



NATIONAL FISHERIES AUTHORITY

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NATIONAL SHARK LONGLINE MANAGEMENT PLAN

2002

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The National Fisheries Authority, under Section 28 of the Fisheries Management Act 1998, sets out the National Shark Longline Management Plan which supersedes all previous plans and shall take effect from the date of publication in the National Gazette.

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Background

Description of the Fishery

Commercial gillnet-based shark fisheries, mostly in the Gulf of Papua, commenced in the early 1980s, but ceased in the late 1980s due to decreasing catch rates and controls on drift net fishing. Following the closure, shark fishing was primarily carried out on a small scale by local communities and artisanal fishers. There was no officially sanctioned commercial shark fishery in Papua New Guinea (PNG) other than this operation. A trial shark fishery commenced in the early 1990s, targeting deep bottom sharks for their liver oil. The trial shark fishery ended in 1994.

Shark is also taken as by-catch in industrial fisheries such as the tuna longline and prawn trawl. However, since 1996, the deliberate targeting of shark by some freezer vessels provisionally issued with tuna longline fishing licences has increased. Declared total exports of shark products grew from about 20mt, processed weight (dried fins and dressed frozen) in 1990 to almost 2,000mt in 2000. Shark meat, oil and fins (frozen and dried) have been the primary products exported. The exports of shark oil however ceased in the early 1990s, as noted. The shark oil production peaked in 1992 with a volume of 20.73mt worth K1,030,277.39.

Shark meat and shark fins are the only shark products currently exported. Shark meat volume increased from 18mt in 1990, worth K16,000, to 1,685mt in 2000, worth K2.3 million. Frozen shark fin exports increased from 1.2 mt in 1991, worth K1,400, to 134.4mt in 2001, worth K3.7 million. Dried shark fin exports increased from 0.006 mt in 1991, worth K57.00 to 10mt, worth K1.6 million, in year 2000.

The increase in production has largely been the result of increasing prices paid for shark products in Asia and the ease with which some of the shark products (eg, dried sharkfins) can be processed and transported for export.

The high price offered for the shark products resulted in the increased unregulated fishing for sharks by the licensed tuna longline vessels, which subsequently prompted the National Fisheries Authority (NFA) to consider the introduction of a Shark Management Plan in mid February, 2001.

The NFA has since then developed this proposed plan, which recognizes shark fishing as a legitimate fishery if managed on a sustainable basis. The Plan is specific to shark longlining involving the use of freezer vessels, which is the method currently used in the directed shark fishery, but recognizes that other fisheries targeting shark may come under the jurisdiction of the Plan if and when they develop.

The Plan allows for the fishery to be gradually phased down to a sustainable level using a formula of two vessels being withdrawn after the first year from the gazettal date of this plan. A review after the end of second year from gazettal date will determine the future of the Plan. The reason for this is that a significant amount of shark is taken by tuna longline vessels as bycatch and increases in the number of tuna longline vessels, associated with implementation of the PNG tuna domestication policy, will inevitably result in increased bycatch of sharks, of the order of 20% of the total catch of each vessel.

This plan is complementary to the National Tuna Management Plan, which sets out limits for shark bycatch in the tuna longline fishery.

Management considerations

The main shark species harvested in Papua New Guinea waters, belong to the families Carcharhinidae, Pristiidae and Squalidae. As a result of their slow growth rates, long gestation periods, low fecundity, and localised movement, sharks are of particular management concern. Previous commercial shark fisheries have experienced boom and bust cycles due to over-harvesting, often with the fishery ending in an abrupt population crash. Most sharks are top predators and their role in the marine environment is not well understood, although it is clear that over-fishing of sharks may result in an imbalance in marine ecosystems.

There is growing regional and international concern about the conservation of shark populations and moves to limit shark fishing are increasing. Environmental groups are actively campaigning against consumers and producers of shark products, and some countries including the US have legislated against shark finning practices. In line with the Food and Agriculture Organization's (FAO) International Plan of Action for Sharks (IPOA), PNG is required to actively manage the shark fishery to ensure that the resource is harvested on a sustainable basis and that benefits from the important coastal and reef-associated sharks can accrue to users such as the dive operators and some rural communities, for other than fishery purposes. The proper management of the shark fishery would minimize negative perceptions that may tarnish the reputation of other Papua New Guinean fish products or bring the longline industry to a halt.

Terms used

In this Management Plan, unless contrary intentions implies;

Surface longline	fishing method that has a mainline suspended horizontally in the water column, floating or attached to a vessel and the gear retrieved by hand or mechanical means, and from which branch lines with hooks are attached.
Bottom longline	fishing method that has a mainline that lays on the bottom or is suspended near the sea bottom for the majority of its length, whether retrieved by hand or mechanical means, and from which branch lines with hooks are attached.
Emergent reef	ridge of rock or coral etc. at or near the surface of the sea that is known or mapped or would be known upon investigation.
Sharkfin	fins of a shark prepared for commercial sale, which are; i) Anal fin, which is the fin on the lower body of the fish close to the anus ii) Caudal fin, which is the fin at the tail end of the fish iii) Pectoral fins, which are the fins on the ventral (lower) side of the fish iv) Dorsal fins, which are the fins on the dorsal (upper) side of the fish v) Lower caudal fin, which is the lower lobe on the

	tail end of the fish
Carcass	dead body of an animal (shark in this case)
Trunk	dead body of a shark with the head, fins and stomach removed.
Dressed weight	weight of the trunk, representing about 60% of the whole weight.
Whole weight	weight of the shark with all body parts intact.
Total Allowable Catch (TAC)	total amount of catch by weight specified as allowed to be harvested per year. It can be either whole weight or dressed weight.
Leader or trace material	section of the branch line that connects the branch line and the hook.

1. Application

- a) This National Shark Longline Management Plan is prepared under the authority of, and in accordance with, the Fisheries Management Act 1998.
- b) This National Shark Longline Management Plan shall be cited as “the Plan”.
- c) This Plan applies to all animals belonging to the Class Chondrichthyes, commonly known as sharks and rays
- d) This Plan applies to the shark longline fishery and includes fishing and all other activities associated with the collection, processing, storage, buying, selling and exporting of shark products originating from the shark longline fishery.
- e) The Schedules to this plan are an integral part of the management plan.
- f) This Plan is to be interpreted in accordance with Fisheries Management Act 1998 and the Fisheries Management Regulations 2000.

2. Objectives

- a) To apply a precautionary approach to the management of the shark fishery, ensuring the harvest of shark resources is sustainable and that shark fishing has minimal impact on the marine ecosystem.
- b) To ensure that there are benefits to Papua New Guinea from the sustainable use of its shark resource.
- c) To ensure that the utilization of the shark resource does not have negative impacts on coastal communities.

3. Management Arrangements

- a) The shark longline fishery will be managed nationally. A National Management Advisory Committee (NMAC) may be formed in accordance with paragraph (f) to advise the Managing Director on the management of the shark fishery.
- b) The NMAC will advise the Managing Director on management measures including, total allowable catch, seasons, reporting, restrictions, trade and any relevant issues that the Managing Director may direct from time to time.

- c) The Managing Director may direct the NMAC to examine a particular issue in the fishery or to review the management plan.
- d) The Plan will be reviewed by the NMAC at the direction of the Managing Director at least every one (1) year or at such earlier time as the Managing Director shall direct.
- e) Any review of the Management Plan shall be made public by the NMAC and comments will be invited from all stakeholders in the fishery.
- f) The National Management Advisory Committee will consist of the following persons, appointed by the Managing Director:
 - i. two National Fisheries Authority (NFA) representatives (one will be appointed Chair)
 - ii. one fishery scientist from outside NFA
 - iii. two fishing industry representatives
 - iv. a representative from a non-government organisation whose objectives include conservation of the marine environment and resources.
 - v. one representative from the recreational dive industry.
- g) Elected political office holders are ineligible for membership of the NMAC. Should an NMAC member be elected to a national or provincial political office during their term, their membership will automatically lapse.
- h) The Managing Director will appoint members to the NMAC for three year terms.
- i) The NMAC and its members shall operate in accordance with the following procedures and such other procedures and standards as may be set by the Managing Director:
 - i. a quorum requires four members and must include one NFA representative;
 - ii. the NMAC will meet as required, but no less than once a year;
 - iii. prior to taking up membership, representatives will be required to disclose any direct or indirect personal or pecuniary interests in the fishery, otherwise than as a member of, and in common with the other members of, an incorporated company consisting of not less than 25 persons. The nature of his or her interest shall be disclosed as soon as possible to the NMAC. Such a disclosure shall be recorded in the minutes of the NMAC and submitted to the Managing Director;
 - iv. the NMAC and Managing Director must be advised of any substantive changes in such interests, during the course of membership. The Managing Director will determine if a change in interests will affect that member's term; and
 - v. where a member who has an interest described in subsection 3(i)(iii), has not made a disclosure in accordance with that subsection, his or her vote shall be null and void retrospectively from the time such interest is considered and determined by the Managing Director and the Managing Director shall terminate the appointment of such a member.

4. Management Measures

The management measures set out in the management plan shall have the force of law upon notification in the National Gazette.

4.1 Licensing

- a) Licences required in the shark fishery shall be fishing vessel licence, export, and factory facility licences, issued under Section 2 of the Fisheries Management Regulations 2000.
- b) An enterprise requires only one export licence for shark products.
- c) Fishing vessel or Export facility licences are not transferable.
- d) Only PNG citizen companies shall hold a licence in the shark fishery.
- e) Licences are valid for one year and subject to renewal.
- f) Only nine (9) licensed vessels, as listed in schedule 1, will be allowed to fish under this Plan, and all will operate as freezer vessels.
- g) Licences for the shark longline fishery shall only be issued or renewed when clients show genuine commitment to comply with or have met, all licence conditions, provisions of the Plan and the Fisheries Management Act 1998 and Fisheries Management Regulations 2000, including any that may have prevailed prior to this Plan.
- h) Vessels issued shark fishing licences under this Plan will hold a licence for the shark longline fishery only.
- i) All licensed vessels must have automatic location communicators (ALC) installed and operational.

4.2 Prohibitions

- a) Longline fishing for sharks is permitted using only surface longline. Other methods, namely gillnets or bottom longline, are prohibited.
- b) Fishing effort in the shark longline fishery will involve up to nine (9) vessels provided such vessels were active in the fishery as of the gazettal date of this Plan. All such vessels shall operate as freezer vessels. The maximum aggregate effort by 9 vessels shall be not more than 10,800 hooks per day.
- c) As significant and increasing amounts of shark may be taken as bycatch by vessels licensed to fish for tuna, the shark fishery may be gradually phased down to a sustainable level with the removal of two vessels after the first year from the gazettal date of this Plan.
- d) The Shark Longline fishery is restricted to 100% citizen companies
- e) New entrants into the fishery are prohibited.

4.3 Total allowable catch

Total allowable catch (TAC) set for sharks is 2,000 mt dressed weight from the shark longline fishery. The TAC will be reviewed each year. This TAC does not include shark caught by fisheries other than the shark longline fishery, but does include an allowance for shark discarded and not landed by the shark longline fishery.

4.4 Observer

An observer coverage of twenty percent (20%) will apply to the vessels active in shark longline fishery. This will be based on the number of fishing days.

4.5 Reporting

- a) All reporting must be on standard shark longline logsheets as in schedule 3 and NFA approved report forms. Forms may be varied in consultation with NMAC.
- b) All catch must be recorded in the shark longline logsheet by species and weight in kilograms; shark discards will also be recorded. The logsheets must then be returned to the NFA within 15 days of the end of each voyage with all information correctly filled in, including non-fishing days.
- c) Summaries of monthly landings will be submitted to NFA by the fifteenth (15) day after each month on the form set out in schedule 2 to this plan.
- d) Fish export facility licensees must submit holding data to NFA on all shark product handled. This includes supplier's name, weight in kilograms and any other information that NFA may deem necessary.
- e) Exporters must report to NFA each time shark product is to be exported detailing the species, fin type, weight (in kilograms) and value (in US dollars) of the product.
- f) Failure to submit the required reports by more than fifteen (15) days from the day of export, or submitting incorrect data, including incorrect standard names, and submitting incomplete logsheets may result in suspension or cancellation of the fishing and fish export facility licence pursuant to the Fisheries Management Regulations 2000.

4.6 Area of operation

Commercial shark fishing is prohibited inside six nautical miles (6nm) from land, island or any emergent reef.

4.7 Mothership operation prohibition

Transfer of catch at sea from the vessels that caught the fish to a vessel acting as a carrier and intending to solely transport the catch for purpose of landing or further transshipment is not allowed.

4.8 Charters and crewing

- a) No charter of foreign vessels is allowed.
- b) All crew must be Papua New Guinea citizens with exceptions for the positions of Captain, Engineer and Master fisherman.
- c) Foreign crew other than captain, engineer and master fisherman currently employed may be phased out as their current employment contracts expire and they are replaced by PNG nationals.

4.9 Penalty

Non compliance with management measures will result in penalties according to the Fisheries Management Act 1998.

5. Research

a) NFA :

- may cooperate with stakeholders, nongovernmental organizations (NGOs), and research institutions to carry out research and information gathering activities that will allow refinement of the plan.
- may work with Provincial Governments and other relevant organizations to establish local programs of fishery statistics collection.
- may commission or encourage research to identify negative environmental impacts of the shark fishery in PNG, and develop mitigation methods against them.

b) NFA may carry out research to obtain information necessary for management, including but not limited to;

- determination of factors for converting dressed sharks to live weight equivalents for the major species caught by commercial fisheries
- estimation of discards, including condition when caught, and fate of discards
- collection of size and age data for male and female sharks separately, to provide information on stock structure
- identification of critical habitats, including nursery or mating grounds, through determination of sex, stages of maturity for sharks that are caught, along with locations
- determination of age composition of the catch, including determination of an age length key to be used with length–frequency data
- determine estimates of indices of stock abundance through use of research vessels or commercial vessels to conduct standardized fishing
- operation of tagging programs for estimating growth, mortality and movement rates.

6. Customary Rights

Existing customary management measures, which are consistent with this plan are recognised by the NFA.

Schedule 1

List of vessels currently targeting sharks; as of September 2002.

1. Neptune 68
2. Neptune 38
3. Hung Hua No. 11
4. Weng Sheng No. 1
5. Feng Jung Chin No. 1
6. Chin Li No. 118
7. Wan Feng
8. Feng Jung No. 20
9. Yu Fu No. 11

