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[2016



NATIONAL BECH-DE-MER FISHERY MANAGEMENT PLAN

**FISHERIES MANAGEMENT ACT 1998.
FISHERIES MANAGEMENT
(AMENDMENT) ACT 2015.**

CERTIFIED on: 12th September, 2016.

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 the **National Bech-de-mer Fishery Management Plan**.

This document is to be read in conjunction with:

- (i) the *Fisheries Management Act* 1998,
- (ii) the *Fisheries Management (Amendment) Act* 2015,
- (iii) any associated subordinate legislation,
- (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,

This Beche-de-mer Fishery Management Plan (the plan) is in accordance with section 28 of the *Fisheries Management (Amendment) Act* 2015, and supersedes any previous Beche-de-mer Fishery Management Plan. The Plan takes effect on the 1st April, 2017.

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 document together form the entire National Beche-de-mer Fishery Management Plan.

*Fisheries Management Act 1998***THE NATIONAL BECHE-DE-MER FISHERY MANAGEMENT PLAN****Introduction**

Papua New Guinea (PNG) has a long history of involvement in the sea cucumber fishery and beche-de-mer trade. During the late-1800s, the beche-de-mer trade was considered the 'gold of the sea'. Average production for British New Guinea was 37.1 tonnes between 1878 and 1900, with a peak export of 96.8 tonnes in 1883. Beche-de-mer was the fifth most important export product for British New Guinea in 1903 with 83 tonnes. From 1900 to 1937, the Territory of Papua exported an average of 60 tonnes per annum, while the Mandated Territory of New Guinea exported an average of 98 tonnes per annum. White teatfish and black teatfish were the two main species targeted throughout this early period. Between 1960 and 1985, beche-de-mer production in PNG was relatively low with an average annual production of 20 tonnes. Annual production increased significantly in 1986 to around 100 tonnes. Between 2000 and 2009, annual production averaged 556 tonnes per annum with an average value of K 30 million per year. Annual production peaked in 2007, when 795 tonnes of beche-de-mer valued at 52 million kina was exported. The Total Allowable Catch for the whole country at this time was set at 668 tonnes.

With increasing Chinese economic growth, there has been a continued demand for beche-de-mer which has caused wide spread over-exploitation by the supply countries in the Pacific and other parts of the world. PNG like other countries is trying to reverse this over-exploitation trend by enforcing control measures to limit the rate of exploitation.

The sea cucumber fishery in PNG currently targets just over 22 species. A total of 31 Species of sea cucumber have been recorded by the NFA stock assessment team to date. In the past only a handful of species were considered high value, but rapid decline of the high value species has shifted effort to lower value species thus increasing the number of species targeted by the fishery. The opening of the market to new species that traditionally had no commercial value has also impacted on the species being targeted by the fishermen and the volume of export.

Despite its importance in terms of foreign revenue generation for PNG and cash income to some 500,000 fishers scattered in coastal and island villages, the sea cucumber fishery and beche-de-mer trade faces many management and monitoring challenges. This is being improved by decentralising management to the provinces, Local Level Governments (LLGs) and communities. The involvement of LLGs and communities in the day to day management of the fishery is anticipated to improve management of the fishery.

Environmental impacts

The 31 species of sea cucumber recorded to date in PNG waters play an important role in the ecology of marine ecosystems. Sea cucumbers keep the sea floor clean by feeding on algae and detritus. Over-harvesting of sea cucumbers means that this cleaning mechanism is disrupted and therefore the ecology of the sea floor is impacted. The environmental and ecosystem impact of over-harvesting of sea cucumber is not yet well understood and efforts should be made to study the impacts of harvesting on marine ecosystems.

The sea cucumber fishery has been documented to also have a negative impact on mangrove and other fringing coastal and island forests in PNG that are needed to dry processed sea cucumbers into beche-de-mer. It is estimated that ten tonnes of wood is needed to smoke one tonne of beche-de-mer. Beche-de-mer processing also results in the production of 'stick-water', which contains a toxin (holothurine) that originates from the skin of the sea cucumber. The toxin is released during the boiling process, and there is anecdotal evidence that the release of stick-water directly into the sea can result in fish kills.

1. Interpretation

In this Management Plan, unless the contrary intention applies:

"Act" means the *Fisheries Management Act 1998*, the *Fisheries Management (Amendment) Act 2015* and the Regulations.

"Local Level Government Management Advisory Committee (LLGMAC)" means an advisory committee established under Section 7 of this plan.

"Maximum sustainable yield" means the highest possible catch of sea cucumbers that may be taken without impacting the ability of the stock to continue to replenish.

The National Beche-De-Mer Fishery Management Plan—continued

“National Management Advisory Committee (NMAC)” means the advisory committee established under Section 6 of this plan to provide advice to NFA.

“Precautionary Approach” means setting down restrictions to control harvesting in the absence of adequate scientific data; these restrictions may include the setting of Total Allowable Catches (TACs), seasonal and area closures, and fishing effort controls.

“Provincial Management Advisory Committee (PMAC)” means an advisory committee established under Section 7 of this plan.

“Sustainability” means the ability for a resource to maintain its stock at a fishable level given a level of effort or harvest.

“Total Allowable Catch (TAC)” means the set amount of catch that is allowed to be taken out of the fishery in any one year; the TAC is to be set at a safe level based on the actual annual assessment of sea cucumber stocks.

“Traditional Management Practices” means methods of management of marine resources practiced by the indigenous inhabitants of a given area, that has been passed down from generation to generation, and which may not be formally recorded.

2. Application

- a) This National Beche-de-mer Fishery Management Plan is cited as “the Management Plan”.
- b) This Management Plan applies to all species belonging to the Class Holothuroidea, commonly known as sea cucumbers in its live form, and beche-de-mer or trepang in its processed form; in ‘tok pisin’, both live and processed forms are known as ‘pislama’.
- c) This Management Plan applies to the sea cucumber fishery and includes all fishing and activities associated with the collection, processing, storage, buying, selling and exporting of beche-de-mer products.
- d) The Schedules attached to this Management Plan form part of the Management Plan and shall be read together.
- e) This Management Plan is to be interpreted in accordance with Clause 1 of this Management Plan, Section 2, Interpretation of the Fisheries Management Act 1998 and Part 1.1, Interpretation, of the Fisheries Management Regulations 2000.
- f) Words and expressions used in this Management Plan shall have the same meanings as defined in the *Fisheries Management Act 1998* and the *Fisheries Management Regulation 2000*.
- g) Where there is inconsistency between this *Management Plan and the Fisheries Management Act 1998* and the *Fisheries Management Regulation 2000*, the *Fisheries Management Act* shall prevail in all instances.
- h) Where there is inconsistency between this Management Plan and Provincial, LLG and community management actions, a hierarchal process of legal standing will apply, e.g. Provincial-level Management Plan will hold precedent over a LLG Management Plan, with this Management Plan prevailing overall.

3. Objectives

- a) To manage the sea cucumber fishery for the long-term economic benefit of coastal and island communities throughout Papua New Guinea.
- b) To ensure the use of sea cucumber stocks is biologically sustainable and that sea cucumber populations are maintained at required levels that will allow them to continue to play their role in the marine ecosystem.
- c) To ensure the co-operative implementation of this Management Plan and associated governance involves the support and input from relevant government, industry, resource owners, communities, other civil society actors and research institutions.

The National Beche-De-Mer Fishery Management Plan—*continued*

4. Management Principles

The management of the sea cucumber fishery will be consistent with relevant international fisheries instruments that PNG has formally ratified, as well as the objectives and principles of the *Fisheries Management Act 1998*. In addition, the following management principles will be applied:

- a) Resource owners and community participation in the day to day management of the beche-de-mer fishery.
- b) Relevant government, industry, other civil society actors and research institutions will also be involved in the management of the beche-de-mer fishery.
- c) The ecosystem approach to fisheries management will be used to guide the review and implementation of the Management Plan.
- d) Conservation of non-target species and the protection of habitats of special concern will also be taken into account in the review and implementation of this management plan.
- e) Implementation of the Management Plan at all levels will take into account the latest scientific and other relevant information to refine management actions.

5. Joint Management

- a) The sea cucumber fishery will be primarily managed jointly by the National Fisheries Authority, respective Maritime Provincial Governments, respective Local Level Governments (LLGs) and communities.
- b) The role of the National Fisheries Authority, respective Maritime Provincial Governments, and Maritime LLGs and communities will be as follows:
 - i) The National Fisheries Authority will be responsible for formulating and implementing the Management Plan and will provide resources for obtaining, analysing data and determining management measures which will include the minimum size limits, closed seasons, TACs, the maximum number of exporters and buyers per province, licensing criteria and guidelines for licences, aquaculture and sea ranching guidelines, as well as the establishment of the National Management Advisory Committee (NMAC).
 - ii) The Maritime Provincial Governments will be responsible for implementing the Management Plan at their respective levels; this includes the ability to set lower TACs (only at the Provincial level or split amongst LLGs but only as long as it does not exceed the Provincial TAC), higher size limits, longer closed seasons, advising the National Fisheries Authority on licenses, supporting resource owners and communities in their management actions and will also have the option to establish Management Advisory Committees at either or both the Provincial and LLG level if they feel that this will enhance the legal and management framework at those levels for the sea cucumber fishery. Any new provincial and Local Level Government management strategies, must not conflict with this Management Plan.
 - iii) Communities and resource owners will be responsible for implementing the Management Plan at their respective levels, as well as developing management strategies at their level or with the support of the LLG and Provincial governments or other civil society actors. Any management strategies developed by resource owners, must not conflict with this Management Plan.

6. National Management Advisory Committee

- a) The NMAC shall be formed and be composed of members with a strong understanding or knowledge about sea cucumbers, the sea cucumber fishery or the beche-de-mer trade.
- b) The NMAC will provide advice to the NFA Managing Director on management measures as the NFA Managing Director may specify, including TACs, closed seasons, reporting, restrictions, trade, and any other relevant issues that the NFA Managing Director may direct from time to time.

The National Beche-De-Mer Fishery Management Plan—*continued*

- c) The NFA Managing Director may direct the NMAC to examine a particular issue in the sea cucumber fishery or beche-de-mer trade or to review all or part of the Management Plan.
- d) The Management Plan will be reviewed by the NFA every two (2) years or at such earlier time as the NFA Managing Director or the NFA Board shall direct.
- e) Subject to prior approval of the NFA Board, any review of the Management Plan shall be made public by the National Fisheries Authority and due consultation will be conducted with relevant stakeholders involved in the sea cucumber fishery and the beche-de-mer trade.
- f) Role and responsibilities of the NMAC is to:
 - i. Review the Management Plan every two (2) years in consultation with NFA or as required by the NFA Managing Director or the NFA Board.
 - ii. Recommend the annual Provincial TACs each year before the opening of the season based on the advice from the National Fisheries Authority.
 - iii. Recommend the upper limit on the number of exporters that is allowed for each province for each year.
 - iv. Recommend the upper limit on the number of buyers that can be employed by Provincial exporters for each province for each year.
 - v. Review licensing guidelines and criteria for exporters as recommended by the National Fisheries Authority.
 - vi. Review fishery survey results and advice provided by National Fisheries Authority and Provincial Fisheries Administrations.
 - vii. Review any Maritime Provincial Government and Maritime LLG specific management strategies.
 - viii. Review closed seasons, reporting, restrictions, trade, and any other relevant issues that the NFA Managing Director or the NFA Board may request from time to time.
 - ix. Advise on the implementation of the ecosystem approach to fisheries management as part of the Management Plan.
 - x. Review guidelines for best practices for sea cucumber aquaculture and associated activities.
- g) The NMAC will consist of the following persons:
 - i. two (2) National Fisheries Authority representatives (one of who will be appointed the NMAC Chair).
 - ii. one (1) reputable fishery scientist.
 - iii. two (2) industry representatives nominated by consensus of industry stakeholders involved in the beche-de-mer trade.
 - iv. one (1) representative from a non-government organization whose objectives include conservation of the marine environment and management of fisheries resources.
 - v. the Chairman's of respective PMACs.
- h) The NMAC may invite other stakeholders to attend NMAC meetings on a needs basis to address specific issues.
- i) No more than two (2) members may represent groups or government from the same province.
 - 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 must stand down.
 - ii. The two representatives from the National Fisheries Authority will serve as permanent members. Other members to the NMAC will serve for three-year terms.

The National Beche-De-Mer Fishery Management Plan—*continued*

- j)* The NFA Managing Director will confirm the appointment of the NMAC members through a letter confirming the membership and the period of membership to the NMAC. Determination of allowances for NMAC member (excluding ex-officio) shall be based on a rate as set by the National Fisheries Authority and approved by the NFA Board.
- k)* The NMAC and its members will serve a three (3) year term and may be reappointed. They will operate in accordance with the following procedures and such other procedures and standards as may be set by the NFA Board:
 - i.* A quorum requires two-thirds (2/3) of all members and must include one National Fisheries Authority representative.
 - ii.* The NFA Managing Director shall, with the endorsement of the NFA Board lay down operational procedures for the NMAC, including place and dates for meeting and the NMAC shall meet twice a year or as needed.
 - iii.* Prior to taking up membership, representatives will be required to disclose any direct or indirect personal or pecuniary interests in the sea cucumber fishery or beche-de-mer trade, 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 immediately to the NMAC. Such a disclosure shall be recorded in the minutes of the NMAC and submitted to the NFA Managing Director. The NMAC and the NFA Managing Director must be advised of any substantive changes in such interests, or new such interests, during the course of membership. The NFA Managing Director will determine if a change in interests will affect that member's term.
 - iv.* Where a member who has an interest described in Sub-section 6(k) (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 NFA Managing Director and the NFA Managing Director shall terminate the appointment of such a member.

7. Provincial and Local Level Government Management Advisory Committees

To improve the management of the sea cucumber fishery, NFA will liaise and work with Maritime Provinces to establish Provincial Fisheries Management Advisory Committees (PMACs) who will be responsible for the day to day management of the fishery in their respective provincial jurisdictions.

- a)* Roles and responsibilities of PMACs and LLGMACs are to:
 - i.* Facilitate the implementation of the Management Plan at their respective Maritime Provincial and Maritime LLG levels.
 - ii.* Advise on any specific Provincial and LLG management strategies, for example, higher size limits, longer closed season, TACs for specific LLGs (the sum of which shall not exceed the TAC for the respective Province as set by the NMAC); or any other management arrangements using other legislations.
 - iii.* Provide guidelines for resource owners to formulate specific management strategies, and where applicable, assist with using other legislation.
 - iv.* Review and endorse export licence applications for final approval by the NFA Board.
 - v.* Provide advice to the NMAC on the effectiveness of the Management Plan, including implementation, monitoring, reporting and enforcement.
- b)* PMAC will consist of the following persons:
 - i.* the Provincial Administrator or their delegate who will be the PMAC Chair.
 - ii.* relevant Maritime Local Level Government Council Presidents, one who must be the Chairman of the Economic Sector or their equivalent.
 - iii.* one (1) women's representative nominated by the provincial woman's council.

The National Beche-De-Mer Fishery Management Plan—*continued*

- iv. up to three (3) resource owners representatives nominated by any community with an active community management plan. The three resource owner representative will be selected by Managing Director from the list nominated by the communities.
 - v. Maximum two (2) exporter representatives nominated by the local exporters licenced to operate in the province. The exporters in the province must convene a meeting to nominate the exporter representatives. The exporter representatives will serve a term of 3 years each.
 - vi. the Provincial Fisheries Advisor or their delegate.
 - vii. one (1) representative from a non-government organization or resource owning group whose objectives include conservation of the marine environment or management of fisheries resources and has programs in the respective Province.
- c) The PMAC may invite other stakeholders to attend PMAC meetings on a needs basis to address specific issues.
- d) The PMAC and its members will serve a three (3) year term and may be reappointed. They will operate in accordance with the following procedures and standards:
- i. a quorum requires two-thirds (2/3) of all members and must include the Chair.
 - ii. the PMAC will meet as an accompaniment to the Provincial Assembly meetings, and up to two (2) PMAC meetings may be convened each year.
- e) LLGMACs will consist of the following persons:
- i. the District CEO or their delegate who will be the LLGMAC Chair.
 - ii. relevant Maritime LLG Managers
 - iii. relevant Maritime Ward Councillors who will also be the resource owning representatives.
 - iv. one (1) Women's representative nominated by the local LLG Woman's Association.
 - v. one (1) Youth representative nominated by the local LLG Youth Association.
 - vi. one (1) Provincial or District Fisheries Officer or their delegate who will be the Deputy LLGMAC Chair.
- f) The LLGMAC may invite other stakeholders to attend LLGMAC meetings on a needs basis to address specific issues.
- g) The LLGMAC and its members will serve a three (3) year term and may be reappointed. They will operate in accordance with the following procedures and standards:
- i. a quorum requires two-thirds (2/3) of all members and must include the Chair.
 - ii. the LLGMAC will meet as an accompaniment to the LLG Council Assembly meetings, and up to two (2) LLGMAC meetings may be convened each year.

8. Management Measures

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

a) Licensing

All previous licenses are null-and-void and all applications will be assessed under the new licensing criteria as set out in Schedule 1 of the Management Plan and comply with the conditions set below:

i. Licence Types

Depending on the activity, the following licences may be required for participation in the sea cucumber fishery and beche-de-mer trade:

The National Beche-De-Mer Fishery Management Plan—continued

- a) Exporter, buyer and storage facility licences; with buyer's licence holders to be employed only by a respective exporter and must buy only in that respective Province that the exporter licence is valid for.
 - b) Collector vessel licence for exporters using vessels as part of their operations must only operate in the respective Province that the exporter licence is valid for.
 - c) Processing licence for downstream or value-adding activities.
 - d) Aquaculture licence for hatchery production, pond farming or sea ranching.
- ii. Licensing Conditions
- a) There shall be a limit to the number of export and buyers licences for all Maritime Provinces as set by the NFA on the advice and recommendation by NMAC.
 - b) All licence applications will be screened using the licensing criteria as set out in Schedule 1 of the Management Plan.
 - c) Licences will be valid for five (5) years and renewed each year (annually) subject to a performance review and compliance with all reporting criteria and conditions of the licence.
 - d) All licences will be issued to start on the 1st of April each year.
 - e) All licences will become non-operational when the fishery is closed, either when a Provincial TAC has been reached, or by the compulsory seasonal closure, whichever is reached first.
 - f) All approved export licensees will pay a compliance bond fee of K 50,000 which will be held as security by the National Fisheries Authority.
 - g) In the instance where there is no infringement, the compliance bond will be rolled over to the next year and held as security for that year.
 - h) In the instance whereby the compliance bond is forfeited by the licensee for an infringement, the compliance bond will be forfeited to NFA for further management purposes.
 - i) In the instance whereby the fishery is closed by the National Fisheries Authority for any reasons outside of the annual closed period, the compliance bond will be refunded to the licensees.
- iii. Licence Eligibility
- a) Licenses to participate in the beche-de-mer trade are reserved for PNG citizens only.
 - b) Trade of beche-de-mer or beche-de-mer products are restricted to licensed operators only.
- iv. Licence Requirements
- a) Licensed exporters will be required to provide all purchasing data every week, using the form as set out in Schedule 2 of this Management Plan, along with their advertised buying prices, also weekly; and export prices when an export has occurred to the respective Provincial Fisheries Administrations and the National Fisheries Authority.
 - b) Licenses will only be issued or renewed if the NFA Board is satisfied that the company has met all licensing conditions, and will comply, or has complied with the conditions of the Management Plan.
 - c) Licenses will immediately be suspended once an investigation is commenced for any infringement with regards to the conditions of the Management Plan or licensee is involved in any illegal activities.

The National Beche-De-Mer Fishery Management Plan—*continued*

- ii) Export of frozen or vacuum packed beche-de-mer shall be consistent with the standards as advised by the National Fisheries Authority.
 - iii) Trade of undersized beche-de-mer as specified on schedule 4 or as specified in any other provincial, Local Level Government and Community beche-de-mer management plan is prohibited and any undersized product will be confiscated, a fine incurred and the licence cancelled.
 - iv) Trade of parts of, or broken beche-de-mer is prohibited and any parts or broken beche-de-mer product will be confiscated, a fine incurred and the licence cancelled.
 - v) Beche-de-mer or beche-de-mer products for export must be packed by species and clearly labelled with the name as set out in Schedule 4 of the Management Plan, grade and quantity of the species and product, the name and licence number of the exporter, and the name of the importer.
 - vi) Beche-de-mer bound for overseas for personal use shall be limited to two (2) pieces, and requires authorisation from the NFA Managing Director using the certificate issued by NFA called; Certificate for Personal Consumption of Fish and Fishery Products.
 - vii) Exporters may sell to an exporter in another province, if they cannot warrant the volume and price to export to an overseas market.
- d) Other Use
- i) Restaurants wanting to serve beche-de-mer to their dining customers during the open season require authorisation from the NFA Managing Director using the form as set out in Schedule 3 of this Management Plan; this will include specific storage conditions. The restaurant must buy from a licensed exporter and will be required to furnish weekly buying reports indicating species using the names as set out in Schedule 4 of the Management Plan and weight using the form as set out in Schedule 2 of the Management Plan. Restaurants must declare all holdings of beche-de-mer within three (3) weeks of the fishery closure date.
- e) Prohibitions
- i) The use of underwater breathing devices such as hookah and SCUBA for the fishing of sea cucumbers is prohibited.
 - ii) The use of underwater lights or surface lights for the fishing of sea cucumbers at night is prohibited.
 - iii) The taking of sea cucumbers and the trade of beche-de-mer is prohibited when a specific Provincial TAC has been reached, during the compulsory closed season, or in a prohibited area of harvest.
 - iv) Intra-Provincial Transfers of beche-de-mer or beche-de-mer products is prohibited. Only on genuine cases can this be allowed however only upon approval by NFA Managing Director
 - v) Provincial licensed buyers are prohibited to buy or sell beche-de-mer to another province.
- f) Closure of the fishery
- i) A compulsory closed season applies to all Provinces and will occur each year, from the 1st October until the 31st March of the following year, inclusive.
 - ii) Harvesting and buying of a particular species will cease when the specie specific TAC for the province is reached.
 - iii) The National Fisheries Authority will close the sea cucumber fishery when the cumulative species TAC for the Province is reached
 - iv) The National Fisheries Authority will advertise the closure date of the fishery through the media, once it has been estimated that 70 % of a Provincial TAC has been reached, or when the compulsory season closure date has been reached.

The National Beche-De-Mer Fishery Management Plan—*continued*

- v) All declared holdings of beche-de-mer after the closure date of a specific Province or the annual compulsory closure must be exported within three (3) weeks of the closure date. If this is not possible due to shipping service delays, the container must be locked and sealed by NFA and proof of shipping documentation provided to the Provincial Fisheries Administrations, the National Fisheries Authority, and PNG Customs.
 - vi) Province or LLG specific or community management plans that are endorsed by PMACs or LLGMACs or gazetted by other legislation may specify no harvesting areas.
- g) Reporting
- i) Standard trade names as specified on Schedule 4 of this plan must be used in all reporting of species bought and exported.
 - ii) Licensed exporters and buyers must submit the daily purchase record using the form on schedule 2 on a weekly basis to Provincial Fisheries Administrations and the National Fisheries Authority on all beche-de-mer or beche-de-mer products purchased from the fishermen.
 - iii) Exporters shall declare all beche-de-mer or beche-de-mer products they intend to export on the form as in Schedule 5 of this plan to the National Fisheries Authority, before the National Fisheries Authority will issue an approval for export.
 - iv) Once a closure notice has been given for a respective Province or nationally in the case of the compulsory seasonal closure, exporters must report all holdings of beche-de-mer or beche-de-mer products to Provincial Fisheries Administrations and the National Fisheries Authority on the form set out in Schedule 6 of the Management Plan. This report must be furnished ten (10) days after the fishery closure date.
 - v) Failure to submit the required reports within ten (10) days, or submitting incorrect data, including incorrect trade names, may result in the confiscation of the holdings of beche-de-mer or beche-de-mer products, a fine incurred and the licence cancelled.

9. Research and Assessments

- a) Stock Assessment and Fisheries Data collection
- i) Provincial Fisheries Administrations with the assistance of relevant stakeholders or research organisations and with the technical support from the National Fisheries Authority will conduct regular yearly stock assessments in their respective Provinces to establish the status of the stocks in relation to the impact of the fishery. Stock assessment information will be supplied to the National Fisheries Authority to refine the annual Provincial TACs.
 - ii) Provincial Fisheries Administrations and the National Fisheries Authority will collaborate with exporters and buyers to analyse fishery data using the beche-de-mer buyers and exporters purchasing records using the form as set out in Schedule 2 of the Management Plan.
 - iii) Provincial Fisheries Administrations with the assistance of relevant stakeholders and research organisations and with the technical support from the National Fisheries Authority will commission, or encourage research to identify negative environmental impacts of the sea cucumber fishery and the beche-de-mer trade, and develop mitigation methods against them.
- b) Socio-economic Assessment
- i) Provincial Fisheries Administrations with the assistance of relevant stakeholders and research organisations and with the technical support from the National Fisheries Authority will commission and encourage socio-economic research to establish socio-economic baselines and if there are already some form of baselines, make comparisons to later assessments.
 - ii) Provincial Fisheries Administrations with the assistance of relevant stakeholders and research organisations and with the technical support from the National Fisheries Authority will monitor the changing socio-economic profiles of the coastal and island communities as a result of the fishery and management actions.

The National Beche-De-Mer Fishery Management Plan—*continued***10. Mariculture, Aquaculture, Ranching and Stock Enhancement**

Stakeholders interested in aquaculture, pond farming and sea ranching will need to apply through the normal process for an Aquaculture Licence, as well as any other relevant licenses to participate in this fishery. Conditions under an Aquaculture Licence may include the following issues:

- i) Minimum standards for hatchery operations.
- ii) Access to brood stock.
- iii) Movement of juveniles.
- iv) Acquiring land and sea area for aquaculture purposes, pond farming or sea ranching.
- v) Boundary determination of pond farming and sea ranching areas.
- vi) Ownership of sea cucumber stocks inside sea ranching areas.
- vii) Dealing with conflicts arising from aquaculture, pond farming or sea ranching.
- viii) Harvesting periods for aquacultured sea cucumbers.
- ix) Culture of F2 generation for export
- x) Impacts of aquacultured sea cucumbers on annual Provincial TACs

11. Customary Rights

- a) Customary management measures which are consistent with the Management Plan will be encouraged to notify the National Fisheries Authority and Provincial Fisheries Administrations of such measures and have these incorporated into Provincial and LLG management strategies.
- b) Customary open seasons that are inconsistent with the closed seasons as set out in Section 8(f)(ii) are prohibited under Section 30 of the Fisheries Management Act 1998.

12. LIST OF SCHEDULES

Schedule 1. Licensing Criteria

Schedule 2. Buyers Daily Purchase Records

Schedule 3. Certificate of Authorisation to serve beche-de-mer in a restaurant

Schedule 4. Minimum Size Limits

Schedule 5. Export Declaration Form

Schedule 6. End of Season Exporters Holding Form

Approved on the 5th of September, 2016.

Hon. M. ZEMING,
Minister for Fisheries and Marine Resources.

SCHEDULE 1. LICENCING CRITERIA

DATE APPLICATION RECEIVED..... FILE NO.....

NAME OF COMPANY..... TYPE OF LICENCE.....

ADDRESS

| CRITERIA | Status (put tick for yes, x for no) | POINTS | POINT SCORE |
|---|-------------------------------------|--------------------|---------------------|
| Company Registration | | | |
| Citizen Company Registration & Licence | | 5 | |
| Foreign Company | | Reject Application | |
| | | Subtotal | |
| Licence Status | | | |
| Renewal of Export License | | 5 | |
| New Applicant for Buyers/Export License | | 3 | |
| | | Subtotal | |
| Fishing Industry Investment | | | |
| Investment in Other Fishery that benefit Communities | | 3 | |
| Investment in Aquaculture | | 3 | |
| Investment in Sea Cucumber Aquaculture | | 5 | |
| Investment in Sea Cucumber Hatchery | | 5 | |
| Investment in Sea Cucumber Aquaculture-Ranching | | 5 | |
| | | Subtotal | |
| Ownership | | | |
| Foreign Owned company | | Reject Application | |
| Citizen Owned Company | | 4 | |
| Community run Co-operative Society | | 5 | |
| Community Owned Company | | 5 | |
| | | Subtotal | |
| Compliance | | | |
| Submitted all reports for the season | | 5 | |
| Submitted some reports for the season | | 2 | |
| Cited for breach of offence | | 1 | |
| Breach of licensing terms and conditions | Reject Application | | |
| Breach of licensing terms and conditions | Reject Application | | |
| Associated with Blacklisted Individual | Reject Application | | |
| Company is Blacklisted for previous breaches | Reject Application | | |
| Breach of Fisheries Act and Regulations | Reject Application | | |
| | | Subtotal | |
| Reporting | | | |
| Timely submission of buyers receipts | | 5 | |
| Accurate recording of buyers receipts | | 5 | |
| Late submission of log buyers receipts | | 2 | |
| Non submission of buyers receipts | | Reject Application | |
| | | Subtotal | |
| Transport and Marketing | | | |
| Company owns boat to buy and transport products from remote locations | | 4 | |
| Company has Business plan | | 4 | |
| Company has no Business Plan | | 2 | |
| Company made minimum of one export(Export Licences) | | 4 | |
| Company made no export (Export Licences) | | Reject Application | |
| Company made no export for 2 consecutive years | | Reject Application | |
| | | Subtotal | |
| | | | TOTAL POINTS |

POINTS COMPILED BY..... CHECKED BY.....

SCHEDULE 3.

CERTIFICATE OF AUTHORISATION TO SERVE BECHE-DE-MER IN A RESTAURANT

The Independent State of Papua New Guinea
National Fisheries Authority

Fisheries Management Act 1998

CERTIFICATE OF AUTHORISATION TO SERVE BECHE-DE-MER IN A RESTAURANT

NAME OF RESTAURANT

LOT NUMBER

SECTION

Certificate Valid Start Date

Certificate Valid End Date

Total Amount of Beche-de-mer allowed

CONDITIONS

1. Only buy from a licensed Exporter
2. Only buy during the bech-de-mer fishery open season
3. No buying during beche-de-mer fishery closed season
4. No beche-de-mer meal preparation and serving during the closed season or other fishery closure period
5. Store bech-de-mer as specified by NFA

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Approved by NFA Managing Director.

Date Certificate Approved

SCHEDULE 4. MINIMUM SIZE LIMITS

| | COMMON NAME | SPECIES | LIVE MINIMUM SIZE (CM) | DAY MINIMUM SIZE (CM) |
|----|-----------------------|---------------------------------|------------------------------|-----------------------------|
| 1 | Deepwater redfish | <i>Actinopyga echinites</i> | 25 | 15 |
| 2 | Stone fish | <i>Actinopyga lecanora</i> | 15 | 10 |
| 3 | Hairy Blackfish | <i>Actinpyga miliaris</i> | 15 | 10 |
| 4 | Surf redfish | <i>Actinopyga mauritiana</i> | 20 | 8 |
| 5 | Blackfish | <i>Actinopyga palauensis</i> | 20 | 10 |
| 6 | Tigerfish | <i>Bohadschia argus</i> | 20 | 10 |
| 7 | Chalkfish | <i>Bohadschia similis</i> | 20 | 10 |
| 8 | Brown sandfish | <i>Bohadschia vitiensis</i> | 20 | 10 |
| 9 | Lollyfish | <i>Holothuria atra</i> | 30 | 15 |
| 10 | Snakefish | <i>Holothuria coluber</i> | 30 | 15 |
| 11 | Pinkfish | <i>Holothuria edulis</i> | 25 | 10 |
| 12 | | <i>Holothuria hilla</i> | 25 | 10 |
| 13 | Red snakehead | <i>Holothuria flavomaculata</i> | 30 | 15 |
| 14 | Labuyo | <i>Holothuria foscinaeae</i> | 30 | 15 |
| 15 | White teatfish | <i>Holothuria fuscogilva</i> | 35 | 15 |
| 16 | Elephant trunkfish | <i>Holothuria fuscopuntata</i> | 45 | 15 |
| 17 | Golden Sandfish | <i>Holothuria lessoni</i> | 22 | 10 |
| 18 | White threadfish | <i>Holothuria leucospilota</i> | 25 | 10 |
| 19 | Black teatfish | <i>Holothuria nobilis</i> | 22 | 10 |
| 20 | Sandfish | <i>Holothuria scabra</i> | 22 | 10 |
| 21 | Flower fish | <i>Pearsonothuria graeffei</i> | 25 | 10 |
| 22 | Greenfish | <i>Stichopus chloronatus</i> | 20 | 10 |
| 23 | Curryfish | <i>Stichopus herrmanni</i> | 25 | 10 |
| 24 | Selenkas sea cucumber | <i>Stichopus horrens</i> | 20 | 10 |
| 25 | Pink Curryfish | <i>Stichopus naso</i> | 25 | 10 |
| 26 | Ocellated curryfish | <i>Stichopus ocellatus</i> | 25 | 10 |
| 27 | Brown curryfish | <i>Stichopus vastus</i> | 25 | 10 |
| 28 | Prickly Redfish | <i>Thelenota ananas</i> | 25 | 10 |
| 29 | Amber | <i>Thelenota anax</i> | 20 | 10 |
| 30 | Candy cane | <i>Thelenota rubralineata</i> | 25 | 10 |

