion of the Minister, the legislation is effective. 	<p>The Offshore Net and Line Fishery will be managed under the Northern Territory <i>Fisheries Act</i> and the Northern Territory Fisheries Regulations.</p> <p>The Northern Territory <i>Fisheries Act</i> and the Northern Territory Fisheries Regulations apply throughout Northern Territory waters.</p> <p>The legislation is likely to be effective.</p>
<p>(10) 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:</p> <ul style="list-style-type: none"> (d) the operation is a commercial fishery. 	<p>The Offshore Net and Line Fishery is a commercial fishery.</p>

Part 13A cont'd

Section 303FR Public consultation	The department's assessment of the Offshore Net and Line Fishery
<p>(1) Before making a declaration under section 303FN, the Minister must cause to be published on the Internet a notice:</p> <ul style="list-style-type: none"> (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. 	<p>A public notice, which:</p> <ul style="list-style-type: none"> ▪ set out the proposal to declare the Offshore Net and Line Fishery an approved wildlife trade operation ▪ included the Northern Territory Department of Primary Industry and Fisheries' application, and ▪ invited persons and organisations to give written comments about the proposal within the period 11 October 2010 to 11 November 2010 <p>was published on the department's website.</p>
<p>(2) 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.</p>	<p>The period specified in the notice included a total of 23 business days.</p>
<p>(3) In making a decision about whether to make a declaration under 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.</p>	<p>Two comments were received during the period specified in the notice. The department's assessment has considered the public comments received.</p>

Part 13A cont'd

Section 303FT Additional provisions relating to declarations	The department's assessment of the Offshore Net and Line Fishery
(1) This section applies to a declaration made under section 303FN, 303FO or 303FP.	A department recommends that the Offshore Net and Line Fishery be declared an approved wildlife trade operation under section 303FN.
<p>(4) 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:</p> <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. <p>In such a case, the instrument of declaration is to specify the period, circumstances or condition.</p>	<p>The department considers that the Offshore Net and Line Fishery should be the subject of a declaration under section 303FN only if the conditions described in Table 4 are complied with.</p> <p>The wildlife trade operation declaration instrument for the Offshore Net and Line Fishery specifies the conditions.</p>
(8) A condition may relate to reporting or monitoring.	Condition 3 relates to reporting.
(9) 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.	
(11) A copy of an instrument under section 303FN, or this section is to be made available for inspection on the Internet.	The instrument for the Offshore Net and Line Fishery made under section 303FN and the conditions under section 303FT will be gazetted and made available on the department's website.

Part 12

Section 176 Bioregional Plans	The department’s assessment of the Offshore Net and Line Fishery
<p>(5) Subject to this Act, the Minister must have regard to a bioregional plan in making any decision under this Act to which the plan is relevant.</p>	<p>The <i>Marine bioregional plan for the North Marine Region</i> has been considered in the preparation of advice in relation to decisions under section 303DC and section 303FN (Part 13A) about the Offshore Net and Line Fishery, as the fishery operates within the region and a number of bycatch species which occur in the area of the fishery have been identified as regional conservation priorities (see Table 1). Bycatch in commercial fisheries is considered a pressure 'of concern' for sawfish and river sharks within the region. The 2009 ecological risk assessment assessed the risk of the fishery on <i>Pristis</i> spp. and <i>Glyphis</i> spp. breeding stocks as ranging from negligible to low. The nature of the fishery operation (offshore) and the management measures in place, including gear restrictions (see Table 1), act to mitigate against potential impacts on these species.</p>

Part 16

Section 391 Minister must consider precautionary principle in making decisions	The department’s assessment of the Offshore Net and Line Fishery
<p>(1) 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.</p>	<p>The precautionary principle has been considered in the preparation of advice in relation to decisions under section 303DC and section 303FN.</p>
<p>(2) 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.</p>	

**The Department of Sustainability, Environment, Water, Population
and Communities' final recommendations to the Northern Territory
Department of Primary Industry and Fisheries for the Northern Territory
Offshore Net and Line Fishery**

The material submitted by the Northern Territory Department of Primary Industry and Fisheries demonstrates that the management arrangements for the Northern Territory Offshore Net and Line Fishery continue to meet most of the requirements of the Australian Government 'Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition'.

Stock status and recovery

The department considers that overall the management regime for the Offshore Net and Line Fishery aims to ensure that fishing is conducted in a manner that does not lead to overfishing. The department also considers that, under the current management arrangements, there is a high degree of probability that the western Northern Territory grey mackerel stock, heavily fished prior to 1990, will recover.

Management measures in place in the fishery (see Table 1) include:

- effort limits
- gear restrictions
- prohibition on the disposal of finned shark carcasses at sea, and
- byproduct catch limits.

Stock assessments for grey mackerel and blacktip sharks undertaken in 2011 suggest that the current take of these species is much less than the maximum sustainable yield estimates and concludes that stocks are not subject to overfishing at current harvest rates.

The department received an ecological risk assessment report from the Northern Territory Department of Primary Industry and Fisheries in September 2009. The ecological risk assessment did not determine any species (including target, byproduct and non-retained species) to be at high risk from fishing in the Offshore Net and Line Fishery.

Ecosystem effects

Taking into account:

- the 2009 ecological risk assessment report
- the management measures described above, and
- a prohibition on bottom setting of nets,

the department considers that the management regime for the Offshore Net and Line Fishery provides for fishing operations to be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem, including the North Marine Region of the Commonwealth marine area.

While the fishery is relatively well managed, the department has identified a number of risks and uncertainties that must be managed to ensure that impacts are minimised. To address these risks and uncertainties, the department considers that there is a need to:

- regularly review the fishery's management objectives, performance measures and trigger reference points to ensure they are precautionary on a longer term basis
- review the ecological risk assessment on a regular basis
- improve species based management of target shark species, including:
 - correct identification of target shark species, in particular Australian blacktip shark and common blacktip shark
 - improved knowledge of species biology and catch composition, and
 - developing species specific performance indicators and trigger reference points
- ensure that management arrangements take account of any future EPBC Act listings of species harvested in the fishery, and
- continue to collaborate with relevant jurisdictions on complementary management of shared stocks.

The key challenges for this fishery will be:

- improving the species based management of target shark species, and
- developing programs to regularly review the performance measures and ecological risk assessment for the fishery.

The department considers that, until it can be demonstrated that these issues have been adequately addressed, declaration of the harvest operations of the Offshore Net and Line Fishery as an approved wildlife trade operation for three years, until 25 September 2015, is appropriate. The department considers that the declaration should be subject to the conditions listed in Table 4. To contain and minimise the risks in the longer term the recommendations outlined in Table 4 have been made.

Table 4: Northern Territory Offshore Net and Line Fishery Assessment – Summary of Issues, Conditions and Recommendations - September 2012

Issue	Condition
<p><u>General management</u></p> <p>Export decisions relate to the arrangements in force at the time of the decision. To ensure that these decisions remain valid and export approval continues uninterrupted, the Department of Sustainability, Environment, Water, Population and Communities 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. This includes operational and legislated amendments that may affect sustainability of the target species or negatively impact on byproduct, bycatch, protected species or the ecosystem.</p>	<p>Condition 1: Operation of the Northern Territory Offshore Net and Line Fishery will be carried out in accordance with the management regime for the fishery in force under the Northern Territory Fisheries Regulations and the Northern Territory <i>Fisheries Act</i>.</p> <p>Condition 2: The Northern Territory Department of Primary Industry and Fisheries to advise the Department of Sustainability, Environment, Water, Population and Communities of any intended change to the Offshore Net and Line Fishery management arrangements that could affect the criteria on which <i>Environment Protection and Biodiversity Conservation Act 1999</i> decisions are based.</p>
<p><u>Annual reporting</u></p> <p>It is important that reports be produced and presented to the department annually in order for the performance of the fishery and progress in implementing the recommendations in this report and other managerial commitments to be monitored and assessed throughout the life of the declaration.</p> <p>Annual reports should follow Appendix B to the 'Guidelines for the Ecologically Sustainable Management of Fisheries — 2nd Edition' and include a description of the fishery, management arrangements in place, research and monitoring outcomes, 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 and progress in implementing the department's recommendations. Electronic copies of the guidelines are available from the department's website at: http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html.</p>	<p>Condition 3: The Northern Territory Department of Primary Industry and Fisheries to produce and present reports to the Department of Sustainability, Environment, Water, Population and Communities annually as per Appendix B to the 'Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition'.</p>

Issue	Recommendation
<p><u>Species based management of sharks</u></p> <p>During the final phase of FRDC project 2002/064 – ‘Northern Australian Sharks and Rays: the Sustainability of Target and Bycatch species, Phase 2’ (Salini et al., 2006) - it became apparent that commercial fishers and observers have difficulty in distinguishing the closely related common blacktip sharks (<i>Carcharhinus limbatus</i>) from Australian blacktip sharks (<i>C. tilstoni</i>). A recent genetic research study has shown that the Australian blacktip and the common blacktip whalers are hybridising along much of the Queensland east coast (Fisheries Queensland, 2011). The department understands that records of <i>C. tilstoni</i> are likely to be a mix of <i>C. tilstoni</i> and <i>C. limbatus</i>, which creates difficulty in ascertaining the true catch composition for these two species.</p> <p>This finding may pose challenges for fishery management since <i>C. tilstoni</i> is a target species in northern Australian shark fisheries, while the FRDC report identified <i>C. limbatus</i> as being among 12 shark species identified by Salini et al. (2007) as being ‘least sustainable’ (with high susceptibility to and slow recovery from, fishing) in the Offshore Net and Line Fishery.</p> <p>Studies in the 1980s indicated the Australian blacktip shark (<i>C. tilstoni</i>) to be the major component of shark catches, with the very similar common blacktip shark (<i>C. limbatus</i>) being found in much lower numbers (an overall <i>C. tilstoni</i> to <i>C. limbatus</i> ratio of approximately 300:1). More recent studies indicated a ratio closer to 1:1 of these two species (Ovenden et al., 2010).</p> <p>The department acknowledges the work the Northern Territory Department of Primary Industry and Fisheries is conducting to determine reliable methods for correctly identifying <i>C. limbatus</i> and <i>C. tilstoni</i> (see Table 2), as well as their future plans for incorporating the information into future management of the fishery and recommends that this work continue in conjunction with other relevant jurisdictions.</p> <p>The Northern Territory Department of Primary Industry and Fisheries has recognised the importance of the apparent change in species ratios for the future management of the fishery. The Northern Territory Department of Primary Industry and Fisheries has advised that the Northern Management and Science Working Group of the North Australian Fisheries Committee has determined that the main means of resolving this issue is to determine the rates at which the two species are currently fished (exploitation rates) as well as development of more reliable identification of the two species.</p>	<p>Recommendation 1: The Northern Territory Department of Primary Industry and Fisheries to improve the species based management of sharks in the Offshore Net and Line Fishery through:</p> <ul style="list-style-type: none"> a) in conjunction with other relevant jurisdictions, improving the <ul style="list-style-type: none"> ○ identification ○ knowledge of species biology and ecology, and ○ knowledge of catch composition of sharks in the blacktip complex and hammerhead shark complex, and b) developing and implementing species specific performance indicators and trigger reference points, where appropriate, to ensure that catch levels of individual shark species are ecologically sustainable.

Issue	Recommendation
<p data-bbox="183 210 770 236"><i>Species based management of sharks cont'd</i></p> <p data-bbox="183 258 1348 561">There is currently a trigger reference point for target species of blacktip sharks (including Australian blacktip shark, common blacktip shark and spot-tail shark) whereby if the catch levels increase to 2000 tonnes over a calendar year a management response is triggered. Given the uncertainty over species differentiation and the variation in susceptibility to fishing, management of harvest on a finer scale than the complex of three species may be required to ensure that long term sustainable harvest levels are maintained. The department recommends that the Northern Territory Department of Primary Industry and Fisheries implement species specific trigger reference points for target shark species in conjunction with improved species identification.</p> <p data-bbox="183 584 1357 849">In June 2012, Costa Rica notified the CITES Secretariat that it was listing scalloped hammerhead shark (<i>Sphyrna lewini</i>) on Appendix III of CITES. In accordance with the convention, all CITES parties have 90 days to implement the requirements of an Appendix III listing. Therefore, these listings become effective on 25 September 2012. The legislative basis for meeting Australia's responsibilities under CITES is provided by Part 13A of the EPBC Act. As such, specimens of species listed in Appendix III of CITES may be exported commercially, under a CITES export permit, if sourced from an approved wildlife trade operation.</p> <p data-bbox="183 871 1361 1104">Logbook changes implemented in the Offshore Net and Line Fishery in 2009 have provided more detailed information regarding the catch composition of hammerhead shark species as well as minor shark species in the fishery such as pigeye sharks and bull sharks in both the line and net sectors. The department acknowledges the value of this work in better understanding the composition of the shark harvest and recommends that the Northern Territory Department of Primary Industry and Fisheries also gives priority to developing species based management for hammerhead sharks.</p>	

Issue	Recommendation
<p><u>Performance measures</u></p> <p>The department acknowledges the review of the management arrangements, management objectives, performance indicators and trigger reference points for the Offshore Net and Line Fishery in 2007 and notes that the trigger reference points were to be reviewed again during 2011.</p> <p>As the results of current and future research become available, the department recommends that the Northern Territory Department of Primary Industry and Fisheries has in place a program to regularly review the performance indicators and associated trigger reference points for the fishery to ensure that the best available information is taken into account and that the trigger reference points are appropriately precautionary.</p>	<p>Recommendation 2: The Northern Territory Department of Primary Industry and Fisheries to develop a program to review the management objectives, performance measures and trigger reference points on a regular basis to ensure that they are appropriately precautionary.</p>
<p><u>Ecological risk assessment</u></p> <p>An ecological risk assessment for target, byproduct and bycatch species in the Offshore Net and Line Fishery was undertaken by the Northern Territory Department of Primary Industry and Fisheries in 2009. A copy of the ecological risk assessment report was provided to the Department of Sustainability, Environment, Water, Population and Communities. The report includes:</p> <ul style="list-style-type: none"> • background and history of the Offshore Net and Line Fishery • descriptions of the biology of the target, byproduct and the major bycatch species taken in the fishery • details of the management arrangements in operation in the fishery • details of the ecological risk assessment methodology, and • management arrangements to be employed to maintain ecological sustainability of the fishery. <p>The department considers that the ecological risk assessment report provides a strong foundation for ongoing management of the fishery. The department recommends that the ecological risk assessment be updated on a regular basis. Reviews of the ecological risk assessment should include consideration of the risks to target, byproduct and bycatch from fishing in the context of fishing mortality from all sources, including Indigenous use and recreational fishing where relevant, and illegal, unreported and unregulated fishing. While noting the limitations due to the small number of operators in the fishery and confidentiality requirements, the department recommends that, to the extent possible, future ecological risk assessment reports become public documents.</p>	<p>Recommendation 3: The Northern Territory Department of Primary Industry and Fisheries to:</p> <ol style="list-style-type: none"> a) initiate a program to review and update the ecological risk assessment for the Offshore Net and Line Fishery on a regular basis, and b) make public the results of future ecological risk assessments.

Issue	Recommendation
<p><u>Species listed under Part 13 (protected species) and Part 13A (CITES) of the EPBC Act</u></p> <p>Some species (for example, a number of sawfish species) which were historically taken in the Offshore Net and Line Fishery have subsequently been listed as threatened species under Part 13 of the EPBC Act and/or CITES species under section 303CA (Part 13A). Section 303CA establishes Australia's list of CITES species, reflecting international CITES listings. Under the EPBC Act, listed threatened species and species listed under Appendix 1 of CITES may not be exported for commercial purposes.</p> <p>Some shark species with international distribution which are harvested in the Offshore Net and Line Fishery are currently the subject of interest from international CITES parties and/or Regional Fisheries Management Organisations. A number of shark species have also been nominated for listing as threatened species under the EPBC Act. To ensure that the management arrangements for the Offshore Net and Line Fishery transparently reflect any new EPBC Act threatened species and/or CITES listings and that the fishery continues to meet the requirements under the EPBC Act for declaration as an approved wildlife trade operation, the department recommends that the Northern Territory Department of Primary Industry and Fisheries, in conjunction with other relevant agencies, develops protocols for translating any relevant EPBC Act listings into the management arrangements for the fishery.</p>	<p>Recommendation 4: The Northern Territory Department of Primary Industry and Fisheries to ensure that the management arrangements for the Offshore Net and Line Fishery take account of any future listings under the EPBC Act of species harvested, or permitted to be harvested, in the fishery.</p>

Issue	Recommendation
<p><u>Complementary management of shared species and stocks</u></p> <p>Grey mackerel, a dominant target species in the Offshore Net and Line Fishery, appears to consist of two genetically distinct stocks, one of which extends across the Gulf of Carpentaria and is shared with Queensland and the other off the north west of the Northern Territory shared with Western Australia (Welch et al., 2009).</p> <p>A number of other fisheries in northern Australia, managed by various jurisdictions, harvest a similar suite of shark species. Industry operators fishing in one or more of the fisheries target a range of shark species which are generally common to all of the fisheries. In addition, several species have wide regional or global distributions.</p> <p>The department notes that the Northern Territory Department of Primary Industry and Fisheries collaborates with the Australian Government and the Queensland and Western Australia governments in pursuit of complementary management of shared grey mackerel and shark stocks as well as on research and management issues related to tropical shark species generally.</p> <p>In particular, in light of the:</p> <ul style="list-style-type: none"> • current state of uncertainty with regard to speciation of sharks in the blacktip shark complex and hence stock structure, and • increasing interest in the management of international trade in tropical shark species, in particular, hammerhead sharks, by CITES parties, <p>the department considers it important that collaborative research, information exchange and development of complementary management arrangements that ensure sustainability of stocks continues amongst all relevant stakeholders.</p>	<p>Recommendation 5: The Northern Territory Department of Primary Industry and Fisheries to continue to collaborate with relevant jurisdictions to pursue increased knowledge and complementary management of shared species and stocks across jurisdictions.</p>

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Acronyms

CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
cm	Centimetres
DEW	Department of the Environment and Water Resources
DPIFM	(Northern Territory) Department of Primary Industries and Fisheries Management
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPBC Regulations	Environment Protection and Biodiversity Conservation Regulations 2000
ERA	ecological risk assessment
FRDC	Fisheries Research and Development Corporation
IUU	illegal, unregulated and unreported (fishing)
NT	Northern Territory