

Fisheries Management Act 1998.

The National Live Reef Food Fish Fishery Management Plan

I, Honourable **Ben Semri, 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 supersedes the previous plans gazetted in G99, 17th June 2002 and **G48, 16th April 2003 and** takes effect immediately.



NATIONAL FISHERIES AUTHORITY

[Draft: 22 June 2010]

[Drafted prepared after the LRFFT Stakeholder Workshop by Jeff Kinch;
further input by Dr Richard Hamilton;
final editing by Dr Andrew Smith]

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1. BACKGROUND

The Live Reef Food Fish (LRFF) fishery in Southeast Asia, the Western Pacific and the Indian Ocean has been characterized by a boom-and-bust cycle with one area after another being over-fished and operators moving on to new fishing areas. The LRFF fishery has been tainted by the use of cyanide for the collection of the target species, and characterised by the targeting of fish spawning aggregation sites. These activities have caused extensive damage and overfishing of the target species on the reefs of Indonesia and the Philippines.

The LRFF trade started in Papua New Guinea (PNG) in 1991 in the remote Hermit Islands of the Manus Province, whereby 24 tonnes of LRFF was exported during an 18 month fishing period. In recent years, the LRFF fishery has operated in Central, Milne Bay, Manus, East New Britain, Bougainville and New Ireland Provinces. In many of these areas, evidence has shown that the unsustainable targeting of spawning aggregation sites and the use of cyanide (and other chemicals) has been the typical practice for LRFF fishery operators.

In New Ireland and Manus Provinces many spawning aggregations of groupers have been heavily overfished by LRFF operations, and the use of cyanide by LRFF operators in Milne Bay Province in 1998 resulted in the cancellation of their licences and a moratorium on the issuance of new licenses for LRFF exports by the National Fisheries Board (NFB).

In an attempt to re-establish the LRFF fishery in PNG under appropriate management protocols, the NFB in 2000 recommended to trial a LRFF fishery project in the New Ireland and Manus provinces (No. 4/2000, Decision No: 59/2000), which would in part, be used to assess the viability of the LRFF fishery and to formulate a National LRFF Fishery Management Plan.

The trial project was centred on the Tigak, Soson and Tingwon Islands in the New Ireland Province and lasted from February to October 2001, resulting in a total of six tonnes of live fish being caught by traps and hand-lining and then exported to Chinese Special Administrative Region of Hong Kong. The total value of exports from this trial was PGK 130,000, of which, fishers received PGK 11,000, with a further PGK 4,500 paid to each community as royalties.

Despite the potential income opportunities for island and coastal communities participating in the LRFF fishery, destructive practices by LRFF operators have still been evident in recent years, for example, in 2005, a LRFF operator in the Morobe Province was found to be using cyanide.

As a result, the *'National Live Reef Fish Fishery Management Plan'* has been reviewed and revised—as required under the Fisheries Management Act 1989—to provide the broad management framework for the sustainable development and management of the LRFF fishery in PNG.

2. APPLICATION

- a) The *National Live Reef Food Fish Fishery Management Plan* 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 management plan shall apply to all activities by way of “fishing” as defined in *the Fisheries Management Act 1998*, including hand-lining, single-line fishing, the use of fish cages, transportation of live fish, fish handling and trans-shipments of live fish.
- d) The national management plan shall cover the following:
 - (i) All target reef fish food species included in Schedule 1; and
 - (ii) All other non-target by-catch and feed fish species not specified in Schedule 1.
- e) The national management plan shall form the broad framework for commercial live reef food fish operations in PNG and will provide provisions for specific licensing conditions to be developed to compliment this national management plan.

3. INTERPRETATION

In this national management 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.

“**Closed area**” means a specific area where no fishing shall take place;

“**Closed season**” means a time period when no fishing shall take place;

“**Fishery management area**” means the specified area to which the fishery is to operate from with boundaries clearly demarcated;

“**Feed fish**” means all other species of fish caught to provide food for live reef food fish whilst they are being held in holding cages or during transportation;

“**Live reef food fish stock**” means a discrete breeding population of a particular live reef food fish species;

“**National management plan**” means the live reef food fish fishery management plan;

“**Non-target by-catch**” means all other species of fish caught in the course of fishing whereby live reef food fishes are the target species;

“**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.

“**Traditional resources owner**” means individual, families or clan who have traditionally fished or utilised the finfish resources and are recognised by the village community in which they live as having traditional ownership rights to a given area.

4. OBJECTIVES

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

The national management plan objectives are specifically:

- a) To promote the sustainable development and management of the LRFF trade in PNG using 'world best practices'.
- b) To ensure that the 'Precautionary Approach' and 'Ecosystem Approach to Fisheries' principles, are applied to the management of the LRFF stocks, non-target by-catch and feed fish species, taking into account the best scientific evidence available on the status of these stocks and the uncertainties inherent in those data.
- c) To ensure the incorporation of community-based fisheries management practices by traditional resource owners in the overall management of LRFF operations in a given area, where practical.
- d) To ensure appropriate equity in participation and benefit sharing arrangements for those traditional resource users participating in the LRFF fishery.
- e) To assess the impact of fishing on LRFF stocks, non-target by-catch and feed fish species and their environment by pursuing data collection and research projects with relevant persons and reputable organisations in PNG or the world.
- f) Adopt plans based on the best available local and scientific knowledge to ensure the conservation of the LRFF stocks, non-target by-catch and feed fish species and the protection of their habitats of special concern, to ensure the LRFF fishery in fisheries management areas is biologically, socially, economically and environmentally viable.

5. MANAGEMENT ARRANGEMENT

- a) The LRFF fishery shall be managed nationally. A National Management and Advisory Committee (NMAC) will be formed in accordance with clause (5.g) to provide advice to the Managing Director on the management of the LRFF fishery.
- b) The role of the NMAC will be to review the site specific licensing conditions including size limits, gear restrictions, reporting, closed seasons and areas and any other relevant issues directed by the National Fisheries Authority (NFA) or NMAC and or relevant Provincial Executive Council (PEC).
- c) The NMAC may take on responsibility for advising on management of other marine species, particularly non-target by-catch and feed fish species if directed to do so by the Managing Director or the Board.
- d) The Managing Director or the Board may direct the NMAC to examine a particular issue in the fishery or to review all or part of the management plan.
- e) The national management plan will be reviewed by the NMAC at the direction of the Managing Director at least every three (3) years or at such earlier time as the Managing Director shall direct.
- f) Subject to prior approval of the Board, any review of the management plan shall be made public by the NMAC and comments will be invited from all stakeholders in the fishery.
- g) The NMAC shall consist of the following persons, upon approval of the Managing Director;
 - i) Two (2) NFA representatives or their nominees (one who will be appointed the chair).
 - ii) One (1) traditional resource owner representatives from each of the Regional Fisheries Secretariats for Southern, Momase and New Guinea Islands.
 - iii) One (1) representative from the Provincial Fisheries headquarters from each of the each of the Regional Fisheries Secretariats for Southern, Momase and New Guinea

Islands.

- iv) Two (2) representatives nominated by the LRFF fishing industry.
 - v) One (1) fishery scientist with knowledge of the fishery and target species.
 - vi) One (1) SCUBA diving association representative.
 - vii) One (1) representative from the Department of Environment and Conservation.
 - viii) One (1) representative from a marine conservation related non-government organisation whose objectives include conservation of the marine environment and resources.
- h) The two representatives from NFA will serve as permanent members. Other members to the NMAC will serve for three-year terms.
- i) Elected political office holders are ineligible for membership of the NMAC. Should an NMAC member be elected to political office during their term he or she must resign their membership. Persons who nominate for provincial or national election shall stand down.
- j) The NMAC and its members will operate in accordance with the following procedures and such other procedures and standards as may be set by the Board:
- (i) A quorum requires two thirds of all members and must include one NFA representative.
 - (ii) The Managing Director shall, with the endorsement of the Board lay down operational procedures for the NMAC, including place and dates for meeting and the NMAC shall meet at least 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, or new such interests, during the course of membership. The Managing Director will determine if a change in interests will affect that member's term.
 - (v) Where a member who has an interest described in subsection 5(j)(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.

6. MANAGEMENT MEASURES

6.1 Catch Limits

- a) A Total Allowable Catch (TAC) may only be set for each separate LRFF species stock in each fishery management area if enough information is available to make that assessment and after taking into consideration the 'precautionary approach'. TACs must also factor-in non-target by-catch and feed fish species to ensure that they also are not negatively impacted as a result of the LRFF fishery. Given the multi-species composition of the LRFF fishery and the current limited knowledge of the LRFF species and stocks, it is not possible to establish an overall TAC for the LRFF fishery.
- b) If a TAC is set for a specific LRFF species in a specific fishery management area, and that TAC is approached, LRFF fishing will cease for that fishery management area, and will remain closed until further assessments can be conducted and a revised TAC is established.
- c) In areas where TACs cannot be established due to a lack of adequate information, NFA shall reserve the right to cease LRFF operations in any fishery management areas if there is

anecdotal or scientific evidence of significant declines in LRFF stocks, non target by-catch and feed fish species, and must take into consideration the 'precautionary approach'.

6.2 Fishing Methods

Fishing for live reef food fish shall be restricted to hand-lining only, the use of traps, nets, cyanide, other noxious substances, naturally derived fish poisons and any other methods are prohibited. The use of hookah and SCUBA for the capture of LRFF species, non-target by-catch and feed fish species is prohibited.

6.3 Restrictions

- a) Export by the licensee of LRFF species of sizes less than the approved size limit as in schedule 2 is prohibited.
- b) Fishing for LRFF species, non-target by-catch and feed fish species within or adjacent to declared spawning aggregation sites is prohibited. These areas should be clearly defined by the use of Global Positioning System (GPS) coordinates.
- c) Fishing for LRFF species, non-target by-catch and feed fish species in any traditionally closed marine areas (including Locally Managed Marine Areas) or areas of cultural importance identified by traditional resource owners and the wider community is prohibited.
- d) Fishing for LRFF species, non-target by-catch and feed fish species within or adjacent to known recreational diving spots is prohibited. These areas should also be clearly defined by the use of GPS coordinates.
- e) Fishing for LRFF species within the Torres Strait Protected Zone is prohibited.
- f) Fishing for LRFF species shall be restricted to resource owners only, employing hand-lining fishing methods as specified in sub-section 6.2.
- g) The use, storage and transportation of explosives, noxious substances (including cyanide, chemicals, bleach and naturally derived fish poisons in any form) for the purpose of killing, stunning, rendering disabled or capturing of LRFF species, non-target by-catch and feed fish species is prohibited.
- h) The use of hookah gear and SCUBA for capturing LRFF species, non-target by-catch and feed fish species is prohibited.
- i) Feeding diseased fish to fish kept in cages is prohibited.

6.4 Areas of operation

- a) The NFA or their delegated deputies at Provincial and District Fisheries Offices will, in consultation with traditional resource owners and the LRFF operator, demarcate specific fishery management areas using GPS coordinates and submit a map of proposed operations along with written approval from the traditional resource owners. This approval shall require the majority consent of the entire community where the traditional resources owners reside.
- b) The NFA shall require 'area specific management guidelines' as part of the licensing conditions. These conditions shall include:
 - (i) Spawning aggregation sites identified by NFA or their delegated deputies at Provincial and District Fisheries Offices in consultation with traditional resource owners will be declared as prohibited areas for fishing or other related activities as per sub-section 6.3 (b).
 - (ii) Any traditional closed marine areas (including Locally Managed Marine Areas) or areas of cultural importance identified by traditional resource owners and the wider community shall be designated as no fishing zones as per sub-section 6.3 (c).

- (iii) Specified fishing arrangements, patterns and intensity as approved by traditional resource owners and their wider community for the fishery management areas.
 - (iv) Any TAC for specific LRFF stocks for a given fishery management area, but only if this can be determined as per sub-section 6.1 (a).
 - (v) Any closed seasons and/or closed areas.
- c) NFA or their delegated deputies at Provincial and District Fisheries Offices in consultation with traditional resource owners shall require specific areas in the fishery management areas to be closed to fishing, as it considers necessary for the health of the LRFF stocks, non-target by-catch and feed fish species, and/or environment as per sub-section 6.1 (c).

6.5 Licensing

- a) Under this plan, the following licences are applicable;
- (i) Buyers.
 - (ii) Export.
 - (iii) Aquaculture.
 - (iv) Carrier vessel.
 - (v) Storage facility.

6.6 Licensing Procedures

- a) Licensing fees as set out in 6.5 (a) will be charged at the rates as prescribed in schedule 1 of the *Fisheries Management Regulation 2000*.
- b) Under this national management plan, only three (3) operators will be issued licenses. The total number of operators is subject to review by the NMAC as necessary.
- c) Performance Bonds as per the Fisheries Management Regulations 2000 (Section 12) will be applied to all license holders, set at a specified standard rate to be determined by the NMAC.

6.7 Holding

- a) The LRFF operator shall be allowed one station with a series of fish holding cages not exceeding 20 in number for each fishery management area.
- b) Each fish holding cage shall have minimum dimensions of three meters wide by three meters wide by four meters deep (3 m x 3 m x 4 m).
- c) Fish holding cages shall be located in water deeper than five (5) metres.
- d) Fish holding cages shall be located at a distance of at least 20 metres away from any land base.
- e) Fish holding cages shall be located in areas that have constantly prevailing and circulating water.
- f) LRFF stocking density per fish holding cage shall not exceed eight (8) fish per cubic metre (m³).
- g) A quarantine cage shall be constructed separately from fish holding cages for keeping diseased fish for observer and quarantine purposes. All diseased fish shall be removed from the holding cages immediately and once dead must be cremated or buried.
- h) The NFA may require the operator to move fish cages to locations it considers more suitable if measures set out in (c), (d) and (e) have not been met.
- i) For transshipment purposes, fish holding cages may be towed to one fishery management area

only upon receipt of written approval from the Managing Director at least 14 days prior to actual transshipment.

- j) In an event a LRFF operator wishes to cease operation in a given fishery management area, all gear and equipment used for LRFF fishing and other related activities shall be taken away or disposed of in an environmentally friendly manner.

6.7 Stock Monitoring

NFA or their delegated deputies at Provincial and District Fisheries Offices shall determine the percentage of observer coverage required for each fishery management area. Where possible, traditional resource owners and other community members should be trained to fulfil some observer requirements. The LRFF operator is required to cooperate with observers at all times in all aspects of sampling and monitoring. The costs of observers are the responsibility of the LRFF operator.

6.8 Reporting

- a) The LRFF operator shall report to NFA or their delegated deputies at Provincial and District Fisheries Offices, the following information as set out in the form in Schedule 2. Upon request, this information will be provided to community leaders through NFA or their delegated deputies at Provincial and District Fisheries Offices.:
 - (i) All LRFF and non-target by-catch fish identified using standard species names as per identification guide and list in Schedule 1.
 - (ii) The length (cm) and weight (kg) of each fish.
 - (iii) How much it was bought for in kina (PGK).
 - (iv) When it was bought and when and where it was caught. The location of where LRFF and non-target by-catch fish should be identified on an accompanying map as per sub-section 6.4 (a).
- b) The licensee shall keep daily records of LRFF mortalities post-capture and in fish holding cages, including reasonable attempts to specify the cause of death. This information will be submitted upon request by NFA or their delegated deputies at Provincial and District Fisheries Offices. Upon request, this information will be provided to community leaders through NFA or their delegated deputies at Provincial and District Fisheries Offices.
- c) Licensee shall report to NFA or their delegated deputies at Provincial and District Fisheries Offices each time LRFF are to be exported, detailing the species, weight in kilograms (kg) and value in US dollars (USD). 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. Upon request, this information will be provided to community leaders through NFA or their delegated deputies at Provincial and District Fisheries Offices.
- 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 or their delegated deputies at Provincial and District Fisheries Offices.
- 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*.

7. CUSTOMARY RIGHTS

Special consideration shall be given to avoid any adverse impacts on traditional resource owners and their communities in accordance with Section 26 of the *Fisheries Management Act 1998*, directing that the rights of customary owners of fisheries resources and fishing rights, shall be fully recognized and

respected in all transactions affecting the marine resources or the fishery management area in which the right is exercised. Any existing customary management measures are recognised by the NFA as per sub-section 6.4 (b) (iii) and (v).

8. AMENDMENTS

The national management plan will be reviewed by the NMAC at the direction of the Managing Director at least every three (3) years or at such earlier time as the Managing Director shall direct as per Section 5 (e).

9. RESEARCH

To ensure that the LRFF fishery in fisheries management areas is biologically, socially, economically and environmentally viable; the NFA, Provincial Government agencies or communities should, where feasible, pursue partnerships with relevant persons and reputable organisations within or outside PNG as per Objective (e) to:

- (i) Conduct baseline surveys for the purpose of assessing LRFF, non-target by-catch and feed fish stocks.
- (ii) Determine spawning aggregation sites and their status.
- (iii) Sample specific areas according to an agreed sampling protocol to enable the collection of a time series of fishery-dependent information, which can be examined to determine harvest impacts within these areas. This can also be used to assess the ecological impact of LRFF fishing on LRFF stocks, non-target by-catch and feed fish species.
- (iv) Assess the socio-economic impacts and/or benefits of the LRFF fishery on traditional resource owners and their communities.
- (v) Develop research in association with NFA's Institute of Sustainable Marine Resources and interested private sector partners to acquire the needed information for mariculture initiatives focusing on LRFF species in high demand within the LRFF trade.

Approved this.....day of.....2010

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HON. BEN SEMRI MP.

MINISTER FOR FISHERIES AND MARINE RESOURCES