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National Fisheries Authority

FISHERIES MANAGEMENT ACT 1998

THE BARRAMUNDI FISHERY MANAGEMENT PLAN

The National Fisheries Authority, by virtue of the powers conferred by Section 28 of the *Fisheries Management Act 1998* hereby draws up the Barramundi Fishery Management Plan. This plan supersedes any previous plans and takes effect from the date of notification in the National Gazette.

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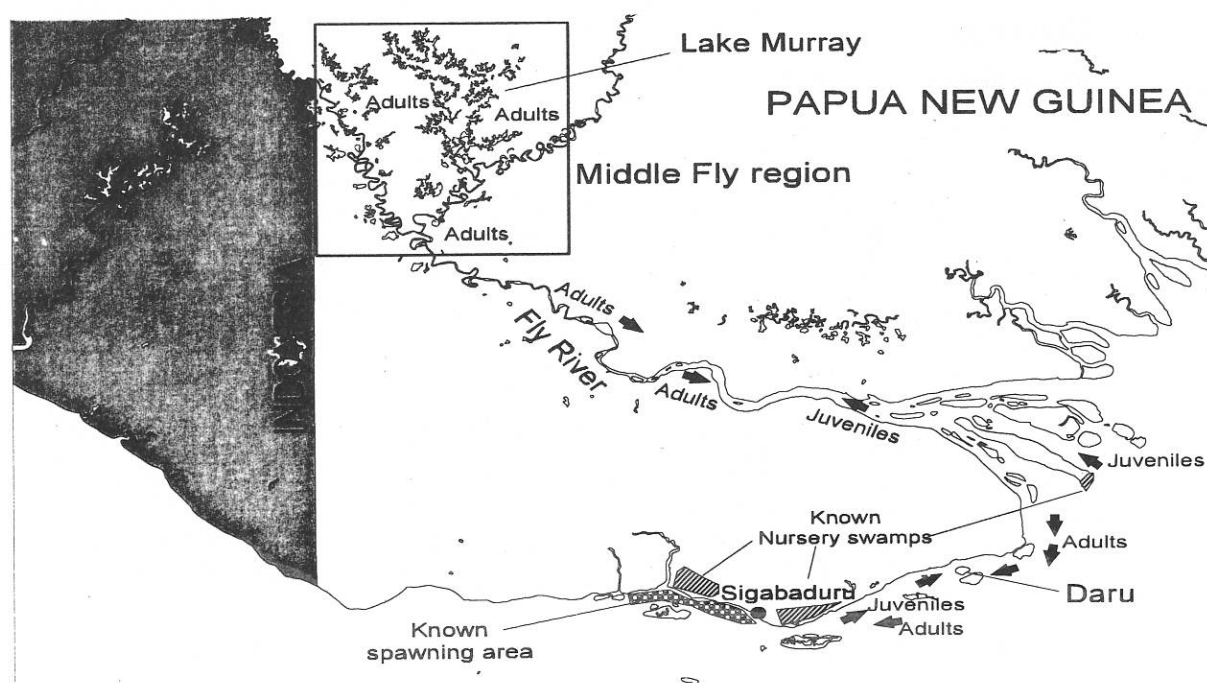
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1. Background - Description of the Fishery

In Papua New Guinea (PNG), Barramundi, *Lates calcarifer*, occurs naturally only in the southern part of the country, from Mullins Bay in the east to Irian Jaya/PNG border in the west. Barramundi are most abundant in rivers with substantial lake and swamp systems, and with extensive deltas, an obvious characteristic of the Gulf of Papua and the adjacent Papuan coast. The population is concentrated in the Gulf of Papua, with the deltaic systems of the Fly, Kikori and Purari Rivers. Except for the Mullins Bay population, the populations of barramundi in all areas of PNG genetically comprise one stock, with relatively large genetic mixing of fishes from the Gulf of Papua deltaic systems to those of Morehead and Bensbach Rivers to the west and Merauke River further west in Irian Jaya. The largest concentration of this genetically mixed and large population of barramundi is found in the Fly River system.

Studies on the life history and reproductive biology of barramundi show that it is a protandrous hermaphrodite that starts life primarily as males, with the proportion of females in the population increasing with length. Males mature at about 4 years old and typically become females at about 7 years of age (0-4 years juvenile fish, 4-7 years males fish and 7 + years mostly females). Barramundi is a migratory fish that spawns in the sea between Sigabaduru Village and PNG/Irian Jaya border (Map below) and move into inland freshwaters to grow. This life history pattern shows that the fish has greater vulnerability to fishing activities during the seasonal *growth* and *spawning migrations* (peak spawning migration between October and November) to a relatively restricted area; thus management of the barramundi should focus on the protection of the juveniles and the large breeding females.

Map of the Western Province showing major juvenile and adult barramundi movements. Arrows showing the movement of juveniles from known spawning area eastward and the adults downstream the Fly River and westward to the spawning area.



The commercial fishery for barramundi in PNG began in the late 1960s and early 1970s and was based in Western Province. Following government surveys around Daru in the early 1960s, the Western Province commercial barramundi fishery developed rapidly with processing and distribution centres being set up in the province. By 1969, there were three types of commercial operations established: (1) Daru-based artisanal coastal gillnet fishery targeting mainly adults that were migrating to breeding grounds west of Daru near Sigabaduru Village during September-January (late dry season-early wet season), (2) Refrigerated fishing vessels that operated their own gillnets of 150 and 175 mm mesh size and at the same time bought catch from artisanal fishers. These operations ceased in 1990 because of declining catches, and (3) Village-based freezers of 5 tonnes capacity set up at selected villages in the middle Fly River and at the Fly River mouth regions. These were operated by village cooperatives that sold their catch to the Daru wholesalers or the refrigerated boats.

In the late 1980s barramundi ranked fourth among commercial fisheries in PNG in terms of total fish production and foreign exchange earnings. The fishery was important to coastal communities in Western Province because of the large number of artisanal fishers involved and the cash income generated in areas with few alternative sources of income. This export commercial fishery caught 200-300 tonnes of barramundi a year, with the majority of this being caught in the Daru area. However in the early 1990s the catches were as low as 4 tonnes from the Daru based fishery, which forced the commercial fishery to close. Since then only the artisanal barramundi fisheries in the coast and the middle Fly River have continued to operate. Other small-scale barramundi fisheries operate in other areas in PNG (Mullins Harbour and Gulf Province), but were distinctly smaller than the Western Province fishery.

Production by the coastal artisanal fishery has resumed in recent years, with catches up to 170 t annually. This is indicative of the recovering barramundi stock in the Western Province and the Gulf of Papua.

2. Application

- (a) The Barramundi Fishery Management Plan (BFMP) is prepared under the authority of, and in accordance with Section 28 of the *Fisheries Management Act 1998*.
- (b) This Barramundi Fishery Management Plan shall be cited as “the Plan” and “the Management Plan”.
- (c) The Management Plan applies to a species of the family Latidae, specifically the Barramundi *Lates calcarifer*.
- (d) The plan applies to the barramundi fishery and to all activities by way of “fishing” as defined in the *Fisheries Management Act 1998*, including gillnetting, beach-seining, line and lure fishing, and associated activities of selling, buying, processing and exporting.
- (e) The geographical area covered in the BFMP comprises the following areas:
 - i) Sea and Estuarine Areas: the sea and estuarine areas between the boundaries of coastal mainland Irian Jaya/PNG border to the border of Western and Gulf Provinces, and

- ii) Rivers and Lakes: the waters of the rivers and lakes of Western Province.

3. Interpretation

In this Plan, unless the contrary appears, each word or group of words has the same meaning, if any, as used in the *Fisheries Management Act 1998*, except where this differs as provided below:

“*Area Closure*” means the designation of a specific area where no fishing shall take place.

“*BMAC*” means the Barramundi Management Advisory Committee.

“*Beach Seine*” means an encircling or enclosing net deployed from the shore.

“*Coastal Areas*” means the area of sea bordering the land extending from the mouth of the Fly River westward to the PNG/Irian Jaya border.

“*Gill net*” means a net with various mesh sizes to catch barramundi. The top of the net is seized to a float or corkline and the bottom to a leadline. The fish are caught by the mesh of the net.

“*Growth Migration*” means the seasonal coastal movement of juvenile barramundi from the nursery grounds eastwards towards Daru, the mouth of the Fly River and into the Fly River system.

“*Licensed Collector Vessel*” means a licensed vessel involved in the taking of Barramundi, but not licensed to fish.

“*Mesh Size*” means the size of mesh when the net is taunt measured between the inner edges of two diagonally opposite knots. Mesh is measured in units of centimeters or inches

“*Reference Limit*” means a biological or fishery limit that should be the target for sustainability of the barramundi resource.

“*Spawning Migration*” means the seasonal movement of large groups of ready-to-spawn barramundi to the spawning grounds between Sigabaduru and Jarai Villages.

“*Total Allowable Catch*” means a total amount of catch by weight specified as allowed to be taken per year

“*Total Length*” means a distance between the snout and tail end.

4. Objectives

- (a) To protect the barramundi stock in the management area from depletion or stock decline.

- (b) To ensure sustainable fisheries development practices for the participation and benefit of traditional resource users.

5. Management Arrangement

- (a) The barramundi fishery will be managed through the formation of a Barramundi Management Advisory Committee (BMAC). This committee shall advise the Managing Director or the National Fisheries Board on the management of the fishery.
- (b) The BMAC shall comprise representatives of NFA, fishing industry, aquaculture, recreational fishing, Ok Tedi Foundation, local resource owners, and the Western Province Administration.
- (c) A BMAC shall not include any elected political office holders from the national and provincial government or person nominated for such office.

6. Management Measures

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

6.1 Licensing

- (a) Under this Plan, the following licence types shall be required in the barramundi fishery; fish buyers licence, fish export facility licence, fish storage facility licence and collector vessel licence.
- (b) Under this Plan, no licences shall be issued to non-citizen companies, individuals or foreign joint venture arrangements. Preference shall be given to licence applications from traditional resource owners.
- (c) All licence applications shall be endorsed by the Provincial Government before submission to the National Fisheries Board for approval.
- (d) All barramundi products for export shall be exported directly from the Province of origin. No product shall be moved to another Province for sale or export without clearance from the National Fisheries Authority.
- (e) Licensed exporters will be required to provide returns in a Barramundi Logbook to NFA detailing all purchases made during the month. Failure to do so may result in export not being authorised.
- (f) All approved licences are valid for one year and subject to renewal.
- (g) Licence holders may have their licences terminated if they breach licence conditions or provisions of the *Fisheries Management Act 1998* or *Fisheries Regulations 2000* or the Barramundi Fishery Management Plan.

6.2 Total Allowable Catch

- (a) A Total Allowable Catch (TAC) shall be set at 260 mt per annum (whole weight) for the areas in clause 2 e (i) & (ii).
- (b) If the catch from the Coastal Fishery exceeds 60% of the TAC in any one year then the TAC shall be subject to review.
- (c) NFA will close the fishery as soon as the TAC is reached.

6.3 Prohibitions**6.3.1 Fishing Prohibitions**

- (a) A barramundi with a total length of less than 36 cm (14 inches) shall not be taken for sale or export.
- (b) The owners of a *licensed collector vessel* are prohibited from the act of catching barramundi at all times.

6.3.2 Gear Prohibitions

- (a) Gill nets and beach seine nets with mesh size greater than 15 cm (6 inches) are prohibited in catching barramundi.
- (b) A grace period of one (1) year is applied to net owners whose mesh sizes are more than 15 cm (6 inches) to meet clause 6.3.2 (a) from the date of gazettal of this Plan.
- (c) The use of gill and beach seine nets with mesh size between 6.35 cm (2.5 inches) and 12.7 cm (5 inches) is prohibited during the peak periods of juvenile recruitment, 1st March to 30th April in the coastal waters from Sui Village in the east to PNG/Irian Jaya border in the west.
- (d) The use of gill nets greater than 12.7 cm (5 inches) is prohibited during the peak spawning migration period, 1st September to 31st October in the coastal waters from Sui Village in the east to Buzi Village in the west.
- (e) NFA in consultation with all stakeholders may consider the option of putting prohibitions on line/lure fishing in future.

6.4 Area Closure

The main spawning and breeding grounds between Sigabaduru Village and PNG/Irian Jaya border shall be closed to commercial fishing during peak spawning periods, 1st October to 30th November each season (see Map).

6.5 Marketing Standards

Marketing standards shall continue to be based on the Fish Quality Control Standards drawn under Section 7 of the *Fisheries Management Regulation 2000*, and standards established by other relevant authorities.

6.6 Reporting

- (a) In accordance with Section 29 of the *Fisheries Management Act 1998*, licensed exporters and collector vessels are required to submit data on catch and effort, as well as marketing data, for the purpose of this Plan.
- (b) Logbook containing the information set out in Clause (a) must be submitted to NFA by the 21st day of each month.
- (c) Failure to submit the required reports within twenty-one (21) days, or submitting incorrect data, may result in the suspension or cancellation of the license.

7. Precautionary Approach to Barramundi Management

Precautionary approaches shall apply to the Barramundi Fishery in accordance with the following provisions:

- (a) NFA will take into account the reference limit of 260 mt per annum (whole weight).
- (b) 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 fishery.

8. Recreational Fishing

- (a) This Management Plan recognizes recreational fishing of barramundi.
- (b) NFA will consult recreational and gamefishing companies or individuals for the provision of recreational catch records of barramundi for the purpose of this Management Plan.

9. Monitoring

- (a) A scientific observer/research program mutually agreed to by the industry, NFA and traditional resource owners will set up to monitor the fishery and to make recommendations for any relevant changes for improvement of the national management plan to achieve the objectives in Section 4. The industry will provide logistic support and other forms of assistance to implement the research program in relation to barramundi as well as other alternate fishery resources in the respective province.

- (b) NFA shall monitor the sale of gillnets within the management areas. NFA shall confiscate the prohibited mesh size gill nets.
- (c) In accordance to Section 7 of the *Fisheries Management Regulation 2000*, that it shall be a licence condition that the NFA shall monitor the Quality Control Standards that they are continuously adhered to, in the production, processing, storage and export of barramundi.
- (d) NFA may work with all stake holders and other national and international institutions to carry out research and information gathering activities to allow refinement of the plan, particularly the conduct of resource surveys and assessments.

10. Amendments

The Authority shall keep this Management Plan under review as new information is obtained to meet its objectives.

Endorsed this

15th day of April 2003

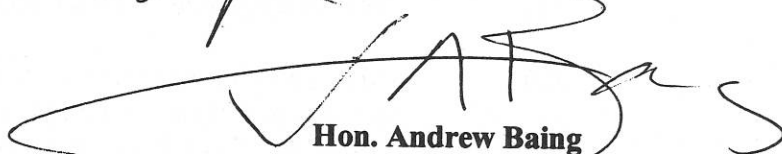


Chairman

National Fisheries Board

Approved this

15th day of April 2003



Hon. Andrew Baing

Minister for Fisheries.

Fisheries Management Act 1998.***The National Live Reef Food Fish Fishery Management Plan***

I, Honourable **Andrew Baing, MP**, Minister for Fisheries and Marine Resources, by virtue of the powers conferred by Section 28 of the *Fisheries Management Act 1998*, and all other powers me enabling, hereby approve and give notice on the revised version of the National Live Reef Food Fish Fishery Management Plan. This plan supercedes the previous plan gazetted on G99, 17th June 2002 and takes effect immediately.



NATIONAL FISHERIES AUTHORITY

4th April 2003

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Schedule 1 - Size limits

Schedule 2 - Fish Report

1. BACKGROUND

PNG is the new frontier for the Live Reef Food Fish (LRFF) trade as proclaimed by keen buyers in Hong Kong. The LRFF trade started in PNG in 1991 and has operated in Central, Milne Bay, Manus, East New Britain, Bougainville and New Ireland Provinces. Experience in Southeast Asia and initial forays into the Pacific have shown LRFF fisheries to be prone to a boom and bust cycle with one area after another being over-fished for high valued species. Of particular concern in Papua New Guinea is the potential for unsustainable targeting of grouper spawning aggregation sites by LRFF operators and the use of cyanide (and other chemicals) to stun and capture fish. These activities have wreaked extensive damage on the reefs of Indonesia and the Philippines. Operators in PNG and in other Pacific Island countries have already been caught targeting aggregation sites and using poisons.

The LRFF fishery presents PNG with potential opportunities and problems. As a relatively small-volume, high-value fishery, it has the potential to contribute significant income directly to fishing communities.

An operation on the remote Hermit Island, in Manus, exported 24 tonnes of Live Reef Food Fish during the 18 months fishing period in 1991. Annual exports of LRFF from PNG have remained below 50 tonnes. Peak export of Live Reef Food Fish was recorded in 1997 with over 30 tonnes. The relative catch per unit effort (CPUE) in Papua New Guinea ranged from 0.5 to 20kg/fisherman/day. Annual world production of Live Reef Food Fish is 25,000 tonnes and valued at more than US\$1 billion.

The use of cyanide by operators in Milne Bay in 1998 resulted in the cancellation of their licences and a moratorium on the issuance of new license for LRFF exports in PNG by the National Fisheries Board. This moratorium halted operations in Goodenough area of Milne Bay Province and Djaul and Tigak islands on New Ireland Province.

The National Fisheries Board, in one of its regular meetings (No. 4/2000, Decision No: 59/2000) recommended to trial a live reef food fish project in Kavieng and Manus. The Board concluded that the results of the project would be used to assess the viability of the fishery and formulate a Management Plan for the sustainable harvest of live reef fish in PNG.

A trial project was centered on Tigak, Soson and Tingwon Islands in New Ireland Province from February to October 2001. A total of 6.1 tonnes of live fish were exported to Hong Kong for the 6 months fishing period. Over K130, 000.00 was realized during the export, of which around K11, 000.00 was paid to fishers from the three management areas and an average of K4, 500.00 was paid to community accounts for the affected communities. Fishing was restricted to traps and handlining.

The trial project in part concluded in general, a desire for the resource owners in the trial areas to participate in the Live Reef Food Fish fishery, which they believe had provided the much-needed opportunity to generate income in this growing economic environment. The National Fisheries Authority believes the fishery has the potential to improve the living standards of the rural population by providing income for individuals in the rural community *if* managed sustainably.

It is for this reason that the National Live Reef Fish Fishery Management Plan is formulated to provide the broad management framework for a sustainable Live Reef Food Fish fishery (LRFF) in PNG. Site-specific management guidelines for each operational area will also be developed to compliment the National Plan.

2. APPLICATION

- a) The National Live Reef Food Fish Fishery Management Plan (NLRFFMP) is prepared under the authority of, and in accordance with section 28 of the *Fisheries Management Act 1998*.
- b) The National Live Reef Food Fish Fishery Management Plan shall be cited as the "national management plan" or "the plan". The plan shall cover all aspects of commercial live reef food fish fishing in Papua New Guinea.
- c) The National Plan shall apply to all activities by way of "fishing" as defined in the *Fisheries Management Act 1998*, including hand lining, single line fishing, use of fish cages, transportation of live fish, fish handling and transshipments of live fish.
- d) The Plan shall cover the following:
 - (i) all target reef fish food species included in Schedule 1; and
 - (ii) all other non-target fish species not specified in Schedule 1 or by-catch.
- e) The Plan shall form the broad framework of commercial live reef food fish operation in PNG and will provide provisions for site-specific licensing conditions to be developed to complement this National Plan.

3. INTERPRETATION

In this Plan, unless the contrary appears, each word or group of words has the same meaning, if any, as it has in the *Fisheries Management Act 1998*, except where this differs as provided below: -

"Act" means the *Fisheries Management Act 1998* as amended from time to time;

"Area-specific management guidelines" means fishery management guidelines that shall be enforced for the specific fishery management area.

"By-Catch" means all other species of fish caught in the course of fishing where live reef food fish is the target species;

"Fishery Management Area" means the specified area to which the fishery is to operate from with boundaries clearly demarcated;

"Closed area" means a specific area where no fishing shall take place;

"Closed season" means a time period when no fishing shall take place;

"Station" means a land area including a sea boundary selected by the company to set up fish holding cages for the purpose of holding live reef food fish.

"Customary marine tenure" means traditional management regimes practiced by the indigenous people that have been passed down from generation to generation.

"Plan" means the live reef food fish fishery management plan;

"Live reef food fish Stock" means a discrete breeding population of a particular live reef food fish species;

"Total Allowable catch (TAC)" means the prescribed amount of catch that is allowed to be taken in any one-year, season or area. The TAC is calculated as the basis of sustainable fishing with biological and economic inputs (level below MSY).

"Traditional resources owner" means individual, families or clan who have traditional fished

or utilised the finfish resources and are recognised by the village community in which they live as traditional ownership rights to the finfish, specific species to type or specific area.

4. OBJECTIVES

The broad objective of this national plan is to ensure that use of the LRFF resource is sustainable and well regulated.

The National Plan objectives are specifically:

- a) To manage the LRFF fishery in the management areas so that the size of the stock tends towards one that will give the maximum sustainable economic yield (MESY).
- b) To ensure the LRFF Fishery in the management areas is viable in terms of biological, social and environmental.
- c) To ensure the promotion of sustainable fisheries development practices for the participation and benefit of the traditional resource users;

5. PRECAUTIONARY APPROACH

A precautionary approach will be applied to the management of the Live Reef Food Fish resource, non-target, associated and dependent species, taking into account the best scientific evidence available on the status of the stocks and the uncertainties inherent in those data;

6. MANAGEMENT ARRANGEMENT

- a) The live reef food fish fishery shall be managed nationally. A Management Working Committee (MWC) should be established in each of the affected provinces to provide advice to NFA and or NMAC on the management of the live reef food fishery.
- b) The role of the MWC will be to review the site specific licensing conditions including: total allowable catch, size limits, gear restrictions, reporting, closed seasons and areas and any other relevant issues directed by the NFA or NMAC and or relevant Provincial Executive Council (PEC). The final decision on the fishery management remains with the Managing Director.
- c) The committee shall meet twice a year preferably one in June and the other at the end of the year or unless directed by the Managing Director.
- d) MWC shall be a voluntary job and the Managing Director shall approve the appointment of the members.
- e) The MWC shall consist of the following persons, upon approval of the Managing Director;
 - i) One National Fisheries Authority representative or his nominee who shall be the chair,
 - ii) Two resource owner representatives from each of the identified communities affected,
 - iii) One representative from the Provincial Fisheries headquarters from each of the affected province,
 - iv) One dive association representatives or a tourism officer.
 - v) One representative from the marine conservation related non-government organisation whose objectives include conservation of the marine environment and resources and,
 - vi) A representative from the operator.
- f) Only one representative from each organisation shall be allowed to cast a vote.
- g) A MWC maybe established in each province where live reef food fish fishery intends to

operate.

- h) Prior to taking up membership, representatives will be required to disclose any direct or indirect personal or pecuniary interests in the fishery. The nature of his/her interest shall be recorded in the minutes of the first meeting of the committee.

7. MANAGEMENT MEASURES

7.1 Catch Limits

- a) Total Allowable Catch (TAC) for the target species may be set for each management area and/or shall be set based on the new information.
- b) If a TAC for the target species in a management area is approached, fishing shall cease and total TAC for that management area will be reviewed.
- c) The NFA may review the level of catch for the Live Reef Food Fish species every three months or when:
 - (i) The TAC for the target species is being approached for a particular management area;
 - (ii) An opportunity to expand the management area is presented;
 - (iii) New information on the status of the stocks shows a reduction in the level of fishing effort is needed due to significant interaction with subsistence fishing, or localised depletion; or
- d) The NFA reserves the right to cease operation in a management area if it considers necessary to maintain a healthy LRFF stock

7.2 Fishing Methods

- a) Fishing for live reef food fish shall be restricted to handlining only.
- b) The licensee shall be allowed one station with a series of fish holding cages not exceeding 20 in number for each management area. Each fish cage shall have minimum dimensions of 3m x 3m x 4m with a holding capacity not exceeding 700kg.
- c) For transshipment purposes, fish cages may be towed to one management area only upon receipt of written approval from the Managing Director at least fourteen days prior to actual transshipment.
- d) A quarantine cage shall be constructed separately from fish cages for keeping diseased fish for observer and quarantine purposes.

7.3 Restrictions

- a) Export by the licensee of target species of sizes less than the approved size limit as in schedule 2 is prohibited.
- b) Fishing for live reef food fish within or close proximity of a declared spawning aggregation site is prohibited
- c) Fishing for live reef food fish or other related activities within or close to the known diving spots is prohibited
- d) Fishing for live reef food fish within the Torres Strait Protected Zone is prohibited.
- e) Fishing for live reef fish shall be restricted to only resource owners employing fishing methods specified in section 7.2 (a).
- f) The use, storage and transportation of explosives, noxious substances (including cyanide and naturally derived substances in any form) for the purpose of killing, stunning,

rendering disabled or capturing of fish is prohibited.

- g) The use of hookah gear and SCUBA for capturing fish for live reef food fish is prohibited.
- h) Feeding diseased fish to fish kept in cages is prohibited.
- i) Diseased fish shall be incinerated or buried under ground.

7.4 Areas of operation

- a) The operator in consultation with the resource owners shall demarcate specific fishing areas and submit a written approval from the resource owners. The approval shall have the consent of the entire community.
- b) The NFA shall require an "area specific management guidelines" as part of the licensing conditions. These conditions shall include;
 - (i) Spawning grounds identified by NFA or the local community to be declared as prohibited areas for fishing or other related activities.
 - (ii) Any traditional ground or area of sea identified by the local community as a no fishing zone.
 - (iii) Fishing pattern as approved by the communities in the management areas.
 - (iv) A set total TAC for each of the target species.
 - (v) Closed seasons and areas
- c) NFA in consultation with resource owners shall require specific areas in the management areas to be closed to fishing, as it considers necessary for the health of the resource or marine environment.

7.5 Licensing

- a) Under this plan, the following licences are applicable;
 - (i) Export
 - (ii) Aquaculture
 - (iii) Carrier Vessel
 - (iv) Storage facility
- b) Licence fees as set out in (a) are as prescribed in schedule 1 of the Fisheries Management Regulation 2000
- c) Under this Plan, only three (3) operators will be issued licences. Total number of operators is subject to review as necessary.

7.6 Conservation

- a) Fish holding cages shall be located at a distance of at least 20 metres away from any land base.
- b) Fish cages shall be located in water deeper than 5 metres.
- c) Fish holding cages shall be located in areas that have constantly prevailing circulating water.
- d) The NFA may require the operator to move fish cages to locations it considers more suitable if measures set out in (a), (b) and (c) have not been met.
- e) In an event an operator wishes to cease operation in a management area, all gear and equipment used for fishing and other related activities shall be taken away or disposed in

an environmentally friendly manner.

7.7 Monitoring

NFA shall determine the percentage of observer coverage for each management area. The licensee is required to cooperate with observers in all aspects of sampling and monitoring.

7.8 Reporting

- a) The licensee shall report to NFA the following information: all fish (target and non-target species) bought, the weight of each fish (in kilograms), how much it was bought for (in kina), when it was bought and when and where it was caught. This information shall be set out in the form in schedule 3.
- b) The licensee shall keep record of daily fish mortality in holding cages, including reasonable attempts to specify the cause of deaths. This information may be submitted upon request by NFA.
- c) Licensee shall report to NFA each time LRFF is to be exported detailing the species, weight (in kilograms) and value (in US dollars). All the details of the export shall be contained in the certificate of fitness for the export of fish and fishery products as contained in appendix D of *Fisheries Management Regulation 2000* or any other form approved by the NFA Audit and Certification Unit.
- d) The information required in paragraphs (a) and (b) shall be submitted at the end of each month to NFA's Information and Licensing Section.
- e) Failure to submit the required reports set out in section 7.8 (a), (b) and (c) above by more than ten (10) days or submitting incorrect or false data may result in suspension or cancellation of the fishing licence under Sections 19 and 20 of the *Fisheries Management Regulation 2000*.

8. AMMENDMENT

The National Live Reef Food Fish Fishery Management Plan shall be kept under review from time to time when necessary.

9. RESEARCH

- a) NFA may carry out, in collaboration with reputable national or regional or international organisations, a program of research on Live Reef Food Fish stocks in every management area. Parameters for research may include inter-annual variability, reproductive aspects, catch per unit effort, the species breakdown of catches, and size structure by species in the catches.
- b) Baseline surveys for the purpose of assessing the standing stocks of LRFF, determining spawning aggregation sites and monitoring shall be carried out. These surveys shall form the baseline information held by NFA.

Approved this 14th day of April 2003


HON. ANDREW BAING, MP.

MINISTER FOR FISHERIES AND MARINE RESOURCES

Schedule 1**Export size limits**

Common name	Scientific name	Size limit
Coral cod	<i>Cephalopholis miniata</i>	no minimum size
Humphead Maori Wrasse	<i>Chelinus undulatus</i>	65cm
Barramundi cod	<i>Cromileptes altivelis</i>	40cm
Flowery cod	<i>Ephinephelus fuscoguttatus</i>	55cm
Trout cod	<i>Ephinephelus maculatus</i>	no minimum size
Camouflage grouper	<i>Ephinephelus polyphekadion</i>	37cm
Mangrove jack	<i>Lutjanus argentimaculatus</i>	40cm
Red bass	<i>Lutjanus bohar</i>	no minimum size
Moses perch	<i>Lutjanus russelli</i>	25cm
Red emperor	<i>Lutjanus sebae</i>	55cm
Maori Perch	<i>Lutjanus rivulatus</i>	55cm
Squaretail coral trout	<i>Plectropomus areolatus</i>	36cm
Chinese footballer trout	<i>Plectropomus laevis</i>	60cm
Leopard coral trout	<i>Plectropomus leopardus</i>	36cm
Highfin coral trout	<i>Plectropomus oligocanthus</i>	36cm
Coronation trout	<i>V. albomarginata</i>	no minimum size



NATIONAL FISHERIES AUTHORITY

PO Box 2016, Port Moresby, National Capital District, Papua New Guinea
Telephone: 309 0444, Facsimile: 320 2069, Email: nfa@fisheries.gov.pg

Schedule 2

Catch Logsheet for Reef Finfish

Page ____ of ____

1. Start a new form each month.
2. Use as many forms as are required during the month.
3. Start at "Page 1" each month.
4. Use as many rows as required for a transaction with a fisher.

**ALL WEIGHTS MUST BE
IN KILOGRAMS**

Storage Facility License No.	Province of Operation
Company Name:	Buyers Name:

Year:	
Month:	

Please return this form to:

Manager
Licensing & Information
P.O. Box 2016, Port Moresby
Papua New Guinea

Ph: 309 0444

Fax: 320 2069

[illegible]

VALUE

[illegible]

Catch Logsheet for Reef Finfish - Explanations

COMPANY NAME: Is the name of the licensed company e.g. RFI Ltd										FAO CODE		COMMON NAME		SCIENTIFIC NAME	
STORAGE FACILITY LICENCE No: Refers to the storage facility licence number. E.g.: For Allmarine Products Ltd. storage facility license No. 0105110, record "0105110" in this box). N.B.: This is not the Aquaculture Licence number or Export License number.										EFY	Banded grouper	Epinephelus amblycephalus			
										NDU	Black jack	Caranx lugubris			
										EML	Blacksaddled coral grouper	Plectropomus laevis			
										EEA	Blacktip grouper	Epinephelus fasciatus			
										LUV	Blubberlip snapper	Lutjanus rivulatus			
										EEV	Blue-and-yellow grouper	Epinephelus flavocaeruleus			
										EFH	Brownspotted grouper	Epinephelus chlorostigma			
										LUJ	Brownsripe red snapper	Lutjanus vitta			
BUYERS NAME: The name of the individual who is buying the finfish for the company										EEK	Camouflage grouper	Epinephelus polyphkadion			
										EFN	Catface grouper	Epinephelus andersoni			
										EEP	Comet grouper	Epinephelus morhua			
										CFI	Coral hind	Cephalopholis miniata			
										EFJ	Dogtooth grouper	Epinephelus caninus			
										EEG	Dungat grouper	Epinephelus goreensis			
										GPD	Dusky grouper	Epinephelus marginatus			
										EFK	Duskytail grouper	Epinephelus bleakeri			
FISHERS NAME: Name of fisher from whom fish is purchased or fisher who put effort into catching fish (e.g. Joe Bloe)										LUB	Emperor red snapper	Lutjanus sebae			
										EEN	Giant grouper	Epinephelus lanceolatus			
										EPT	Greasy grouper	Epinephelus tauvina			
										EPV	Halfmoon grouper	Epinephelus rivulatus			
										EEC	Highfin grouper	Epinephelus maculatus			
										EER	Honeycomb grouper	Epinephelus merra			
										MPV	Humpback grouper	Cromileptes altivelis			
										LJG	Humpback red snapper	Lutjanus gibbus			
										WRA	Humphead Maori Wrasse	Cheilinus undulatus			
										EMO	Leopard coral grouper	Plectropomus leopardus			
										EFQ	Longfin grouper	Epinephelus quoyanus			
										EFE	Longtooth grouper	Epinephelus brunus			
										MAR	Malabar grouper	Epinephelus malabaricus			
										EEY	Misty grouper	Epinephelus mystacinus			
										EPF	Olive grouper	Epinephelus cifuentesi			
										ENI	Orange-spotted grouper	Epinephelus coioides			
										CFH	Peacock hind	Cephalopholis argus			
										LTS	Pink ear emperor	Lethrinus lentjan			
										QPR	Red grouper	Epinephelus morio			
										EEU	Red hind	Epinephelus fuscoguttatus			
										EHG	Redmouth grouper	Aethaloperca rogaa			
										EEF	Rock grouper	Epinephelus fasciatus			
										SNU	Russell's snapper	Lutjanus russelli			
										ESE	Saddletail grouper	Epinephelus daemeli			
										EFX	Sixbar grouper	Epinephelus sexfasciatus			
										AYG	Slender grouper	Aryperodon leucogrammicus			
										EEM	Snubnose grouper	Epinephelus macrospilos			
										EPY	Speckled blue grouper	Epinephelus cyanopodus			
										EEJ	Speckled grouper	Epinephelus magniscuttis			
										PLM	Spotted coral grouper	Plectropomus maculatus			
										GPS	Spotted grouper	Epinephelus analogus			
										EME	Squaretail coral grouper	Plectropomus areolatus			
										EEX	Starspotted grouper	Epinephelus hexagonatus			
										EFT	Tomato hind	Cephalopholis sonnerati			
										HUU	Tripletail wrasse	Cheilinus trilobatus			
										LJB	Two-spot red snapper	Lutjanus bohar			
										EUU	Wavy-lined grouper	Epinephelus undulosus			
										EFB	White-edged grouper	Epinephelus albomarginatus			
										VRL	White-edged lyretail	Variola alimarginata			
										EFW	Yellow grouper	Epinephelus awoera			
										EEL	Yellowedge grouper	Epinephelus flavolimbatus			
										VRL	Yellow-edged lyretail	Variola louti			
										EMP	Emperors (=Scavengers) nei	Lethrinidae			
										GPX	Groupers nei	Epinephelus spp			
										TRE	Jacks, trevallies nei	Caranx spp			
										SNX	Snappers, jobfishes nei	Lutjanidae			

PROVINCE OF OPERATION: The province from which the licensee is allowed to operate out of (e.g. Manus)										STATUS		Species code		price (/kg)	
PURCHASE DATE: For each transaction with a fisher use as many rows as needed. Record the day's <u>date</u> using two figures (e.g. 07 for the 7th) in the first row for each transaction. Record "Year" and "Month" at top of this column.										ALIVE		1. EEU		K8.00	
FISHING HOURS: Is the estimated period of time a fisher spent to catch a particular species of fish										DEAD		EEU		K4.00	
No. OF HOOKS: The actual number of hooks deployed to catch a specified species of fish in a specified period of time															
REEF NAME: Name of reef (could be fishing area) from which a particular species is caught/bought (e.g. Stephen strait)															
LLG AREA: Refers to the Local Level Government area from which a particular fish species is caught or bought. This is as designated in the license conditions.															
SPECIES CODE: Use the standard 3-letter FAO international code to represent particular species of fish → (e.g. Camouflage Grouper is coded as EEK). A full copy of all FAO fish codes can be obtained from NFA If a species is difficult to identify then, as a last resort, use the code for the family (at bottom of code list)															
ALIVE or DEAD: In this column record "A" for alive fish and record "D" for dead fish															
No: The actual number of either dead or alive fish of the same species caught by the fisher while fishing on a specified reef E.g.: If five squaretail coral groupers (<i>Plectropomus areolatus</i>) were bought live then record: "EME A 5"															
WEIGHT: Total weight of each species of fish caught or bought in a specific time period for a specified reef or LLG area. (N.B.: Dead specimens and live specimens should be recorded separately if both live and dead are in the mix.)															
SPECIES CODE: FAO 3-letter species code as explained above and listed at right.															
PRICE/KG: Standard price offered to fishers for each species (dead) or each species (alive). E.g.: On 8th May, Allfish Ltd., in Tikana, buy 4 dead red hind at K4 per kg. (5.5kg) and 6 live at K8 per kg (7.0 kg) from Joe Catcher who used 2 handlines, with 3 hooks each, fishing 12 hours on Jagged Reef. Record as:															
Purchase date	Fisher's name	Fishing hours	No. of hooks	Reef name	LLG area	Species code	alive / dead	No.	Wgt.	Species code	alive / dead	No.	Wgt.		
08	Joe Catcher	12	6	Jagged Reef	Tikana	EEU	D	4	5.5	EEU	A	6	7.0		