

FISHERIES MANAGEMENT ACT 1998

THE GULF OF PAPUA PRAWN FISHERY MANAGEMENT PLAN

THE NATIONAL FISHERIES AUTHORITY, by virtue of the powers conferred by Section 28 of the *Fisheries Management Act 1998*, and all other powers it enabling, hereby draws up the following Fisheries Management Plan to supercede the pervious plan gazetted on G1. 2nd January 1997 under *Fisheries Act 1994* and take effect on and from the date approved by the Minister.

1. CITATIONS

This Management Plan shall be cited as 'The Gulf of Papua Prawn Fishery Management Plan' (Plan).

2. APPLICATION OF THE PLAN

(i). This geographical area covered in this fishery Management Plan is the sea area that is bounded as follows:

- (a). In the north: the coastline to Papua New Guinea from Parama Island (at the southern limit of the estuary of Fly River) to the border of Central and Gulf Provinces.
- (b). In the east: shall be the boarder of Central and Gulf Province extending seaward to the intersection with latitude 9° parallel south.
- (c). In the south: shall be the line of latitude 9° parallel south, which passes through Parama Island in the west and meets the border of Central and Gulf Provinces in the east.

(ii). Species

This fishery plan shall covers all species of the Family Panaeidae including: the principle species white banana prawn (*Panaeus merguensis*); the Indian banana prawn (*Panaeus indicus*); the (giant) black tiger prawn (*Panaeus monodon*); the brown tiger prawn (*Panaeus semisulcatus*); and including the lesser value endeavour species, *Metapanaeus* spp.

(iii). Method

The fishery plan covers the method of single vessel otter trawl fishing and the method of beam-trawl by dory or dinghy. Other methods are prohibited under this plan.

3. INTERPRETATION

This Management Plan, unless the contrary intention applies;

"*Fishery Management Area*" means the specified area to which the fishery plan relates.

"*Growth Overfishing*" means overfishing of prawns entering the fishing grounds for the first time by offshore migration from estuarine nursery areas are taken at an early stage before they have had sufficient time to growth and increase in volume to full market price.

"*Industrial Fishery*" refers to the fishery outside of the three-mile zone, other than dories and dinghies, where vessels operates twin or quad rigged otter trawl gear.

"*Juvenile Recruitment*" means the offshore migration of juvenile prawns from estuarine nursery area (mangroves and sea grass) into the trawl (fishing) grounds, where they are liable to industry harvest for the first time.

"*Small-scale Fishery*" refers to the small-scale prawn trawling operation employing dories and dinghies, which tow a beam trawl. This shall be the type of operation to be allowed within the three-mile zone.

"*Three-mile Zone*" refers to the sea area, which extends from the mean high water mark seaward by three nautical miles (as per the *National Seas Act*). Industrial trawling is prohibited within three-mile zone.

"*Three mile limit*" is the seaward boundary of the three-mile zone and extends from Parama Island to the border of the Gulf and Central Provinces.

"*Timed Area Closure*" means that a specified area is closed to fishing for a specific time.

"*Traditional Resource Owners*" means families with fishermen or single fishermen who have fished for both prawn and fin fish in near shore coastal waters and are recognised by their people as having traditional ownership rights to the coastal prawn and fin fish resources.

4. DESCRIPTION OF THE GULF OF PAPUA PRAWN FISHERY

- (a). The first survey was carried out in 1955 by then the Department of Agriculture, Stock and Fisheries. In 1965 the same Department carried out further surveys. These surveys established commercial quantities of prawns in the Gulf of Papua.
- (b). In 1969, three companies were granted survey licences. These companies were Torres Shipping Co, Gulf Fisheries and Territory Fisheries. Further licences were issued to other operators. Certain areas within the three miles zone were reserved for small vessels and to protect local fishermen. In 1977, a joint venture company was formed between Pacific Seafoods (this company began operation in 1973) and the Gulf Marine (business arm of the Gulf Provincial Government). This company was called Gulf Sohbu and was granted special inshore licences to operate two trawlers inside the three mile zone.
- (c). The fishing grounds in the Gulf of Papua run from the Fly River mouth in the south-west to the village of Iokea in the south-east. The fishing grounds extend seaward to approximately 40 metre depth contour.

- (d). The main fishing grounds of Kerema Bay and Orokolo Bay are about 18 - 20 hours steaming from Port Moresby. The lack of harbour facilities adjacent to the fishing grounds and poor communication facilities in the area forced the prawn companies to establish bases in Port Moresby. All vessels have freezers and on-board licensed processing facilities and storage.
- (e). The vessels remain at sea for extended period of time (about four to five weeks). The fishing takes place on a 24 hours basis for about 200 days per year during the eight months open season. They may spend 4-5 days in port for unloading, provisioning and refueling.
- (f). Most vessels are twin-rigged with 12 fathoms (24 m) (footrope), except three vessels that are quad-rigged. "Twin-rigged" means towing two main nets, and "quad-rigged" means towing four main nets. The total width of the swept area is 60 metres, and this may be achieved by having two large main nets or four smaller size main nets. It has been shown that quad-rigged nets are more efficient over heavy silted bottom.
- (g). Trawling takes place mostly along the depth contour of 10 – 35 metres. Commercial quantities of prawns are searched and checked by a smaller net known simply as the "try net" across a certain depth range. This net is towed from the mid-ship and is checked about every 15 minutes. When the try net brings up good catch, the vessel trawls back and forth along the depth contour until no more prawn show up on the try net or the captain has estimated that there is a good size catch in his main nets. The duration per main net shot is about four hours, but varies according to the abundance of banana prawns. If the catch is high, the duration is reduced to about two hours. Trawling speed is at an average of 3 knots. All sorting, grading, processing packing and freezing is done on board. When the product landed in Port Moresby, is ready for export.
- (h). In general, the efficiency of fishing has increased with the experience gained by captains and crew of the vessels, some of whom have been with the fishery for over twenty years. All the vessels are equipped with modern navigational aids such as GPS, echo sounder and radar.
- (i). The fishery is now fully developed with 15 licensed prawn trawlers. A total of eight nationally owned prawn companies operate in the Gulf of Papua prawn fishery. Out of the total, two are the main companies, with three to four trawlers. The other six are small, each with one or two vessel.
- (j). Production from the Gulf of Papua varies from 400 to 1,300 (all species) tonnes per year. About 50 - 60 % consist of the banana prawn (*Penaeus merguensis*, *P. indicus*), 10 -15% tiger prawns (*Penaeus monodon*, *Penaeus semisulcatus*), 15 - 20% endeavour prawns (*Metapenaeus ensis*, *M. endeavouri*, and *M. demani*). The rest is mostly packed as mixed grades, consisting of broken tails and soft shells of all species.

- (k). In 1987, annual harvests of prawn (all species) were worth K9.3 million in exports alone. The industry was overcapitalized, and after strict controls on fishing effort introduced in 1989, the value of exports declined to about K7 million in 1994 to 1997. Although, there is a decline in the value, in reality, the fishery is profitable.

5. OBJECTIVE

The broad objective of this fishery Management Plan is to reinforce and give effect to the fisheries management principle in the *Fisheries Management Act 1998*, and specifically:

- (a). To manage the Prawn fishery in the management area so that the size of the stock tends towards that will give the maximum sustainable yield (MSY), chiefly through control of fishing effort;
- (b). Provision of sustainable economic benefit through prevention of growth overfishing on the principle species, the banana and tiger, in order to maximise economic returns;
- (c). Conservation of stocks of demersal fish species caught as by-catch;
- (d). Promotion of sustainable fisheries development practices;
- (e). Development of controlled sustainable small-scale fishery development of the prawn and associated fin-fish resources within selected areas of the three mile zone, for the participation and benefit of the traditional resources owners; and
- (f). To manage the fishery with a precautionary approach.

6. PRECAUTIONARY APPROACH TO PRAWN MANAGEMENT

Consistent with the regional and international management principles, precautionary approaches shall apply for Gulf of Papua Prawn Fishery in accordance with the following provisions:

- (a). In the absence of adequate scientific data, the National Fisheries Authority may take into account the uncertainties with respect to the size and productivity of the stock, to other management reference points such as maximum sustainable yield, the level and distribution of fishing mortality, and the impact of fishing activities on associated and dependent species, and including climatic, oceanic, environmental and socio-economic conditions.
- (b). In managing the Prawn fishery, the Authority may consider the associated ecosystems on reefs within the Management Area. The Authority may develop data collection and research projects to assess the impact of fishing on non-target species and their environment, adopt plans as necessary to ensure the conservation of non-target species and consider the protection of habitats of special concern.
- (c). The absence of adequate scientific information may not be used as a reason for postponing or failing to make measures to protect the target and non-target species in the Gulf of Papua Prawn fishery.

7. MANAGEMENT MEASURES

The following management measures, which are to realise the objectives in Section 4, are to take effect immediately:

(1) Licensing

- (i) The number of licences for the industrial fishery shall be maintained at 15.
- (ii) Preference shall be given to licence applications from resources owners for new licences. Non-citizen companies shall not be granted licences.
- (iii) Prawn trawlers of the PNG Torres Strait fishery based out of Daru, Western Province, may be endorsed to operate in the Fly/Bamu fishing zone. Specifications for these vessels shall be in accordance with the PNG Torres Strait Prawn Fishery Plan.
- (iv) Licence shall be required for any dory or dinghy operating a beam trawl in the shore small-scale fishery. National Fisheries Board may approve specification for such vessel and specific area of operation.
- (v) There shall be a maximum of 10 (ten) licences for small-scale commercial dories or dinghies fishing by beam trawl operating in the inshore small-scale fishery.

(2) Fishing Restrictions

- (i) The gear restrictions for the industrial fishery shall be as follows;
 - (a) The taking of panaeid prawn is prohibited at all times;
 - ~ by boats owned by non-citizen companies;
 - ~ by foreign registered vessels;
 - ~ by boats exceeding 30 meters overall length (LOA) according to Papua New Guinea registered survey length;
 - ~ by boats with main engines with shaft power exceeding 410 kilowatts or 550 horse power, as set out in the manufacturer's specifications;
 - ~ by method of more than 4 (four) main nets and 1(one) try net towed at the same time;
 - ~ by a method whereby the aggregate head rope (with mesh attached) for the main nets exceeds 60 metres and 1 (one) try net exceeds 6 metres head line;
 - ~ by method whereby the head line of any one single main net exceeds 30 metres;
 - ~ by method whereby the meshes for all nets, when measured diagonally stretched from knots to knots are less than 50 millimetres both on the body and cod end;
 - ~ by method using an otter board that is more than 5 (five) square metres in area, per board; and
 - ~ by beam trawl of greater than 6 (six) meters beam length.

- (ii) The gear restriction for small-scale fishery employing beam trawl towed by dory or dinghy, shall be as follows:
 - (a) The taking of panaeid prawns is prohibited at all times:
 - ~ by method where the width of all beam trawls exceeds 4 (four) metres; and
 - ~ by methods whereby the meshes of all nets when measured from knots to knots, are less than 50 millimetres (2.0 inches); and
 - ~ by method of beam trawl that does not incorporate a fish escape panel at the neck of the cod-end, consisting of 1 (one) metre wide panel of net of 50 millimetres (2.0 inches) mesh laid crosswise and which forms the body of the net at the neck of the cod-end.
- (3) (a) Timed area closure

The trawl grounds from Iokea to Cape Blackwood shall be closed from 1st December to 31ST March. Refer to *Schedule 1* for designated boundaries for the close area.
- (4) Industrial fishing is prohibited within the three-mile zone from Parama Island to the border of the Gulf and Central Provinces.
- (5) Marketing standards shall continue to be based on the standards established by the relevant authorities.
- (6) The prawn operators shall be required to submit to the National Fisheries Authority;
 - (a) Catch and effort data on the by-catch including non-fish species;
 - (b) All by-catch shall be reported;
 - (c) All mammals and turtles shall be returned to the sea;
 - (d) Removing of fin from shark and returning them to sea alive is prohibited.
- (7) Vessel Tracking System and Surveillance
 - (a) All prawn fishing vessels shall be required to carry vessel-tracking devices, to facilitate the fishery plan and increase safety in navigation.
 - (b) Observers of the National Fisheries Authority and the Gulf Province Division of Fisheries shall be placed at random on board licensed prawn trawlers to under take surveillance and research.

8. MONITORING

- (a) In accordance with Section 29 of the *Fisheries Management Act 1998*, licensed operators are required to submit data on catch and effort, as well as marketing data, for the purpose of this fishery plan.
- (b) A scientific observer/research programme mutually agreed to by the industry and NFA may be set up to monitor the fishery and to make recommendations for any relevant changes for improvement of the fishery plan to achieve the objectives in Section 4. The industry may be requested to provide logistic support and other form of assistance to implement the

research programme in relation to prawns as well as other alternate fishery resources in the Gulf of Papua.

- (c) If there is indications of low recruitment through monitoring of reference limits, the National Fisheries Authority shall convene a consultative meeting with the industry to determine control management measures to control effort.
- (d) The monitoring reference limits are;
 - (i). That the catch per unit effort (CPUE) for the banana prawn shall be at 7.0 kg/hr and,
 - (ii). That the species composition of the banana prawn shall not be less than 45% of the commercial catches by weight and,
 - (iii). That the size composition of commercial grades of 51, 61 and 71 of banana prawn shall not exceed 25% of the catches by weight.

9. SPECIAL CONSIDERATION FOR TRADITIONAL RESOURCE OWNERS

- (a) Special consideration should be given to the need to avoid adverse impact on subsistence and small-scale commercial fisheries.
- (b) Ownership of the near-shore fisheries resources (i.e resources inside the three mile limit) by traditional resources owners is recognised.
- (c) Where possible, effort shall be made to document and promote traditional conservation and management measures in the three-mile zone where small-scale prawn trawling operations may be developed. In order to enhance the conservation and management practices of the fisheries resources within the traditional waters.
- (d) Preference will be given to licence application from traditional resources owners, both for fishing by method of industrial trawling and by method of beam trawl towed by dory or dinghy.
- (e) The National Fisheries Authority in collaboration with the industry and provincial authority shall work towards facilitation and establishment of small-scale fisheries development of the prawn and associated finfish resources within certain parts of the three-mile zone.

10. RESEARCH PLAN

There shall be a research plan with research programmes jointly developed with the industries to monitor the fishery and carry out stock assessment.

11. AMENDMENTS

- (1) This management plan shall be kept under review by the Authority as new information is obtained as to meet its objectives.
- (2) Any amendment to this Management Plan shall be endorse by the Board; and submitted to the Minister for approval and notified in the National Gazette.

