



# National Gazette

*PUBLISHED BY AUTHORITY*

(Registered at the General Post Office, Port Moresby, for transmission by post as a Qualified Publication)

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No. G436]      PORT MORESBY, THURSDAY, 25th SEPTEMBER      [2014

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# **NATIONAL TUNA FISHERY MANAGEMENT AND DEVELOPMENT PLAN**

*Fisheries Management Act 1998.*

PART 1  
Tuna Fishery Management

Certified on: 25th September, 2014

I the Honourable Mao Zeming, 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 give notice of my approval of Part 1 of the National Tuna Fishery Management and Development Plan.

This document is to be read in conjunction with:

- (i) the Fisheries Management Act 1998,
- (ii) any associated subordinate legislation,
- (iii) Part 2 of this Plan when approved,
- (iv) any annexures published in accordance with this Plan,
- (v) any relevant licensing guidelines and conditions, and
- (vi) any relevant policies or procedures published by the National Fisheries Authority,
- (vii) all as amended from time to time

Part 1 of the National Tuna Fishery Management and Development Plan constitutes a Management Plan (the plan) in accordance with section 28 of the Fisheries Management Act 1998, and supersedes any previous tuna management plan. General provisions of the plan take effect immediately upon Gazettal. New provisions of the plan take effect from 1 January 2014.

This document shall be taken to continue in force and to apply under any new legislation as applicable. These documents and others as appropriate and relevant together form the entire National Tuna Fishery Management and Development Plan.

## ABBREVIATIONS RELEVANT TO THIS PLAN

ALC	-	Automatic Location Communicator
AW	-	Archipelagic Waters
CDS	-	Catch Documentation Scheme
CPUE	-	Catch Per Unit of Effort
CMM	-	Conservation and Management Measure
DCI	-	Department of Commerce and Industry
DNPM	-	Department of National Planning and Monitoring
DWFN	-	Distant Water Fishing Nation
EEZ	-	Exclusive Economic Zone
FAD	-	Fish Aggregating Device
dFAD	-	Drifting FAD
aFAD	-	Anchored FAD
iFAD	-	Inshore FAD
FFA	-	Forum Fisheries Agency
FIMS	-	Fisheries Information Management System
FSMA	-	Federated States of Micronesia Arrangement
FTE	-	Full Time Equivalent
HCR	-	Harvest Control Rule
IUU	-	Illegal Unreported and Unregulated (Fishing)
LOA	-	Length Overall
LRP	-	Limit Reference Point
MARPOL	-	International Convention for the Prevention of Pollution from Ships
MT	-	Metric Tonne
NFA	-	PNG National Fisheries Authority
NFD	-	Non Fishing Day
NPOA	-	National Plan of Action
PLDS	-	Papua New Guinea Longline Day Scheme
PNA	-	Parties to the Nauru Agreement
PAE	-	Party Allowable Effort
PNG	-	Papua New Guinea
PNGFMA	-	Papua New Guinea Fisheries Management Area
PSVDS	-	Purse Seine Vessel Day Scheme
SPC	-	Secretariat of the Pacific Community
TRP	-	Target Reference Point
TAE	-	Total Allowable Effort
UNCLOS	-	United Nations Convention on the Law of the Sea
UNFSA	-	United Nations Fish Stocks Agreement
USMLT	-	United States (of America) Multilateral Treaty
VDS	-	Vessel Day Scheme
VMS	-	Vessel Monitoring System
WCPFC	-	Western and Central Pacific Fisheries Commission

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## PRELIMINARY INFORMATION

### 1. Introduction

- (1) Papua New Guinea's tuna fisheries are valuable, renewable natural resources and are an important source of current and future employment, food security and government revenue.
- (2) This National Tuna Fishery Management and Development Plan is designed to guide future management and development of tuna fisheries to achieve the overall goals of the PNG Government, including the National Goals and Directive Principles that urge the nation's fisheries resources to be managed in a manner which will maximise Papua New Guinea's participation through the wise use and sustainable development of the fisheries resource.

### 2. Citation

- (1) This Plan shall be cited as the NATIONAL TUNA FISHERY MANAGEMENT AND DEVELOPMENT PLAN

### 3. Statement of Intent

- (1) This National Tuna Fishery Management and Development Plan (this Plan) is made in accordance with the provisions of the Fisheries Management Act 1998 (as amended), and Fisheries Management Regulation 2000 (as amended), and will give effect to Papua New Guinea's development aspirations whilst meeting obligations and commitments under national law, international law, and regional agreements.
- (2) The Plan aims to ensure Papua New Guinea:
  - (a) Manages its tuna fishery in a sustainable manner, taking into account the best available scientific advice, catch, effort, economic, industry and social issues.
  - (b) Maximises the economic and social benefits from the sustainable use of its tuna resources.
  - (c) Strives to achieve the highest levels of compliance

### 4. How this Plan works

- (1) The National Tuna Fishery Management and Development Plan is established in accordance with government policy and Papua New Guinea's international commitments. It is presented in two sections:
  - (a) Part 1 of the Plan relates to tuna fishery management.
  - (b) Part 2 of the Plan relates to tuna fishery development.
- (2) Each Section can be regarded as a stand-alone document which can be updated, replaced or deleted as required. Each section may contain Annexures which shall be reviewed and updated as required.
- (3) Annexures to this Plan may contain policies, procedures, guidelines, priorities, data, fees, any other decision made under this Plan, and other relevant information that may be required or form part of this Plan.
- (4) Annexures shall be established or updated by a decision of the Board as specified in the Plan.
- (5) Annexures may be established or updated by the Managing Director but only where specified in the Plan and which relate only to administrative matters and only as provided for in the following clauses of this Plan:
  - (a) Clause 10(2) relating to publication of supporting strategies, action statements, or progress monitoring milestones.
  - (b) Clause 11(5) relating to publication of annual catch and effort statistics.
  - (c) Clause 15(6) relating to publication of details of vessels licensed under the plan.
  - (d) Clause 26(2)(1) relating to publication of charts, maps or other illustration, including coordinates, of fishery closures.
- (6) Any matter to be considered by the Board under this Plan shall be the subject of a Board paper and shall contain a recommendation from the Managing Director.
- (7) Where the Board makes a decision other than in accordance with a recommendation of the Managing Director the minutes of the Board meeting shall provide an explanation.

- (8) All annexures shall be published in the National Gazette as soon as practical after a decision is made, and made available through the NFA website or public notice through a newspaper with national distribution or through direct communication to affected stakeholders.
- (9) Annexures remain in effect until they expire or are otherwise replaced.
- (10) The addition or amendment of an annexure to this Plan does not constitute an amendment to this Plan under section 28(5) of the Act.
- (11) The provisions of any annexure come into effect from the date of publication or such other later date as specified in the annexure.
- (12) In implementing this plan, the Board may approve transitional arrangements, in particular with regards to the phased reflagging of fishing vessels.
- (13) In the event of changes to legislation or other documents referred to in this plan, the relevant provisions of this Plan are preserved under the provisions referred to before they were amended other than where specified in those amendments or approved by the Board.

#### 5. Review of this Plan

- (1) In accordance with the Act, this Plan shall be kept under review and shall be revised as necessary.
- (2) In particular the Plan shall be updated as necessary to conform with the Government's Medium Term Development Plan and the National Fisheries Authority Corporate Plan, as well as regional and international obligations and agreements, and revised as necessary.
- (3) Where any amendment to any regional or international instrument is approved by the Minister or Government not further approval shall be required before this Plan is amended and published in the *National Gazette*.

#### 6. Scope of this Plan

- (1) This Plan applies to all tuna fishing, tuna catch, associated bycatch, transshipment and other handling of catch, processing of catch, marketing of catch, and export of catch, from the fishery management area, unless specifically excluded, and includes applicable regulatory provisions.
- (2) This Plan and all tuna fishing in the fishery management area is subject to the provisions of the *Fisheries Management Act 1998* and any relevant subordinate legislation. This includes definitions contained therein, and relevant licensing provisions.
- (3) This Plan and all tuna fishing in the PNG fisheries management area is subject to and taken to include:
  - (a) PNG's obligations under international legal instruments to which PNG is a signatory.
  - (b) Regional and sub-regional agreements and arrangements to which PNG is a party.
  - (c) Conservation and Management Measures (CMMs) of the Western and Central Pacific Fisheries Commissions.
  - (d) Relevant provisions of any National Plan of Action (NPOA).

#### 7. Approval of this Plan

- (1) Part 1 of the Plan will take effect on the 1st January, 2015 after it has been endorsed by the Board, approved by the Minister, and published in the *National Gazette*.
- (2) Part 2 of the Plan will take effect after it has been endorsed by the Board, approved by the Minister, and published in the *National Gazette*.
- (3) Administrative amendments, removal of inconsistent provisions, and other such machinery changes that do not have the effect of revising the aims, objectives or policy intent of the Plan do not constitute a revision of the Plan under section 28(5) of the Act and may be approved by the Board but must be published in the *National Gazette* and updated on the NFA website.



### 8. Provisions of this Plan taken to be a licence condition

- (1) The provisions of this Plan are taken to be a licence condition and are applicable to any licence issued for tuna fishing under the provisions of the Fisheries Management Act 1998 and associated subordinate legislation.

### 9. Breaches of this Plan

- (1) Any breach of a provision of this Plan shall be taken to be a breach of licence condition.

## INTERPRETATION

### 10. Definitions

- (1) In this Plan, unless the contrary appears, each word or group of words has the same meaning and definition, if any, as it has in the Act, except where this differs as provided below:
  - (a) “Access Agreement” means any agreement between any State, regional economic integration organisation, any fishing association or similar body, a publicly incorporated company, or an individual.
  - (b) “Access Fee” means any sum of money paid for access to the tuna fishery by any State, regional economic integration organisation, any fishing association or similar body under any access agreement or in accordance with any licence.
  - (c) “Act” means the Fisheries Management Act 1998 as amended.
  - (d) “Bunkering” means the transfer of fuel, and associated supplies.
  - (e) “By-Catch” means all non-target fish whether retained and sold or discarded.
  - (f) “Conservation and Management Measure (CMM)” in this Plan means any CMM of the Western and Central Pacific Fisheries Commission.
  - (g) “Distant Water Fishing Nation (DWFN)” means any State whose flagged vessels fish in the PNG fishery management area under the terms of an access agreement.
  - (h) “Ecosystem Approach to Fisheries Management” means striving to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries.
  - (i) “E-monitoring” means any form of electronic monitoring of fishing activity, fishing related activity, and observer activity.
  - (j) “E-monitoring video” means the use of cameras to capture images and sensors to record data, associated with fishing operations and related activities.
  - (k) “E-reporting” means the use of electronic equipment to capture and store data related to catch, fishing activity, fishing related activity, and observer activity.
  - (l) “Fishery Reference Point” is “a benchmark against which to assess the performance of management in achieving an operational objective” as stated in FAO 1997.
  - (m) “Fishery Management Area” means the geographical area or any sub area to which this Plan relates which includes the exclusive economic zone, archipelagic waters, territorial waters, and internal waters:
    - (i) “Archipelagic Waters” means the area of water as defined in the *National Seas Act 1977*.
    - (ii) “Exclusive Economic Zone” means offshore seas as defined in the *National Seas Act 1977*.
    - (iii) “Six - Mile Limit” means that sea area within six (6) miles of any land, island or declared reef.
    - (iv) “Territorial Sea” means that sea area within twelve (12) miles from the Territorial Sea baseline, as defined in the *National Seas Act 1977*.
  - (n) “Fresh Chilled Operation” means a fishing operation which stores tuna in ice or chilled water at not lower than minus 4 °C and where the tuna are fresh chilled and not frozen.

- (o) “Freezer Operation” means a fishing operation that stores tuna below minus 4°C and where the tuna are frozen.
- (p) “Good Standing” means that a vessel is included on any relevant register, or in the case of a domestic vessel does not have an adverse compliance record as determined by the Managing Director. Any vessel included on any IUU list of any RFMO shall be regarded as not in goodstanding.
- (q) “Harvest Control Rules” means a set of well defined pre-agreed rules or actions used for determining a management action in response to changes in indicators of stock status with respect to reference points.
- (r) “Locally-Based Foreign Fishing Vessel (LBFV)” means a chartered foreign fishing vessel which operates from Papua New Guinea during its licensing period.
- (s) “Longline Fishing Day” means any day or part thereof taken from the date of departure from any port until the date of arrival in any port and which shall constitute a single trip; or the date of entry into the PNG fishery management area until the date of departure from the PNG fishery management area which shall constitute a single trip and where any departure and reentry for a period less than 48 hours shall be regarded as the same trip.
- (t) “Management measures” means any measure introduced to give effect to the aims and objectives of this Plan, and may include national, regional and sub-regional arrangements and agreements.
- (u) “Mothership” means a marine vessel, which has the capability to receive, carry and store tuna, to supply catcher vessels with the requisites for fishing, and to transport catches from fishing vessels at the fishing ground to a port of operation in Papua New Guinea.
- (v) “Non-fishing day” has the same definition as agreed for the PNA VDS and shall apply to both the EEZ and archipelagic waters.
- (w) “Papua New Guinea Longline Days Scheme (PLDS)” means the longline effort control scheme implemented under this Plan.
- (x) “Precautionary Approach” means the application of prudent foresight. Taking account of the uncertainties in fisheries systems, and the need to take action with incomplete knowledge, it requires, inter alia:
  - (i) consideration of the needs of future generations and avoidance of changes that are not potentially reversible;
  - (ii) prior identification of undesirable outcomes and measures that will promptly avoid or correct them;
  - (iii) that any necessary corrective measures are initiated without delay, and that they should achieve their purpose promptly, on a timescale not exceeding two or three decades;
  - (iv) that where the likely impact of resource use is uncertain, priority should be given to conserving the productive capacity of the resource;
  - (v) that harvesting and processing capacity should be commensurate with estimated sustainable levels of resource and that increases in capacity should be further constrained when resource productivity is highly uncertain;
  - (vi) all fishing activities must have prior management authorization and be subject to periodic review;
  - (vii) an established legal and institutional framework for fishery management, within which management plans that implement the above points are instituted for each fishery, and
  - (viii) appropriate placement of the burden of proof by adhering to the requirements above.
- (y) “Purse Seine Fishing Day” has the same definition as agreed for the PNA VDS and shall apply to both the EEZ and archipelagic waters other than where varied by this Plan.
- (z) “Purse Seine Non-Fishing Day” has the same definition as agreed for the PNA VDS and shall apply to both the EEZ and archipelagic waters other than where varied by this Plan.

- (aa) “National Tuna Fishery Management and Development Plan” means this Plan and includes a reference herein to either the Plan or this Plan.
- (bb) “Tuna Stock” means a discrete breeding population of a particular tuna species.
- (cc) “Vessel Day Scheme” means the Vessel Day Scheme implemented under the Palau Arrangement.

## PART 1: TUNA FISHERY MANAGEMENT PLAN - FRAMEWORK

### Division 1- *Objectives of the Plan*

#### 11. Objectives of the Plan

- (1) To achieve the aims of this Plan the following objectives have been identified:
  - (a) Increased domestication of tuna industries.
  - (b) Building fisheries businesses.
  - (c) Improved fisheries access agreements.
  - (d) Enhanced regional cooperative arrangements.
  - (e) Increased social benefits.
  - (f) Improved harvest strategies.
  - (g) Increased market and trade opportunities.
  - (h) Sustainability certification and price premiums.
  - (i) Increased control over fishing in PNG fisheries management area.
  - (j) Increased use of rights based approaches.
  - (k) Increased capacity to realize commercial opportunities.
  - (l) Actively combat IUU activities.
  - (m) Implement a full and thorough CDS regime.
  - (n) Apply technology and tools for comprehensive near real time management.
  - (o) Implement user pays policy to cost recover management.
  - (p) Provide direct and indirect opportunities to the PNG population to both participate in, and benefit from, economic development.
- (2) These objectives guide this Plan and are given effect to through this Plan. These objectives may be subject to any further supporting strategies, action statement, or progress monitoring milestones published by NFA as an annexure to this Plan.

### Division 2- *Description of the tuna resource*

#### 12. PNG's tuna resources

- (1) The tuna fishery is Papua New Guinea's largest fishery, and one of the largest fisheries in the world. The species upon which the fishery relies are part of a broader regional fishery which targets the highly migratory tuna species of the Western and Central Pacific Ocean (WCPO).
- (2) The tuna species of principal interest in the fishery are the offshore tunas, which include skipjack tuna (*Katsuwonus pelamis*) yellowfin tuna (*Thunnus albacares*) bigeye tuna (*Thunnus obesus*) and albacore tuna (*Thunnus alalunga*).
- (3) Full details of current tuna catches are provided each year to SPC. Relevant details are made available through individual member countries' annual reports of catch estimates to the Scientific Committee of the WCPFC, and the WCPFC Tuna Fishery Yearbook. These reports are freely available from the Commission's website. The yearbook presents annual catch estimates in the WCPFC Statistical Area from 1950.

- (4) Catch statistics cover the main commercial tuna and billfish species caught in the region including:
  - (a) Albacore (*Thunnus alalunga*).
  - (b) Bigeye (*Thunnus obesus*).
  - (c) Skipjack (*Katsuwonus pelamis*).
  - (d) Yellowfin (*Thunnus albacares*).
  - (e) Black marlin (*Makaira indica*).
  - (f) Blue marlin (*Makaira nigricans*).
  - (g) Striped marlin (*Tetrapturus audax*).
  - (h) Swordfish (*Xiphias gladius*).
- (5) Further catch and effort statistics, including non tuna species, may be provided by NFA.
- (6) Tuna production
  - (a) Between 20% and 30% of regional tuna production comes from PNG.
  - (b) In terms of skipjack, the WCPO region's catch represents about 70% of the global skipjack catch.
  - (c) The PNA catch of skipjack is about 70% of the regional catch, which in turn represents 50 % of global catch.
  - (d) PNG is typically up to 50% of the regional skipjack catch.
  - (e) This translates to up to 25% of global skipjack catch coming from the fishery management area.
- (7) The PNG component of the tuna fishery is therefore of major significance. The PNG fisheries management area is highly productive when compared to other tropical waters in the region, and offers a year round fishery. This is because it is influenced by localized upwelling associated with large number of islands, reefs, continental shelf and seamounts, also periodic extensions of the equatorial upwelling, seasonal monsoon upwelling and current reversals along the Papua New Guinea north coast, and nutrient run-off from the high-rainfall landmass.

### 13. Key tuna species

- (1) Skipjack tuna
  - (a) Skipjack are a surface-schooling tuna which are easily distinguished from other species of tuna due to their small size, small dark pectoral fins and three to six distinct dark longitudinal lines (stripes). It is found year-round concentrated in warmer tropical waters of the WCPO, with that distribution expanding seasonally into subtropical waters to the north and south. Skipjack are caught mainly on the surface by purse seine and pole-and-line gear and are used for producing canned tuna.
  - (b) The typical capture size for skipjack is between 40 and 70cm, corresponding to fish between one and three years of age, with very few captured fish exceeding 80cm. However, rare records of skipjack over 100cm and weighing more than 30kg have been reported historically.
  - (c) Skipjack tuna is a fast growing species (reaching 42-45cm within its first year), are relatively short-lived (few live longer than 3 - 4 years) and mature early (~ 1 years of age). These biological characteristics promote rapid turnover in skipjack populations.
  - (d) Skipjack are also highly fecund and can spawn year round over a wide area of the tropical and subtropical Pacific. Environmental conditions are believed to significantly influence recruitment and can produce widely varying recruitment levels between years.
  - (e) In the Western and Central Pacific Ocean (WCPO), the biomass of skipjack tuna is very large and estimated to exceed that of the other three main tuna species combined. It is assumed that skipjack in the WCPO is a separate population (for stock assessment and management purposes) to those in the eastern Pacific.

- (f) The most recent stock assessment for skipjack tuna was completed in 2011 (WCPFC Scientific Committee 7th Regular Session - WCPFC-SC7-2011/SA-WP-04). The assessment concluded overfishing of skipjack is not occurring nor is the stock in an overfished state. Skipjack is currently exploited at a moderate level relevant to its biological potential.
- (2) Yellowfin tuna
- (a) Yellowfin tuna are a relatively large tuna, easily distinguished as adults by their large second dorsal and anal fins which, along with finlets, are typically bright yellow. However, they can be less easy to distinguish from other tuna (like bigeye) as juveniles (<70cm). Yellowfin tuna are distributed throughout the tropical and sub-equatorial waters of the WCPO, and typically spend most of their time in the warmer mixed surface waters (above the thermocline). Small yellowfin are caught on the surface by a range of gears including handline, ringnet, purse seine and pole/line gear and are used mainly for canning, while the majority of larger/older fish are caught by both purse seine and longline fisheries, with the longline catch often shipped fresh to overseas markets.
- (b) The typical capture size for yellowfin shows two distinct modes in the WCPO, being 20 to 70cm (ringnet, handline, purse seine, pole and line) which corresponds to fish between approximately 3 months and 1.5 years of age, and between 90 and 160cm (purse seine, longline), corresponding to fish mostly between 1.5 and 6-7 years of age. Very few captured fish exceed 180cm or x kg.
- (c) Yellowfin tuna is a fast growing species (reaching > 45cm within its first year), have a life span of up to ~7 years of age and mature around 2-3 years of age. These biological characteristics promote moderate turnover in yellowfin populations.
- (d) Yellowfin are highly fecund and can spawn year round over a wide area of the tropical and subtropical Pacific, providing environmental conditions (such as water temperature) are suitable. As with many tropical tuna species, environmental conditions are believed to significantly influence recruitment levels over time.
- (e) For stock assessment purposes, yellowfin tuna are believed to constitute a single stock in the WCPO.
- (f) The most recent stock assessment for yellowfin tuna was completed in 2011 (WCPFC Scientific Committee 7th Regular Session - WCPFC-SC7-2011/SA- WP-03). The assessment concluded overfishing is not occurring and the stock is not overfished.
- (3) Bigeye tuna
- (a) Bigeye tuna are among the largest of tuna species and are distinguished as adults by their body depth, colouring (iridescent blue longitudinal band) and smaller anal and dorsal fins (relative to yellowfin). However, they are more difficult to distinguish from yellowfin tuna as juveniles (~50cm).
- (b) In the WCPO, bigeye tuna have a relatively broad distribution, both geographically between 40°N and 40°S, and vertically between the surface and 500 m deep (occasionally to 1000 m) due to their tolerance of low oxygen levels and low temperatures. In the tropical and subtropical waters or the WCPO, adult bigeye migrate from cooler deeper waters (beneath the thermocline) where they live during the day to shallower warmer waters (above the thermocline) at night. Juvenile bigeye tend to inhabit shallower waters and can form mixed schools with skipjack and yellowfin, which results in catches by the surface fishery, particularly in association with floating objects.
- (c) In the WCPO, smaller bigeye are caught on the surface by a range of gears including handline, ringnet and purse seine and are used mainly for canning, while the majority of larger/older fish are caught by longline fisheries. While bigeye tuna account for a relatively small proportion of the total Japanese market); their economic value probably exceeds US\$1 billion annually.
- (d) The typical capture size for bigeye shows two distinct modes in the WCPO, being 20 to 75cm (ringnet, handline, purse seine) which corresponds to fish between 3 months and 1.7 years of age, and between 100 and 180cm (mostly caught by longline), corresponding to fish between 2 and 10 years of age. Very few captured fish exceed 200cm or 120 kg.

<sup>1</sup> Acknowledgement for text to SPC OFP website. Stock assessments for review during 2014

- (e) Bigeye tuna grow more slowly than either yellowfin or skipjack, reaching around 40cm after one year, have a longer lifespan (at least 12 years) and mature later (around 3-4 years of age). Natural mortality is estimated to be relatively low compared with other tropical species. These biological characteristics promote only moderate turnover in bigeye populations, and, in combination with their susceptibility to multiple gear types throughout their lifespan, make bigeye tuna less resilient to exploitation than more productive species like skipjack. The bigeye biomass is estimated to be significantly smaller than those of yellowfin and skipjack in the WCPO.
- (f) Like yellowfin, bigeye tuna are highly fecund and can spawn year round over a wide area of the tropical and subtropical Pacific, providing environmental conditions (such as water temperature) are suitable. As with many tropical tuna species, environmental conditions are believed to significantly influence recruitment levels over time.
- (g) For stock assessment purposes, bigeye tuna are believed to constitute a single stock in the WCPO.
- (h) The most recent stock assessment for bigeye tuna was completed in 2011 (WCPFC Scientific Committee 7th Regular Session - WCPFC-SC7-2011/SA- WP-02). The assessment concluded overfishing is occurring, and that current levels of catch are unlikely to be sustainable in the long term. The conclusion is that the stock is approaching a state where it is overfished.

#### 14. Possible adverse environmental effects, and Conservation and Management Measures

- (1) The key tuna fisheries in the fishery management area involve purse seine nets and longlines. Neither of these fishing methods is known to have a significant or adverse environmental impact on benthic ecosystems. The key potential for adverse environmental impact from fishing is upon target and non-target pelagic species, including sharks, turtles, sea birds, and marine mammals.
- (2) The potential to overexploit target fish stocks is ever present. Whilst the trend across the fishery has been for the catch of all target species to progressively increase, no target species is considered to be overfished.
- (3) CMMs have been adopted by the WCPFC across the region to mitigate adverse impacts for target and non target species. PNG is a WCPFC member and fully endorses these measures.
- (4) CMM 2013-01 specifically deals with the target species in this Plan, namely skipjack, bigeye and yellowfin tuna.
- (5) CMM 2013-01 introduces a range of compatible measures for the high seas and exclusive economic zones (EEZs) so that bigeye, yellowfin and skipjack tuna stocks are, at a minimum, maintained at levels capable of producing their maximum sustainable yield as qualified by relevant environmental and economic factors including the special requirements of developing States in the Convention Area as expressed by Article 5 of the Convention. Specifically the measure states:
  - (a) The Fishing Mortality Rate (F) for skipjack will be maintained at a level no greater than  $F_{msy}$ , i.e.  $F/F_{msy} \leq 1$ .
  - (b) The fishing mortality rate for bigeye tuna will be reduced to a level no greater than  $F_{msy}$ , i.e.  $F/F_{msy} \leq 1$ . This objective shall be achieved through step by step approach through to 2017 in accordance with this Measure.
  - (c) The fishing mortality rate for yellowfin tuna is not greater than  $F_{msy}$ , i.e.  $F/F_{msy} \leq 1$
- (6) Under this Plan PNG is contributing to the collective regional effort to ensure bigeye tuna does not become overfished.

#### Division 3- *Management of the tuna fishery*

#### 15. Tuna management tools, agreements, and strategies

- (1) The implementation of this Plan shall, as appropriate, take into account and utilize several tools for the purpose of tuna fisheries conservation and management, including combating of illegal unregulated and unreported fishing (IUU), food safety standards, and food security at the national level, which shall include the following as applicable:

- (a) Fisheries Access Agreements.
- (b) Precautionary approach to Fisheries Management.
- (c) Ecosystem approach to fisheries management.
- (d) Area and time specific restrictions.
- (e) Reference points and harvest control rules.
- (f) Vessel licensing.
- (g) Vessel registration.
- (h) Control of fishing effort.
- (i) By-catch utilization.
- (j) Domestication policies.
- (k) FAD management.
- (l) Cost recovery.
- (m) Closed, restricted or prohibited areas.
- (n) National and regional tuna research and monitoring.
- (o) Scientific research.
- (p) Monitoring, control and surveillance.
- (q) Electronic reporting and monitoring.
- (r) Information management systems.
- (s) Catch traceability systems including CDS.
- (t) Regional and international agreements, treaties and obligations.
- (u) Bilateral and multilateral memorandums of understanding.
- (v) Sanitary and phytosanitary standards (SPS).
- (w) Port state inspections.

#### 16. Licensing

- (1) All vessels involved in the tuna fishery and associated operations (which may include game fisheries and artisanal fisheries) shall be licensed in accordance with the Fishery Management Act 1998.
- (2) No vessel may be licensed to fish under this Plan unless it is in good standing.
- (3) When considering an application to licence a vessel, the NFA may have regard to any history of non-compliance in any fishery.
- (4) No vessel shall be licensed unless eligible to fish under this Plan.
- (5) Licences issued prior to the gazettal of this Plan shall continue in force under existing conditions until 31 December 2014. Any licence issued after the date of gazettal shall be issued subject to this Plan. All provisions of this Plan shall apply to all licences from 1 January 2015.
- (6) NFA will prepare a summary of the details of all vessels licensed under the Plan which shall be published as an annexure to this Plan and which shall be updated on at least two occasions each year.

#### 17. Records

- (1) Under this Plan any licence holder shall supply records, returns and other information as required.

#### 18. Regional tuna fisheries management arrangements

- (1) International laws and conventions provide the foundation for several regional and multilateral arrangements in respect to tuna fisheries management in the Western and Central Pacific Ocean.

- (2) The United Nations Law of the Sea Convention (UNCLOS) provides coastal states with the power exercise control over fisheries management and harvest within a 200 mile Exclusive Economic Zone (EEZ) with recognition of sovereignty in regards to territorial seas, internal waters, and archipelagic waters.
- (3) Regional arrangements are based on international law, take account of the migratory nature of tuna species, and aim to provide the basis for collective management, optimised benefits, and sustainable use of fisheries resources.
- (4) Papua New Guinea is a signatory to the following instruments:
  - (a) Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean.
  - (b) The Nauru Agreement Concerning Cooperation in the Management of Fisheries of Common Interest (Nauru Agreement).
  - (c) Palau Arrangement for the Management of the Western Pacific Purse Seine Fishery.
  - (d) Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement in the South Pacific Region.
  - (e) Other regional and multilateral arrangements (US Treaty, FSMA).

#### 19. Regional multi-lateral agreements impacting tuna fishery management

- (1) United States Multi-Lateral Treaty (USMLT)
  - (a) All FFA members are signatories to the USMLT, a multi-lateral treaty with the US Government. The USMLT primarily provides for multilateral access to the purse seine fishery for the US purse seine fleet.
- (2) Federated States of Micronesia Arrangement (FSMA)
  - (a) The FSMA is an agreement for domestic based vessels of the PNA to access the fishing resources of other parties.
  - (b) The FSMA aims to provide access to Parties' waters on terms:
    - (i) No less favourable than those granted to distant water fishing nations.
    - (ii) That secure maximum sustainable economic benefits from tuna resources through participation.
    - (iii) That promote greater participation by nationals of Parties in fisheries & assist in development of national fisheries industries.
- (3) Review of regional multi-lateral agreements.
  - (a) PNG will keep regional multi-lateral agreements under review to ensure they provide an appropriate level of benefit.

#### 20. Fishery reference points and harvest control rules

- (1) Fishery reference points under this Plan aim to:
  - (a) Provide benchmarks against which to assess the performance of management in achieving operational objectives.
- (2) Harvest control rules under this Plan aim to:
  - (a) Define the rules or actions to be used to determine the appropriate management action in response to changes in indicators of stock status with respect to established reference points.
- (3) This Plan:
  - (a) Uses a range of rules and controls as management measures to control both total catch and effort.
  - (b) Controls total catch by maintaining fishing effort within any agreed TAE as set out for each fishery.



- (c) Aims to maintain fish stocks, on average, at an agreed level to target the biomass point required to optimize the economic yield.
  - (d) Aims to ensure fish stocks remain above a biomass level where the risk to the stock is regarded as too high to achieve the objectives of this Plan.
  - (e) Aims to ensure that fish stocks are managed to stay above the limit biomass at least 90% of the time.
- (4) Reference points are being progressively developed for components of the WCPFO's tuna fisheries.
  - (5) Under this Plan PNG shall observe any reference points established under any regional or subregional arrangement or agreement for fishing operations within its EEZ, and shall have regard to such reference points when establishing any reference points for other parts of the fishery management area.
  - (6) Under this Plan the Board may establish reference points for PNG's archipelagic and internal waters fisheries having regard to biological, social, economic, and other factors, whilst upholding principles of sustainability and the desirability for compatibility of measures.
  - (7) In the event any agreed reference point is exceeded on two or more consecutive occasions the Board shall review the provisions of this Plan with the specific goal of identifying the level of effort required to meet the agreed reference point.
  - (8) Any reference points established by the Board under this Plan shall be included as an annexure to this Plan.

#### **Division 4- Control of Fishing Effort**

##### **21. Control of purse seine fishing effort**

- (1) The purse seine fishery comprises:
  - (a) Domestic and LBFV access to archipelagic waters and the EEZ.
  - (b) DWFN access to PNG's EEZ.
  - (c) Access under multi-lateral agreements.
- (2) Purse seine effort control in the EEZ.
  - (a) Under this Plan the PNA Vessel Day Scheme (VDS) is the approved scheme for purse seine effort control in the EEZ. The VDS is a regional scheme and is administered by the PNA Office based in Majuro, Marshall Islands.
  - (b) Each year the PNA officials establish a regional Total Allowable Effort (TAE) based on a range of criteria, and having regard to WCPFC obligations.
  - (c) The TAE is allocated amongst the Parties as their individual Party Allowable Effort (PAE) after making allowance for an allocation of days to be fished by vessels operating under the US Treaty, and the FSM Arrangement.
  - (d) The PAE for PNG shall be allocated to licence holders in a manner determined by the Board and published as an annexure to this Plan.
  - (e) In the absence of any regionally agreed PAE for PNG under the VDS, the Board will establish a TAE for the PNG EEZ taking into account any applicable WCPFC CMM, historic purse seine fishing catch and effort in the EEZ, the best available scientific information, and other relevant social and economic data and information.
  - (f) When allocating fishing days, and in support of PNG's fishery development goals, priority will be given, and in priority order to:
    - (i) Domestic:
      - (a) Domestic processors (with recognition of associated infrastructure).
      - (b) Domestic landings.
      - (c) Domestic/FSM Arrangement catch transhipped in the port of a PNA Party.

- (ii) DWFN access and catch.
- (3) Purse seine effort control in archipelagic waters.
- (a) Under this Plan purse seine fishing in archipelagic waters will be subject to the Archipelagic Waters Days Scheme (AWDS).
  - (b) Under the AWDS a TAE is to be set by the Board each year having regard to the best available scientific information, relevant economic and social data and information, and in accordance with the objectives of this Plan.
  - (c) The AWDS TAE will be allocated amongst licence holders in a manner determined by the Board.
  - (d) In determining allocations, the Board may have regard to a range of factors, including but not limited to the catch and other operational history of a vessel or a group of vessels (including pioneer fishing operations and compliance history), and the objectives of this Plan (including PNG's fishery development goals).
  - (e) The Board may determine an allocation be made to processors where this is determined as being supportive of and consistent with PNG's fishery development goals.
  - (f) Any allocation is to be made on an annual basis. No annual allocation is to be taken or construed as any guarantee of any future allocation. No annual allocation may be carried forward.
  - (g) All fishing days allocated to individual vessels, or through any processors shall be a 1 year right terminating midnight 31st December each year.
    - (i) The intent of this provision is not to create a fishing right beyond one year or to support any future claim for allocations. The intent is to avoid a competitive race to fish, the so called "Olympic fishery" scenario, and will allow vessels to fish throughout the year at the times most suited to their logistical and marketing needs (without the risk of days being used by others in a pool), to make commercial decisions for their benefit, and to support a year round supply chain for processors.
  - (h) The AWDS will operate in accordance with this Plan. Domestic operational rules may be established by the board and shall be included as an annexure to this Plan.

## 22. Longline effort control

- (1) The longline fishery comprises the following sectors:
  - (a) DWFN bilateral access to PNG's EEZ, north of 10°S, targeting yellowfin and bigeye, with associated bycatch.
  - (b) Domestically based and LBFV longline operations in the fishery management area.
  - (c) Seasonal charter of LBFV by processors to target albacore.
- (2) Under this Plan longline fishing will be subject to effort control through the PNG Longline Day Scheme (PLDS).
  - (a) The PLDS will apply to all longline fishing in the fishery management area .
  - (b) Under the PLDS a TAE will be established by the Board for each sector having regard to the best available scientific information, and relevant economic and social data and information, in accordance with the objectives of this Plan, and taking into account PNG's obligations under WCPFC CMMs.
  - (c) The TAE shall be allocated to operators in a manner determined by the Board.
  - (d) In determining allocations, the Board may have regard to a range of factors, including but not limited to the catch and other operational history of a vessel or a group of vessels (including compliance history), and the objectives of this Plan (including PNG's fishery development goals).
  - (e) The Board may determine an allocation to processors where this is determined as being supportive of and consistent with PNG's fishery development goals.

<sup>2</sup> From 1st July, 2014 shark longline licences have been withdrawn consistent with WCPFC CMM relating to silky shark.

- (f) Any allocation is to be made on an annual basis. No annual allocation is to be taken as any guarantee of any future allocation. No allocation may be carried forward.
- (g) Longline operations may retain bycatch including non endangered sharks, subject to any license conditions and with all fins attached to trunks. The possession of shark fins removed from any trunk shall be a breach of this Plan.
- (h) Further management measures may be introduced under this Plan, for example the use of circle hooks may be made mandatory, and the use of wire leaders may be prohibited in mitigation against shark mortality, and to assist the live release of non target species including shark, billfish and turtles, and juvenile tunas. Such measures shall be approved by the Board and published as an annexure to this Plan.
- (i) All vessels will be required to facilitate E-reporting, and E-monitoring video, as required and shall accommodate human observers as necessary, including to validate data.
- (j) The albacore longline fishery operates from April 1st to September 30th.
  - (i) The fishery management area is south of 10° south, and in the EEZ only (i.e. not in other archipelagic waters).
  - (ii) Yellowfin and bigeye tuna are permitted bycatch.
  - (iii) All catch must be processed onshore and mothership operations are only permitted for transferring catches to PNG processors.
- (k) A limited number of bilateral access longline vessels shall be provided for under this Plan. These are not required to land fish in PNG. Bilateral access shall be phased out as domestic demand for PLDS days grows.
- (l) Domestic based fresh and frozen boats are to be either PNG flagged, or chartered LBFV to companies with >51% PNG equity, and where landing and minimum employment are compulsory.
  - (i) To be eligible for LBFV charter a company must also operate domestically flagged PNG vessels and shall be eligible to LBFV charters at a ratio of 1:1 for each domestic PNG flagged vessel operated by the company in the fishery.

### 23. Further related operational issues

- (1) Effort control for other fishing methods
  - (a) Under this Plan handline boats (including pump-boats) are licensed and subject to reporting. The handline fishery is not subject to effort control.
- (2) Customary and artisanal fishers.
  - (a) Special consideration shall be given to avoid any adverse impacts on customary resource owners in accordance with Section 26 of the Fisheries Management Act, directing that the rights of customary owners of fisheries resources and fishing rights, shall be fully recognized and respected in all transactions affecting the resource or the area in which the right is exercised.
- (3) Gamefish fishery.
  - (a) The gamefish fishery remains in its infancy and there is significant scope for expansion. Under this Plan NFA shall maintain an open dialogue with the game fishing sector including collaboration on tagging and other scientific programs.
- (4) Effort creep.
  - (a) The issue of effort creep shall be kept under review to ensure the aims and objectives of this Plan are achieved, especially associated with modern large scale purse seine operations and the continued development of electronic and other technology.
- (5) Crewing levels.
  - (a) The Board may determine a requirement for minimum crewing levels and positions for PNG citizens on domestic vessels and LBFVs and any such determination shall be published as an annexure to this Plan.

- (6) Further measures.
  - (a) The Board may determine any further operational and effort control measures that in the opinion of the Board are necessary to achieve the aims and objectives of this Plan. Any such measures shall be published as an annexure to this Plan.
- (7) Compensation not payable.
  - (a) It is a condition of operating under this Plan that no compensation is payable for any change to any management rule under this Plan and beyond the control of NFA including any reduction in any TAE or any change in allocation of any TAE or any change in allocation methodology, whatsoever.
  - (b) Allocated days that remain unfished at the end of a fishing year expire and fees shall not be reimbursed.
  - (c) However, days that have been paid for but can no longer be fished due to a change in management rules shall be reimbursed at the price paid.
- (8) Publication of any Board decision relating to TAE.
  - (a) Any decision of the Board relating to the setting of any TAE, or the allocation of any TAE, shall be given effect by publication as an annexure to this Plan.

#### **24. FAD management**

- (1) The linking of FAD buoy data with e-reporting through FIMS can assist in monitoring biomass, targeted catch, and bycatch. Buoy tracking linked to vessel tracking, proximity alerts and automated FAD set counting can provide guidance to the numbers and areas of FAD deployment drift and sets.
- (2) Additionally, compliance with FAD bans and area closures, gear tampering, and other IUU aspects associated with FADs can be electronically monitored. FAD tracking may aid the recovery of lost FADs, the recycling of satellite buoys, and damage to fragile reefs.

#### **25. FAD registration requirements**

- (1) All FADs deployed in the fishery management area, or in other waters by any vessel licensed to fish in fishery management area and which are likely (in the opinion of NFA) to drift into fishery management area, are to be registered with NFA.
- (2) FAD registration will be the subject of a FAD management plan which shall be approved by the Board and published as an annexure to this Plan.

#### **26. iFAD programme**

- (1) The NFA iFAD programme promotes deployment of non-commercial anchored inshore FADs typically inside territorial waters to enhance fishing opportunities for artisanal and small scale fishermen. Besides the positive aspects of food security, safety at sea and enhancement of small scale enterprises the scheme serves to take pressure of the fragile coastal reef ecosystems. iFADs and commercially deployed anchored FADs, are encouraged to be used without restriction by artisanal, small scale handline, and game fishermen.

#### **27. Closed areas and other measures**

- (1) The Board may, from time to time delineate specific areas to be closed to certain categories of fishing and other related activities including conservation, preventing interaction between different categories of licensed fishing vessels, interaction between commercial fishing vessels and non-commercial fishing operations.

- (2) The following closed areas and measures are considered significant and apply under this Plan:
- (a) **The Indo-PNG closure:** A closure applies to all PNG licensed vessels along the northern Indonesian/PNG sea border. The closure line runs in a generally south to north direction from the PNG coastline along the maritime boundary between PNG and Indonesia until intersecting with the high seas boundary then running in a generally easterly direction for 12 nautical miles then in a generally north to south direction parallel to the border to the point of intersection with the PNG coastline. This closure aims to reduce the risk of cross border incursions by PNG licensed vessels, to limit cross border interactions with Indonesian artisanal vessels, and to eliminate IUU fishing by both PNG and Indonesian vessels. This closure aids PNG Defence Force patrol activities because any vessel fishing in these waters is either fishing illegally, or not permitted to be in these waters.
  - (b) **The Morgado Square closure:** The area of the Morgado Square area is closed to the use of aFADs.
  - (c) **FAD closures:**
    - (i) The territorial seas are closed to all purse seine fishing including the use of all FADs, other than in the territorial seas extending from the archipelagic base line where beyond 12 nautical miles from any point of land or declared reef.
    - (ii) Subject to (i):
      - (a) aFADs may only be deployed in the EEZ and AW when north of 5° south.
      - (b) The number of aFADs deployed in AW and the EEZ may be limited under this Plan or under any FAD management plan having regard to any restrictions currently in place (which shall continue to apply unless varied).
  - (d) **6-12 nautical mile longline closure:** The area of waters from 6-12 nautical miles from coastal baselines is closed other than for domestic and LBFV longline vessels only.
  - (e) **DWFN vessel purse seine closure:** The territorial seas and archipelagic waters are closed to all DWFN purse seine operations
  - (f) **DWFN longline closure:** Longline fishing by any DWFN vessel is prohibited within 12 miles of any land, island, or declared reef.
  - (g) **DWFN longline 10° south measure:** The area of operations for longline vessels operating under DWFN bilateral access agreements is restricted to that part of the fishery management area north of 10° south.
  - (h) **Albacore measure:** The area of operations for fishing under any albacore longline licence is restricted to that part of the fishery management area south of 10° south, and waters beyond 6 nautical miles from coastal baselines.
  - (i) **Purse seine capacity measure:** Purse seine operations in archipelagic waters are limited to domestic and LBFV vessels only. Any such vessel is to be less than 80 metres in length. The Board shall determine further length, and/or GRT, and/or hold and freezer limitations for vessels operating in archipelagic waters from time to time in response to changes in effective fishing effort.
  - (j) **Mothership measure:** Motherships are only permitted to service licensed purse seiners with limited tuna hold and freezer capacity. In accordance with the Act, only vessels with carrying capacity of 600 mt or less may operate with motherships within the fishery management area. Each mothership shall be subject to compulsory observer coverage, and compulsory port clearance, and must comply with the same reporting requirements as for purse seine vessels, including CDS. All licensed domestic and locally-based foreign purse-seine fishing vessels, except where allowed for under the terms of the licence, are prohibited from mothership operations in the fishery management area.
  - (k) **Variation and further closures and measures:** The Board may vary these closures and measures, or approve such further closures or measures as are necessary to give effect to the objectives of this Plan. Any such variation or measure shall be published as an annexure to this Plan.

- (l) Charts, maps and other illustrations: For the purpose of clarification of any closure or other measure the NFA may prepare a chart, map or other illustration, including coordinates, and shall publish it as an annexure to this Plan.

*Division 5- Monitoring and research*

**28. Measures to enhance compliance, and combat and eliminate IUU fishing**

- (1) Tuna fishing under this Plan is subject to PNG's fisheries laws including applicable penalties and sanctions. New strategies will be implemented to improve compliance with those laws, including this Plan.
- (2) The NFA shall maintain close liaison and consultation with regional organizations on all matters relating to the vessel register, regional cooperation on surveillance, and harmonised minimum terms and conditions for licensing fishing vessels, including its participation in satellite monitoring, and other electronic reporting and monitoring systems.
- (3) The Board shall determine fishing, catch and related activity reporting requirements for all licence holders. Such requirements are to be published as an annexure to this Plan.
- (4) The Board shall determine a National Plan of Action for Illegal Unreported and Unregulated Fishing.
- (5) E-Reporting will be introduced under this Plan:
  - (a) For port sampling data.
  - (b) For at-sea log books for vessels and observers.
  - (c) For the Catch Documentation Scheme (CDS).
  - (d) As required to support catch traceability.
- (6) NFA's observer program is consistent with regional standards, and such other requirements as may be approved by NFA, consistent with obligations to regional and subregional body requirements.
- (7) An E-monitoring video program will be designed, developed, trialled and implemented for longline fishing vessels by NFA in partnership with industry, having regard to obligations to regional and subregional body requirements.
- (8) The potential for E-monitoring video to complement human observer programs on purse seiners, carriers, motherships, bunkering vessels, and other support craft shall be investigated under this Plan with the aim of enhancing compliance in areas such as FAD deployment, transshipping, mothership operations, bunkering, and associated fishing operations, and to improve the observer's occupational health and safety and performance environment. If successful and beneficial, an E-monitoring program shall be implemented by NFA.
- (9) E-monitoring and E-reporting programs shall take into account scientific design principles and any regionally agreed data standards and formats.
- (10) Any E-monitoring video program design shall include percentage level of vessel coverage, percentage level of video analysis, and percentage level of human observer coverage to validate any E-monitoring video program.
- (11) Compliance with any E-monitoring video program will be a condition of licence.
- (12) PNG shall facilitate any FAO standard on eco-labelling of wild caught fish given effect to by any applicable law or agreement.
- (13) Transshipment and bunkering by PNG licensed vessels in the high seas is prohibited as a condition of licence.
- (14) The Board may establish further rules for landing, processing, transshipment, and export of any fish the subject of this Plan. Any such rules shall be published as an annexure to this Plan.

- (15) Where transfer pricing, misreporting, or other false declaration is proven against any business, operator, or vessel, the Managing Director shall require the business, operator or vessel to refund any access fee concession or benefit provided for the fishing year in question, and may further suspend or cancel any associated licence or require such bond to be paid as will create a deterrent against any further infraction.
- (16) NFA shall require any licence holder to provide upon demand such data or other information as it requires to fulfil audit requirements for catch landing, processing, transfer, transshipment, or disposal. It shall be a breach of this Plan for such information not to be provided within 30 days of such a request.
- (17) The Board shall establish rules concerning the arrival in port of any licensed vessel, and for the inspection of any vessel before or after arrival in port. Such rules shall have regard to the terms of the 2009 FAO Port State Measures Agreement and shall be published as an annexure to this Plan.
- (18) The Board may establish such operational rules as it thinks necessary to manage IUU fishing and generally give effect to the aims and objectives of this Plan and shall publish such rules as an annexure to this Plan.

#### **29. Audit**

- (1) The NFA shall develop the necessary capacity and competence, and establish a compliance audit unit, to undertake programmed and ad-hoc audits against the provisions of this Plan, including developing and delivering advisory material and training.

#### **30. Vessel Monitoring System (VMS)**

- (1) All vessels operating under this Plan shall be required to install and operate a VMS as required and approved by NFA.

#### **31. Vessel Automatic Identification System (AIS)**

- (1) Any vessel operating under this Plan may be required to ensure its AIS is operational, as and when required by NFA.

#### **32. Catch Documentation Scheme (CDS)**

- (1) The PNG CDS is to be fully implemented under this Plan. A CDS unit will be operational in each port where fish product may be lawfully transhipped, imported, processed, or exported.

#### **33. Research, monitoring, and collaboration under this Plan**

- (1) In support of the aims and objectives of this Plan, NFA shall undertake and collaborate in scientific and economic research and monitoring of tuna fisheries including with other national, international, and regional management, advisory and science bodies.
- (2) NFA shall maintain databases of information with the capability to report on the magnitude of tuna catches in fishery management area including inter-annual and seasonal variability, catch per unit effort (CPUE), the species breakdown of catches, and size structure by species in the catches.
- (3) NFA shall publish catch and effort data each year, and shall provide such data to regional and sub-regional bodies as required.
- (4) NFA shall undertake consultation with the flag States of vessels it licences, and shall develop memorandums of understanding (MOUs) in support of the aims and objectives of this Plan. MOUs shall include sections on compliance, research, and monitoring, and in particular shall give effect to any NPOA related to IUU fishing.
- (5) NFA shall undertake consultation with other PNG government departments with an involvement in regulating the fishing and associated industries and shall develop MOUs, in particular aimed at minimising red tape, and providing whole of government services.

Division 6- *Application of the Plan*

## Sub-Division 1- PNG's tuna fisheries

## 34. PNG's tuna fisheries

- (1) This Plan applies to all tuna fishing activities in PNG's fisheries management area. Fishing activities are defined by the *Fisheries Management Act 1998* (as amended), and the *Fisheries Management Regulation 2000* (as amended).
- (2) The species covered by this Plan shall include:
  - (a) All species of tuna including those in the genera *Katsuwonus*, *Thunnus*, *Auxis*, *Cybiosarda*, *Euthynnus*, and *Gymnosarda*; and
  - (b) All other non-target and target bycatch, and associated or dependent species taken in the course of fishing for tuna.
- (3) This Plan may make rules and other provisions and measures either within this Plan, or by a decision of the Board as an annexure to this Plan relating to:
  - (a) All methods of fishing for tuna, including but not limited to:
    - (i) Purse seining (including mini-seiners).
    - (ii) Longline.
    - (iii) Pole-and-line.
    - (iv) Trolling, hand lining, game fishing and other small scale fishing.
  - (b) Related activities including but not limited to:
    - (i) Catching including by-catch.
    - (ii) Deployment, retrieval, tracking and use of fish aggregation devices.
    - (iii) Gear conflicts.
    - (iv) Transshipping.
    - (v) Unloading.
    - (vi) High seas and regional operations.
    - (vii) Regional access.
    - (viii) Crewing.
    - (ix) Port calls.
    - (x) Port inspections.
    - (xi) Bunkering and provisioning.
    - (xii) Bait fishing.
    - (xiii) Mothership operations.
    - (xiv) Aircraft support operations.
    - (xv) Processing.
    - (xvi) Importing, buying, selling and export of fisheries products.
    - (xvii) Storage.
    - (xviii) Traceability.
    - (xix) Sanitary and Phytosanitary measures.
    - (xx) IUU fishing.
    - (xxi) Fishery certification and eco-labelling.



**Sub-Division 2- Access Fees****35. Access fees**

- (1) The Board shall set all access and benchmark fees related to purse seine and longline access for all fleets in both EEZ and archipelagic waters subject to any further provision of this division.
- (2) Benchmark fees shall be published as an annexure to this Plan.
- (3) Fishing day access fees shall be charged on the basis of each fishing day allocated.
- (4) Under this Plan a competitive market based scheme will be created for fishing days allocated to DWFN vessels only. The allocation of these fishing days will be progressively subject to competitive bidding through a Dutch auction, or tender, or other competitive allocation process.
- (5) The Board shall determine any competitive allocation process for DWFN vessels and shall publish any such determination as an annexure to this Plan.
- (6) In setting any access fee the Board shall have regard to any credible economic data or credible reports concerning access fee levels, any economic development goals and relevant data, or credible reports concerning the impact of fees on economic development, and any State or other access agreement.

**36. Purse seine VDS (EEZ) fishing days**

- (1) For transparency when NFA engage in bilateral access fee negotiations with DWFNs they shall not allocate access at a rate below any PNG benchmark, having regard to clause 35(6).

**37. General provisions relating to transfer of VDS (EEZ) fishing days**

- (1) For the purpose of clarification all fishing days belong to the Parties, and all transfers are Party to Party.
- (2) Where there is agreement to transfer days between Parties this shall be notified to the PNA office on the Palau Arrangement prescribed form (schedule 3(a)) which specifies the number of days to be transferred, and is signed by both Parties.
- (3) An agreement to transfer days may include reference to the beneficiary vessel or company who is sponsoring the transfer and who will use the days.

**38. Transfer of purse seine days between VDS and AWDS**

- (1) Purse seine days are not transferable between the VDS (EEZ) and the AWDS (archipelagic waters).

**39. Transfer of purse seine VDS and AWDS days**

- (1) The intent of this provision is to facilitate the efficient transfer of fishing days.
- (2) All transfer of PNG days must occur through NFA.
- (3) Each transfer may be subject to an administration fee set by NFA.
- (4) Any transfer shall be completed by NFA within 7 working days of receipt of any administration fee, and a completed application form in the approved format, signed, and containing all required information.
- (5) A transfer of days can only occur where approved by NFA, and on agreed terms.
- (6) Days subject to a non-fishing day claim cannot be transferred.
- (7) Neither fishing days, nor non-fishing days, may be carried forward into, or borrowed from, future years.
- (8) NFA can determine such further operational policies and procedures as are necessary to give effect to the efficient and effective transfer of fishing days.

**40. Transfer of PAE between PNA Parties' under the VDS (EEZ)**

- (1) The transfer of another Parties PAE to PNG, or any PNG PAE to another Party, shall occur in accordance with the VDS rules applicable at the time the transfer occurs.
- (2) All transfers must be notified through the PNA Office.
- (3) A transfer of days can only occur where approved by NFA, and on agreed terms.
- (4) Any receipt of days by PNG will be regarded as an increase to the PAE.
- (5) Any transfer of days from PNG will be regarded as a reduction in the PNG PAE.
- (6) NFA will trade or transfer any such days received as additional PNG PAE, and in accordance with any agreed terms and conditions.
- (7) Subject to above, a company may arrange a transfer of days from another Party, to PNG, for the purpose of reallocation to a PNG sponsored FSMA vessel.

**41. Transfer of PNG PAE to a PNG FSMA sponsored vessel**

- (1) NFA may facilitate the transfer VDS days allocated to a domestic company to a PNG FSMA eligible vessel.
- (2) NFA can determine such further operational policies and procedures as are necessary to give effect to the efficient and effective transfer of fishing days.

**42. Purse seine vessel length weighting arrangement**

- (1) A vessel length weighting arrangement applies under this Plan to reflect a progression of CPUE against length. The intent of this arrangement includes to create an incentive for small scale purse seining, and as a measure against effort creep associated with large scale purse seine operations.
- (2) The following vessel length weighting arrangements apply unless otherwise varied by the Board and included as an annexure to this Plan, and to the EEZ unless otherwise varied in accordance with the PNA VDS:

Vessel Size	Weighting
(a) <25 metres	4:1 (archipelagic waters only)
(b) 25 metres to <50 metres	2:1
(c) 50 metres to < 80 metres	1:1
(d) 80 metres to < 100 metre	1:1.5 (access to PNG EEZ only)
(e) >100 metres	1:3 (access to PNG EEZ only)

**43. PNG Longline Day Scheme (PLDS) fees**

- (1) The Board shall determine the price for a PLDS day for each sector. In setting the price, consideration shall be given to maximising fees for DWFN access.
- (2) The Board shall determine any PLDS fee for domestically based vessels based on credible economic data or reports reflecting the value of such concessions to employment and the national economy, and any State or other agreement.
- (3) Any determination of the Board shall be published as an annexure to this Plan.

**44. PLDS non-fishing days, carry forward, and borrowing from future years**

- (1) There are no non-fishing days in the longline fishery. This applies to domestic longline vessels, foreign access longline vessels, and seasonal albacore vessels.
- (2) PLDS fishing days may not carried forward to, or borrowed from future years.

**Sub-Division 3- *Cost Recovery*****45. Cost recovery**

- (1) Services provided to industry by NFA (or other relevant government departments) shall be cost recovered under this Plan.
- (2) Such services shall be related to the regulatory program for the fishery and include but not be limited to policy, consultation, licensing, compliance, science, catch documentation, product testing and certification, vessel registration, and vessel inspection.
- (3) The cost recovery program will have regard to whether a cost is attributable or not attributable to industry, and the efficiency of the service to be provided.
- (4) Under this Plan the costs attributable to industry will be progressively quantified and recovered. There will be a consultation process involving industry, and the decision will be made by the Board. Fees to be cost recovered will be attached as an annexure to this Plan.

**Sub-Division 4- *Other Fishing and Related Operations*****46. Pole and line**

- (1) There is currently no pole and line fishery operating in the fishery management area.
- (2) Prior to approving the issue of any licence for pole and line fishing (other than a trial licence for a period longer than three months) or any proposal for the establishment of a pole and line fishery the Board must cause a public notice to be published on the NFA website and in a newspaper with national circulation and inviting further proposals within a specified timeframe, and calling for public comment.
- (3) Prior to approving any proposal the Board shall determine how many fishing days are to be reallocated from the AWDS and VDS to pole and line fishing and an appropriate weighting for such days taking into account relative CPUE for both fisheries and ensuring there is no net increase in fishing effort and catch.
- (4) The price for pole and line days may be adjusted to reflect economic factors, such as the potential for employment benefits from fishing and processing.
- (5) Any determination made by the Board in respect of any future pole and line fishery shall be given effect by publication as an annexure to this Plan.

**47. Mothership operations and transshipment**

- (1) Motherships are only permitted to service licensed purse seiners with limited tuna hold and freezer capacity. In accordance with the Act, only vessels with carrying capacity of 600 metric tonnes or less may operate with motherships within the fishery management area.
- (2) Each mothership shall be subject to compulsory observer coverage, and compulsory port clearance, and must comply with the same reporting requirements as for purse seine vessels, including CDS.
- (3) All licensed domestic and locally-based foreign purse-seine fishing vessels, except where allowed for under the terms of the licence, are prohibited from taking on the role of a mothership.

**Sub-Division 5- *Total Allowable Effort (TAE) committee*****48. Setting TAEs**

- (1) Any TAE required to be set under this Plan for purse seine and longline fishing shall be set annually by the Board having consideration to the best available scientific information, total catch, effort, as well as economic, social and other relevant considerations including PNGs obligations under the PNA VDS, and relevant WCPFC CMMs.
- (2) The Managing Director shall appoint a TAE Committee to provide advice and recommendations to the Board on appropriate TAE levels for both the purse seine and longline fisheries. The TAE Committee shall comprise of two staff from NFA and two independent persons with high level skills, qualifications and experience in the following areas:

- (a) Fisheries management.
  - (b) Fisheries economics.
  - (c) Fisheries science.
- (3) The committee shall be established in accordance with section 16 of the Act.
  - (4) The committee shall appoint a Chair from amongst its members.
  - (5) Suitable qualifications shall mean a relevant degree, and a minimum of five years relevant experience.
  - (6) NFA will prepare a comprehensive submission for the consideration of the TAE Committee prior to the first meeting each year, including recommendations on effort levels, and any other matter they consider relevant to the TAE committee's role.
  - (7) In particular the TAE Committee shall explicitly consider the issue of effort creep in all fisheries and shall make recommendations to the Board if they form the view this is likely to impact on the aims and objectives of this management Plan.
  - (8) The TAE Committee will be serviced by NFA, shall meet annually and as required and authorised by the Managing Director, to prepare their recommendations, and shall be authorised to request technical data, reports and other information necessary to undertake their function effectively.
  - (9) The TAE Committee shall be subject to operational policies and guidelines as are determined by the Managing Director NFA.
  - (10) The report of the committee shall be presented to the NFA Board by the Chair of the Committee no later than July 31st each year. In the event that a report is not submitted and endorsed by the NFA Board then the preceding year's TAE remains in force other than for the VDS where any determination of the PNA shall apply.
  - (11) Bilateral access negotiations shall not occur prior to the establishment of any TAE required under this Plan.
  - (12) In making any recommendation to the Board the TAE Committee shall be set having consideration to the best available scientific information, as well as economic, social and other relevant considerations including PNGs obligations under the PNA VDS, and relevant WCPFC CMMs.
  - (13) The Board may seek the advice of, and recommendations from, the TAE Committee on any other fisheries management matter consistent with the aims of this Plan.
  - (14) Prior to the establishment of the TAE Committee, but only in the first year of the Plan, the Board may make any decision concerning any TAE necessary to give effect to the Plan based on advice provided by the Managing Director.

**PNG'S TUNA FISHERIES – Interim Total Allowable Effort (TAE) Allocation of TAE's and Fees**

Fishery	TAE
Purse seine fishing in EEZ	Determined by PAE
Purse seine fishing in archipelagic waters	5,500 (2010 days)
DWFN EEZ longline	6,000
Domestically based and LBFV longline	10,000
Albacore longline	8,000

Approved 12th day of September, 2014.

Hon. M. ZEMING,  
Minister for Fisheries.