The Queensland East Coast Inshore Fin Fish Fishery

Background paper: Sharks and rays

Queensland Government
Department of Primary Industries and Fisheries

QI06099
ISSN 0727–6273

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

Introduction

The Queensland East Coast Inshore Fin Fish Fishery is important for both its commercial and social value. It is characterised by a vibrant recreational fishing population and an economically significant commercial fishing industry. It contains 'bread and butter' fish species like bream, whiting and tailor that are caught mainly in southern waters, as well as species that are part of northern Queensland fishing folklore such as barramundi.

The fishery includes all waters from the Queensland – New South Wales border in the south, to the tip of Cape York in the north. It is adjacent to highly populated regions, such as south-east Queensland where fishing grounds are easily accessible and heavily fished, and more remote regions such as Cape York Peninsula where fishing activity remains relatively low.

Population increases, improved gear technology and easier access to fishing grounds have raised concerns about the sustainability of Queensland's inshore fin fish stocks. Added to these concerns is the impact of urban development, habitat modification and poor water quality. In addition, remote areas—once thought to be immune to fishing pressure—are experiencing increased demands on fish stocks through improved access and services to these areas.

Further pressure has been placed on some regions as a consequence of the rezoning of the Great Barrier Reef Marine Park. Additional 'no fishing' or 'restricted fishing' zones were implemented through the rezoning process, which has resulted in fishing effort being displaced into other areas where fishing is allowed.

As pressure on fish stocks has increased, the issue of fair access between users has also become more prominent. Resolution of these issues is the most significant challenge for the future management of the fishery.

Purpose of the paper

This background paper is one of a series of papers designed to provide the reader with more details on some of the key issues associated with the fishery.

There is an enormous amount of information associated with the major issues for this fishery. Consequently, the major challenge for the Department of Primary Industries and Fisheries (DPI&F) has been to provide sufficient information to enable stakeholders to provide informed comment without overwhelming them. The background papers in this series aim to do this.

Background information

Sharks and rays are a group of cartilaginous fish. They are distinguished from fin fish species by the lack of bones.

Sharks and rays are taken both as target species in the Queensland East Coast Inshore Fin Fish Fishery and as bycatch in other fisheries. The shark fishery supplies a variety of products including meat, fins, liver, skin, cartilage, jaws and teeth, which are sold both domestically and overseas.

Current management

Overview

Sharks and rays are taken commercially as part of the multi-species Queensland East Coast Inshore Fin Fish Fishery. Fishing occurs in inshore waters including rivers and creeks, as well as offshore waters using mesh nets.

Recreationally, sharks are taken using line-based methods from the shore or vessels. Charter boat operators use the same fishing apparatus and methods as the recreational fishery.

A range of management controls are used to manage the take of sharks and rays in the fishery. These include:

- limited entry in the commercial fishery
- removal of excess fishing effort in the commercial fishery (see the 'Net fishery latent effort review' section below)
- prohibition on commercial or recreational fishers taking grey nurse sharks (*Carcharias taurus*) and great white sharks (*C. carcharius*)
- restrictions on the area in which commercial fishers may operate
- restrictions on the type of net that may be used by commercial fishers (length and mesh size)
- restrictions on shark finning.

Recent developments

Net fishery latent effort review

Latent effort relates to the number of licences that are not being actively used in a fishery. Transfer of effort from other fisheries means that this latent effort may be converted into real fishing effort. It is likely that a large increase in fishing effort in the net fishery would exceed sustainable levels and would pose a significant threat. The transfer of effort from other fisheries has been identified as one of the key issues facing the sustainable management of resources.

In response to these concerns, DPI&F issued an investment warning on 8 April 2002 and an accompanying *Policy on investment in the East Coast Net Fishery and fisheries taking spotted mackerel or elasmobranchs by any method*. The investment warning and accompanying policy warned that any expansion of fishing effort in these fisheries after 8 April 2002 would not be recognised in assessing applications for new or continued access to the fishery, following the implementation of any new management arrangements in the future. The warning stated that the assessment of management arrangements for shark and rays would consider all methods of harvest and would not necessarily be restricted to the net fishing method.

The result of the policy has been a major reduction in latent effort in the fishery. In July 2004, there were 819 Queensland commercial fishing boat licences with a net symbol, other than an N6. Through the application of the policy *Elimination of excess fishing capacity in Queensland's East Coast Net Fisheries*, around 40% of the net fishery symbols were removed from those licences. Currently there are a total of 497 licences with one or more of the following symbols: N1, N2, N5, N7, N8, K1, K2, K3, K4, K5, K6, K7 and K8. In addition, there are 1677 N6 fishery symbols.

Queensland East Coast Otter Trawl Fishery

Historically, sharks were permitted to be retained in the trawl fishery as by-product. Landings of shark in the trawl fishery are now negligible due to the introduction of compulsory use of turtle excluder devices (TEDs) and bycatch reduction devices (BRDs) in 1999. TEDs have dramatically reduced the take of sharks and rays, as the grid promotes the release of large animals through an opening in the net before they are caught in the codend. Similarly, BRDs have been effective in allowing free-swimming fish, such as small sharks, to escape the net.

A major review of the species permitted to be retained as by-product in the trawl fishery was undertaken in 2001. Given the vulnerability of sharks to overexploitation, a cautious approach was taken, with all shark species removed as permitted trawl species.

Grey nurse closures

Two populations of grey nurse sharks (*Carcharias taurus*) are known to occur in Australian waters—one off south-east Queensland and New South Wales and the other off Western Australia. Recent estimates placed grey nurse shark numbers on the Australian east coast between 300 and 500 individuals.

Grey nurse sharks are listed as critically endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. They have one of the lowest known birth rates of any shark species, only giving birth to one or two live offspring every two years. This slow birth rate hampers the population from recovering from low numbers.

Following serious concerns for the east coast population of grey nurse sharks, and after significant consultation, additional protection for this species in Queensland was introduced in 2003 in the form of area closures at the sites below (also see Figure 1):

- Flat Rock (1.2 km radius)—closed to all recreational fishing and all commercial fishing except aquarium and spanner crabbing
- Henderson Rock (1.2 km radius)—closed to all recreational fishing and all commercial fishing except aquarium and spanner crabbing

- Cherubs Cave (1.2 km radius)—closed to all recreational fishing and all commercial fishing except aquarium and spanner crabbing
- Wolf Rock (1.2 km radius)—closed to all recreational and all commercial fishing.

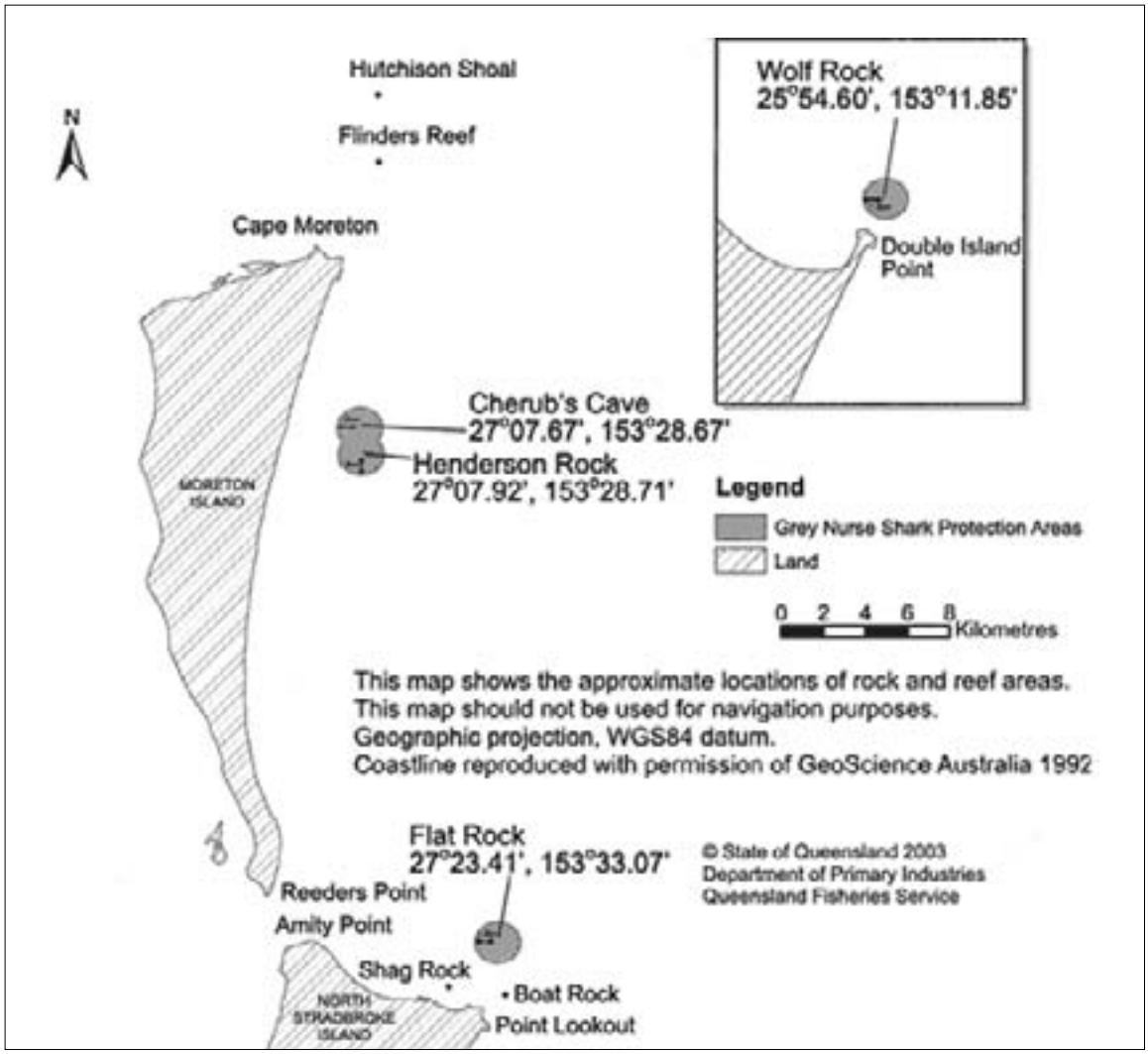

Figure 1: Grey nurse shark closures

The grey nurse shark closures are designed to protect this critically endangered species and will not be reviewed as part of this consultation excercise.

Shark biology

Sharks have a low reproductive rate, with the number of offspring varying from only one or two pups produced a year to a maximum of 300 pups (in the whale shark). While all sharks use internal fertilisation, their reproductive strategies vary. These strategies include:

- oviparity: the embryo develops external to the body of the mother, and the embryos are protected in an egg case and deposited into the environment
- aplacental viviparity: the embryo is retained within the body of the mother but no placental connection is formed between the embryo and the mother

- placental viviparity: internal embryonic development relies initially on yolk from a yolk sac—the yolk sac subsequently attaches to the uterine wall and forms a yolk sac placenta with the associated yolk stalk forming the umbilical cord.

Compared to most fin fish species, most species of shark (for which information is available) have slow growth rates, mature at an older age and have few offspring. These biological characteristics mean that shark populations have a low intrinsic rate of increase, and thus a low resistance to fishing pressure as they cannot recover as quickly to population reductions as other fish.

Harvest from the fishery consists mainly of whaler sharks—*Carcharhinus tilstoni, C. limbatus, C. sorrah, C. cautus, C. amblyrhynchos, C. macloti, Negaprion acutidens* and *Rhizoprionodon acutus*. These species generally:

- attain sexual maturity at 120 cm total length and at around 4–5 years of age (on average)
- gestate for 8–12 months
- produce live offspring (1–14) during summer, averaging at around 50 cm in length
- have a diet consisting of fish, prawns and cephalopods.

Habitat requirements for many of these whale shark species are not known but *C. tilstoni* and *C. sorrah* do not seem to be strongly reliant on estuarine and foreshore areas for juvenile habitat. Appendix 1 (at the back of this booklet) contains more biological and distribution information on these species.

Catch trends

Commercial logbook data are held in the DPI&F Commercial Fisheries Information System (CFISH) database. While the form of shark products are reported as fillets or shark trunks, a back calculation to whole weight is generally used for analytical purposes. Conversion factors used are 3.3 for fillets and 1.659 for trunks. The data used in this background paper was extracted in September 2006 and covers the period 1990 to 2006. Only the statistics from the east coast of Queensland are considered here. The other main zone for net-caught shark harvest in Queensland is the Gulf of Carpenteria.

Commercial fishery

Overall catch and effort

Since the late 1990s, the commercial catch of sharks has increased significantly. The catch peaked at 1400 t in 2003 (Figure 2). This peak has been followed by a reduction in catch and catch rate in both 2004 and 2005.

Figure 2 shows that the majority of the total shark catch comes from the net fishery, with a small amount also taken in line and other fisheries.

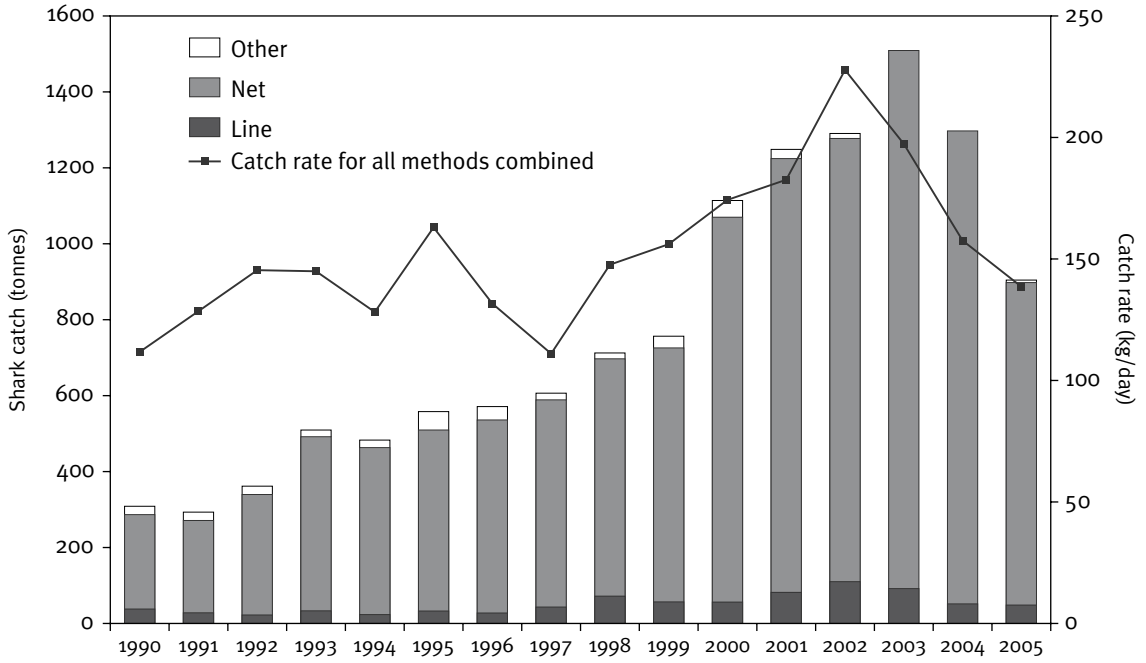

Figure 2: Commercial catch and catch rate of shark (1990–2005)

Catch composition

The majority of the catch (more than 80%) is recorded as 'shark unspecified' in the logbooks, making it difficult to distinguish between the catch of various species. DPI&F are working towards the development of a shark identification guide to assist commercial fishers in distinguishing between shark species, which may improve data quality in the future.

Recreational fishery

DPI&F collects data on the recreational catch of a range of species through its Recreational Fishing Information System (RFISH) program. Data on the catch of shark is only available from the 2002 survey, but provides a broad indication of the level of catch. Recreational catch information is based on the number of fish caught. In 2002, over 500 000 individual sharks were caught. However of these, only around 60 000 were retained. The remainder were released (Table 1).

In order to understand the total catch taken from Queensland, the recreational catch has been converted to weight by using average weights of sharks recorded in charter logbooks (Table 2). The majority of the catch is taken from the Moreton Bay and Fraser Burnett regions. It should be noted that the RFISH survey primarily collects data about people's location of residence. Regional catch weights have been estimated by using supplementary survey information about where the fish were caught.

The total harvest by recreational fishers is just over 200 t. This equates to approximately 10–15% of the total catch.

Table 1: Recreational catch of shark (2002)

	Estimate	Standard error
Catch	548 178	37 948
Release	488 860	34 517
Harvest	59 319	6 428

Table 2: Recreational harvest of shark in weight (2002)

Region	Shark catch (t)
Capricorn	38.6
Far North	7.4
Fraser Burnett	52.4
Moreton	56.0
Northern Dry	11.4
Northern Wet	10.7
Not defined	1.5
Swains	35.1
Total catch	**213.1**

Charter fishery

Data on the amount of shark taken by recreational fishers when charter fishing is collected through compulsory charter logbooks.

Figure 3 shows that the charter catch of shark is small, with the highest catch recorded in a year being around 4 t in 2004.

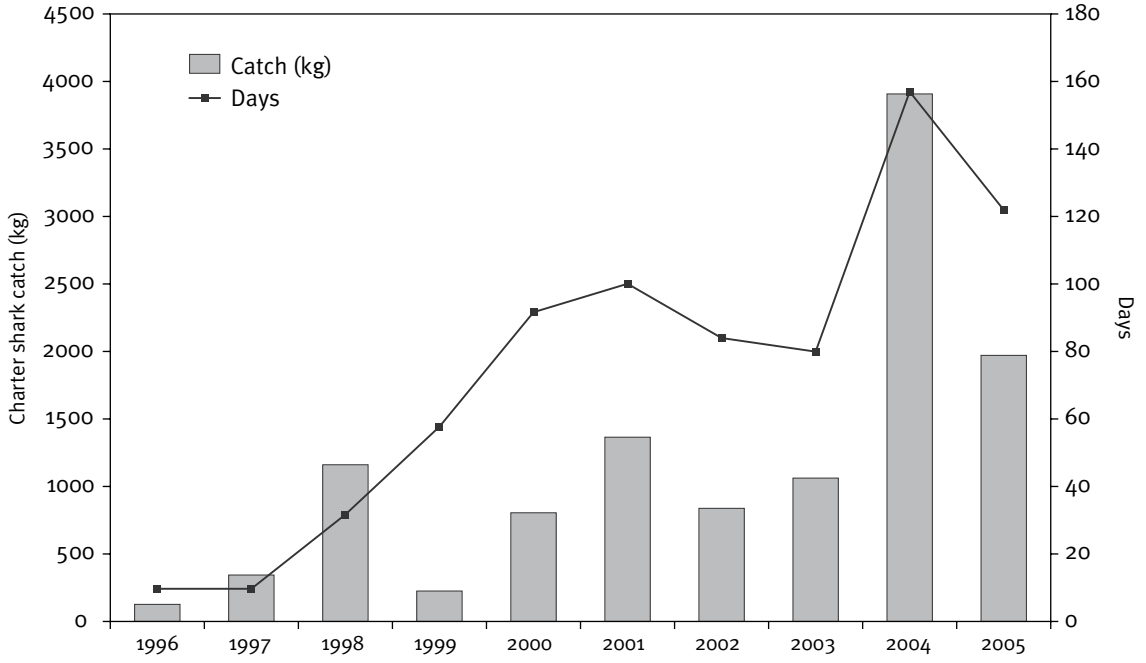

Figure 3: Shark catch in the charter fishery (1996–2005)

Concerns for shark stocks

International developments

In recent years, concerns have been raised over the sustainability of shark stocks, both nationally and internationally. Assessments of chondrichthyan stocks (sharks, rays and chimeras) have identified specific areas of concern. Within Australasian and Oceania waters, 10 of the 216 chondrichthyan species assessed are recognised as critically endangered or endangered, and a further 24 recognised as vulnerable.

Stock collapses in Australia and overseas over the years have been well documented (Musick 2004). However, there have also been successful shark fisheries in Australia where research and management have been effective, for example, gummy sharks (*Mustelus antarcticus*) through appropriate regulation of mesh size in the gillnet fishery and dusky sharks (*Carcharhinus obscurus*) through limited catches of selected year classes.

Fishery collapses not only bring economic hardship, but may result in adverse impacts on ecosystems. Sharks are top level predators and play an extremely important role in the ecosystem by regulating populations of prey species. The removal of top level predators can also have unexpected lower order effects on non-prey species.

International concern for shark fisheries has resulted in an *International plan of action for the conservation and management of sharks* (IPOA-Sharks) which was adopted in 1999. IPOA-Sharks stemmed from the 9th Conference of Parties to the Convention on International Trade of Endangered Species in 1994. A resolution was adopted, resulting in the United Nations Food and Agriculture Organization developing IPOA–Sharks in consultation with experts internationally. IPOA-Sharks guidelines require nations contributing to fishing mortality of shark stocks to participate in their conservation and management, use shark resources sustainably, and minimise waste and discards. Shark fishing nations were also required to conduct assessment reports and national shark plans.

Queensland developments

Actions from the national shark plan

The national plan of action for the conservation and management of sharks has been nationally endorsed and fully supported by Queensland. This shark plan is not intended to be an additional layer of management, but a source of nationally endorsed advice on how to integrate the conservation and management of sharks and rays into fisheries management arrangements within a jurisdiction.

The issues identified by the shark plan, that are to be taken into account in developing management options for the management of shark species (including rays) in Queensland waters, include:

- the need for assessment of the adequacy of management for all shark species and more innovative approaches to dealing with identified shark management issues
- the need for improved understanding of the impacts and, where required, implementation of better management for recreational fishing
- the need to reduce cryptic fishing mortality of shark species
- the need for an assessment of shark handling practices for the conservation and management of sharks
- the need for a better understanding and, where necessary, recognition in management arrangements of shark fishing by Indigenous people
- the need for risk assessments for all shark species from all impacts on those species
- where necessary, develop strategies for the recovery of shark species and populations
- the need to reduce or, where necessary, eliminate shark bycatch
- the need to reduce the impact of environmental degradation on sharks.

Queensland's concerns

In Queensland, sharks have been identified as being at potentially high risk of overfishing for the following reasons:

- There have been considerable increases in Queensland (and world) landings.
- There is evidence of a decline in shark resources in many parts of the world.
- Their biological characteristics (sharks have a long life, breed infrequently, produce few offspring and mature late in life) make sharks vulnerable to over exploitation.
- Prices for fins, cartilage, flesh and other body parts are rising.

Queensland shark fishery assessments

Fishery assessments of the Queensland east coast shark catch were conducted in 2003 (Rose et al. 2003) and updated in 2005 (Gribble et al. 2005). The most recent assessment by Gribble et al. (2005) analysed catch and effort data and identified sustainability risks based on a relative sustainability index (in the absence of a stock assessment). Major findings of the assessment are listed below:

- The basic trends in the data are unchanged from the report of Rose et al. (2003), in that there has been a steady increase in catch and effort over the last 10 years and this trend is continuing.
- The absolute values for catch are dependent on the conversion ratios from reported fillet and truck weight to the whole weight, which is output by the CFISH database. The apparent increases in catches across all years are due mainly to the change in conversion ratio used in CFISH.
- The relative sustainability risk index is, by its very nature, an approximation of a combination of mortality due to fishing, balanced by productivity of a particular shark species.
- The major commercially exploited species in the Queensland East Coast Inshore Fin Fish Fishery as reported by fisheries observers were *Carcharinus tilstoni* (Australian blacktip shark), *C. sorrah* (spot-tail shark) and *Sphyrna lewini* (scalloped hammerhead shark). The majority of these species were towards the middle to lower end of the sustainability risk estimates. However, *S. lewini* is towards the higher end of sustainability risk.
- Species at the highest relative sustainability risk, according to this assessment, were *S. mokarran* (great hammerhead shark) and *Rhynchobatus djiddensis* (white-spotted guitarfish). This is consistent with the conclusions drawn by Stobutzki et al. (in prep), that the sawfish, guitarfish, shovelnoses ray and some whalers are particularly susceptible to fishing mortality. *S. lewini* (scalloped hammerhead shark) has a low productivity, hence is particularly vulnerable to even small levels of fishing mortality.
- At the other end of the spectrum are *Rhizoprionodon taylori* (graceful shark) and *C. melanopterus* (blacktip reef shark), which appear to have the lowest risk to their sustainability. In the case of *R. taylori*, they are moderately fished but have a high productivity. *C. melanopterus*, in contrast, has a relatively low productivity but is not heavily fished. It should be noted that in the case of the blacktip reef shark, if fishing pressure increased there would be a dramatic increase in its sustainability risk.

Management of shark fisheries generally

Fisheries management measures traditionally impose restrictions on the level of harvest directly or indirectly. Alternatively, stronger resource use rights are bestowed in an attempt to promote positive harvesting behaviour, the principle being based on stronger use rights obligating greater responsibility for the sustainable management of the resource.

In general, the extent of fishing permitted will be limited by the biological productivity of the target stock to ensure sustainable and profitable use of the resource. Similarly, the take of bycatch species needs to be managed to ensure biodiversity conservation and ecosystem resilience.

The suite of fisheries management tools can be applied to managing the take of sharks with varying degrees of effectiveness. Some of these are already used in Queensland in other fisheries and include:

- allocating fishing rights or specific shares of the resource, such as catch quotas
- limited entry (creates a use right to participate in a fishery)
- licence restrictions and other restrictions on fishing gear, vessel and effort
- regulating fishing gear specification and use
- time and area restrictions
- restrictions on take (e.g. size limits and prohibited species)
- restrictions on product form (e.g. ban on finning).

Management arrangements used in other jurisdictions in Australia are listed in Appendix 2 at the back of this booklet.

Sharks generally have a low resilience to fishing pressure. They mature late, have a low reproductive rate and take longer to recover following overfishing. Therefore, a more precautionary approach to managing shark fisheries is necessary compared with teleost fisheries. This approach is particularly relevant in a multi-species fishery, targeting more productive and higher valued fin fish species but also landing sharks as by-product or bycatch. While designing harvest strategies to optimise economic and social benefits from these multi-species fisheries, particular consideration must be given to managing the less productive species of shark so that depletion of their numbers are mitigated.

Further reading

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Other papers in this series

Other background papers are available for consultation on the Queensland East Coast Inshore Fin Fish Fishery. Subjects covered include:

- size and bag limits
- Dugong Protection Areas
- closures
- commercial netting arrangements.

Have your say

The subject of this background paper is one of many relating to the Queensland East Coast Inshore Fin Fish Fishery. DPI&F is interested in views about the issues in this background paper and any others relating to the fishery. DPI&F encourages people to raise their views throughout the consultation process.

DPI&F's broad-based consultation process will seek comment on the future management of the fishery over three stages:

1. Public meetings

Public meetings will be held throughout the state. A team from DPI&F will be on hand at these meetings to provide additional information, discuss current issues and collect your feedback on the future management of the fishery. This is an opportunity to discuss key issues—there will be no proposed changes to comment on.

The meeting schedule will be publicised on the DPI&F website, in local newspapers and through key stakeholder and industry groups.

2. Questionnaire

Feedback from the meetings will be collated and a questionnaire about more specific aspects of the fishery will be developed and distributed throughout the state.

3. Draft management plan

Comments received in response to the questionnaire will assist in developing a draft management plan for the fishery. Consultation on the draft management plan is likely to occur in mid-2007, after which the management plan will be finalised.

We look forward to hearing your views.

To receive up-to-date information on the consultation process, including public meetings, please subscribe to the Queensland East Coast Inshore Fin Fish Fishery email service at **www.dpi.qld.gov.au/fishweb**

Appendix 1—Biological and distribution characteristics of target species

Common name	Scientific name	Movements (Australia)	Habitat/depth
Common blacktip shark	*Carcharhinus limbatus*	Northern waters south to Sydney on east coast (west uncertain). Reported in large aggregations but not abundant in Australian waters.	Pelagic over continental and insular shelves, commonly close inshore, occasionally far offshore. Commercial fishing, mainly northern Australia, is threatening process.
Spot-tail shark	*C.sorrah*	Northern waters from Gladstone to Point Quobba, Western Australia (WA). Common in open areas over muddy bottoms, also occurring near coral reefs. Tagging and genetic studies show there is only one stock off northern Australia and often occurs in large aggregations.	Shallow continental and insular shelves from the intertidal to depth of at least 80 m. Throughout water column, mainly in midwater or near surface.
Nervous shark	*C. cautus*	Tropical Australia between Carnarvon (WA) and Bundaberg.	Continental and insular shelves in shallow water, may range in deep water.
Grey reef shark	*C. amblyrhynchos*	Northern waters from Carnarvon (WA) to Bundaberg. Individuals living near reef drop-offs tend to be more nomadic than more site-attached individuals from lagoons.	Continental and insular shelves, usually near deep drop-offs or in atoll passes. May also live over shallow reef flats when blacktip reef shark is absent. Nearshore from surface to approximately 280 m depth.
Hardnose shark	*C. macloti*	Northern waters from Bundaberg to Carnarvon (WA).	Large aggregations on continental and insular shelves from close inshore down to a depth of 170 cm.
Lemon shark	*Negaprion acutidens*	Northern Australian waters from Moreton Bay to Abrolhos Islands (WA), rarely as far south as Perth.	Continental and insular shelves from the intertidal zone to a depth of at least 30 m. Commonly close to bottom in shallow, sandy lagoons and turbid, mangrove swamps. Adults more active at night and remain in deeper channels. Juveniles often occur in shallower waters
Milk shark	*Rhizoprionodon acutus*	Northern waters from Fraser Island to Shark Bay.	Continental and insular shelves from close inshore to approximately 200 m depth, usually occurs near bottom.

Sources

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Fishbase: www.fishbase.org

IUCN categories: www.redlist.org

Size at birth	First maturity	Breeding rate	Conservation status	Maximum size
Born 40–70 cm, attains 250 cm	First maturity considerable geographic variation—males 135–180 cm (4–5 years); females 120–190 cm (6–7 years)	4–11 pups every second year, gestation period 11–12 months	IUCN—data deficient IUCN Red List—low risk/near threatened	120 cm
Born approximately 50 cm, attains 160 cm	Both sexes: 90–95 cm (2–3 years)	1–8 pups January, gestation 10 months		90 cm
Born 35–40 cm, attains 150 cm	Both sexes mature 80–85 cm	1–5 pups in October or November, gestation period 8–9 months		80 cm
Born 50–60 cm, attains 255 cm, rarely exceeding 180 cm	Both sexes mature 130–140 cm (approximately 7 years)	1–6 pups after 12-month gestation period	IUCN—low risk/least concern IUCN Red List—low risk/near threatened	130 cm
Born approximately 45 cm, attains 110 cm	Both sexes: 70–75 cm	2 pups in July after a gestation period of approximately 12 months		70 cm
Born 50–70 cm and growth relatively slow (12 cm annually), attains 300 cm	Both sexes mature approximately 220 cm	1–14 pups, 10–11 month gestation		220 cm
Born 35–40 cm, attains 100 cm—outside Australia birth may be 25–180 cm	Both sexes approximately 75 cm	No reproductive seasonality: 1–8 pups annually		75 cm

Appendix 2—Management arrangements for shark in other jurisdictions

As at June 2004

Jurisdiction	Gear restrictions	Biological regulations	Output restrictions	Recreational regulations
New South Wales	Many for trawl (including minimum mesh 90 mm). Longlines: 10 lines, 6 hooks within 3 nm, outside 3 nm—no limit.	N/A	Limited by endorsement. No total allowable catch (TAC) or individually transferable quotas (ITQ).	Unknown
Northern Territory	Pelagic gillnet: maximum 2500 m, mesh size 150–250 mm, 0.9 mm in diameter, ban on use of bottom set gillnets.	N/A	Limited by endorsement. No TAC/ITQ.	Unknown
Commonwealth—Southern Shark Fishery (SSF)	4200 m net	40 cm gummy shark 45 cm school shark	ITQ for school and gummy sharks. TACs for school shark, gummy shark, elephant fish and saw shark.	Unknown
Victoria (within 3 nm)	Demersal mesh nets: range of sizes, shark 6–6.5 inch monofilament gillnets prohibited since 1988. Longlines: limit of 200 hooks or a limit of 3 hooks on each of a maximum of 6 separate lines.	40 cm gummy shark 45 cm school shark	TAC for school shark and gummy shark combined. Trip limits: – 2 shark carcasses per day for all but inshore trawl – 50 kg for inshore trawl	Bag limit of 2 per day
South Australia (within 3 nm)	Gillnets: maximum length 600 m using up to 3 nets with a mesh size of 15 cm. Longlines: maximum of 400 hooks with a maximum of 5 lines.	40 cm gummy shark 45 cm school shark	ITQ allocated as a portion of TAC for SSF. Those without ITQ: – bycatch limit of 5 school or gummy sharks in Commonwealth waters – trip limit of 10 in state waters.	Unknown
Tasmania (within 3 nm)	Limited entry Nets: depending on licence, 3 or 4 nets ranging from 420–600 m. Line: various ranging from 200–1000 hooks.	Gummy and school sharks: – 750 cm (whole) – 450 mm (portion)	ITQs allocated as a portion of TAC for SSF. Various licences have bycatch limit of 5 school or gummy.	Unknown
Western Australia	Set net: mesh size 6.5 or 7 in, depth maximum 20 meshes. Longlines: restrictions on numbers of hooks.	Considering 2 m for dusky whaler and sandbar sharks. Maximum weight 18 kg on shark sold for human consumption.	Trip limit of 2 shark carcasses with fins attached for Northern Demersal Scalefish Fishery. Other fisheries no limits.	Unknown