



# Samoa Sea Cucumber Fisheries Management and Development Plan



SPC  
Secretariat  
of the Pacific  
Community



# Samoa Sea Cucumber Fisheries Management and Development Plan

Compiled by the Fisheries Division, MAF  
with technical assistance from SPC



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Secretariat  
of the Pacific  
Community

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# Approval of the Samoa Sea Cucumber Fisheries Management and Development Plan

Pursuant to the powers and functions vested in the Ministry of Agriculture and Fisheries (the Ministry) under the Fisheries Act 1988 (the Act), having regard to scientific, economic, cultural, environmental and other relevant considerations, the Ministry has determined that the sea cucumber fishery:

- a. is important to the national interest; and
- b. requires a management and development plan for effective conservation and optimum utilisation.

And accordingly, the Ministry authorises the sea cucumber fishery as a designated fishery, and hereby approves the Samoa Sea Cucumber Fisheries Management and Development Plan.

Dated this 23<sup>rd</sup> Day of June 2015

A handwritten signature in black ink, appearing to read 'Le Mamea Ropati Mualia', written in a cursive style.

Hon. Le Mamea Ropati Mualia  
Minister, Ministry of Agriculture and Fisheries, Samoa



# CONTENTS

<b>Approval of the Samoa Sea Cucumber Fisheries Management and Development Plan .....</b>	<b>iii</b>
---	------------

<b>Part I. The Samoa Sea Cucumber Fisheries Management and Development Plan .....</b>	<b>1</b>
---	----------

1. Preamble.....	1
2. Scope and status .....	2
3. Purpose .....	2

<b>Part II. Authorities, roles and responsibilities .....</b>	<b>3</b>
---	----------

1. Community roles .....	3
2. Ministry of Agriculture and Fisheries – MAF .....	3

<b>Part III. Objectives and strategies.....</b>	<b>4</b>
---	----------

1. Fisheries management objectives .....	4
2. Strategies to achieve objectives .....	5

<b>Part IV. Management measures .....</b>	<b>6</b>
---	----------

1. Sea cucumber fishing period.....	6
2. Restricted fishing areas.....	6
3. Licences and permits.....	7
4. Maximum number of export licences .....	8
5. Export prohibitions and requirements.....	8
6. Gear prohibitions.....	8
7. Species prohibitions and allowable species .....	9
8. Requirement for other sea cucumber products.....	9
9. Requirements for sea cucumber aquaculture.....	10

<b>Part V. Licensing processes .....</b>	<b>11</b>
--	-----------

1. Licence applications.....	11
2. Obligations of Licence Holder .....	12

<b>Part VI. Review of the plan .....</b>	<b>13</b>
--	-----------

<b>Appendix I – Characteristics of Samoa’s sea cucumber fishery .</b>	<b>15</b>
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## Part I. The Samoa Sea Cucumber Fisheries Management and Development Plan

### 1. Preamble

Sea cucumber resources in many countries have declined due to excess harvesting and exports, causing a boom-bust production pattern for many Pacific Island countries and territories (PICTs). Authorities responsible for the management of the fishery have been slow to react to the declining state of the resources, which has caused significant losses in cash income for many island communities. The demand for processed sea cucumber (beche-de-mer) continues to grow, in line with the growth of the Chinese and other Asian economies, but supplies from PICTs have diminished, largely due to inadequate management frameworks. Consequently, the market is looking for new sources of beche-de-mer supply. Countries that were not, traditionally, the main beche-de-mer suppliers are receiving requests for the supply of sea cucumber product. To avoid the potential overfishing or the depletion of sea cucumber resources in Samoa, the country has taken responsible steps to respond to the challenges of sea cucumber fishery management by adopting a national sea cucumber management and development plan. The plan envisages accommodating strategic management actions to ensure resources are managed sustainability, protecting sufficient spawning biomasses to ensure continuous recruitment, and controlling aquaculture and ranching operations to ensure that wild stocks are properly managed.



## 2. Scope and status

The Samoa Sea Cucumber Management and Development Plan provides policy guidance and direction on management and development measures for the sea cucumber fisheries in Samoa. The plan applies to all animals belonging to the class Holothuroidea, commonly known as sea cucumbers or beche-de-mer,<sup>1</sup> and includes all activities associated with the aquaculture, collection,<sup>2</sup> processing, storage, buying, selling and exporting of sea cucumber products from Samoa.

The characteristics of the Samoan sea cucumber fishery are summarised in Appendix 1.

## 3. Purpose

The purpose of the Samoa Sea Cucumber Management and Development Plan is to provide for biologically and economically sustainable development, and to establish an effective and enforceable management structure, as well as recommendations and measures governing the exploitation and utilisation of Samoa's sea cucumber fishery, while maintaining the sea cucumber's cultural and traditional importance.



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1 Holothurians are generally referred to as sea cucumbers; however the product is called beche-de-mer in its processed form (gutted, boiled and dried).

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2 Collecting also refers to harvesting and capture.



## **Part II. Authorities, roles and responsibilities**

### **1. Community roles**

The plan acknowledges the community-based fisheries management programme, as well as national conservation and management areas. Communities are to manage their sea cucumber resources consistently with their respective management plans, this management and development plan and relevant regulations.

### **2. Ministry of Agriculture and Fisheries – MAF**

The Fisheries Division's role is to promote:

- a. the conservation, management and development of the fisheries of Samoa;
- b. the exploitation of living resources of the fishery waters;
- c. scientific research; and
- d. the protection and preservation of the marine environment.



## Part III. Objectives and strategies

### 1. Fisheries management objectives

In order to establish an effective management framework for all sea cucumber fishing and related activities within Samoa, the following management objectives have been identified:

- a. Manage the fishery using the best available information and improve the collection of information to assist decision-making and refine the management of Samoa's sea cucumber fisheries.
- b. Ensure that commercial harvest is economically sustainable, and that it contributes to increasing livelihoods for Samoan communities, and recovers the costs of resource assessment and management.
- c. Maintain and encourage customary and traditional values and management practices of Samoan communities in the sustainable harvesting, processing and marketing of sea cucumber resources.
- d. Incorporate community-based fisheries management strategies to ensure effective participation, monitoring and enforcement by communities.



## 2. Strategies to achieve objectives

Strategies to achieve the objectives of the Samoa Sea Cucumber Management and Development Plan include:

- a. Develop effective and enforceable management measures for any commercial and artisanal sea cucumber fisheries.
- b. Promote the development of sustainable sea cucumber aquaculture for the benefit of Samoa and its people.
- c. Establish an ongoing programme of catch, effort and export data collection, and scientific data and surveys, to improve information for the support of effective management.
- d. Establish an effective monitoring and enforcement system to ensure compliance.
- e. Promote and encourage the management of the sea cucumber fishery at the community level, including the retention of useful traditional management practices.
- f. Provide timely advice to Coastal Fisheries Advisory Committee (CFAC) on issues pertaining to the management and development of sea cucumber fisheries.



## Part IV. Management measures

### 1. Sea cucumber fishing period

- a. The Minister of Agriculture and Fisheries (the Minister) may declare the whole or any part of the year to be ‘sea cucumber open fishing period for commercial purposes’, in relation to either specific individual areas or all sea cucumber fishing areas.
- b. The Ministry shall give public notice of the period declared for ‘sea cucumber open fishing period for commercial purposes’, including the restrictions placed on the harvesting, processing and export of sea cucumbers.
- c. Stock-piling of live sea cucumber prior to and after a ‘sea cucumber open fishing period for commercial purposes’ shall be prohibited.
- d. The above measures will not apply to domestic harvest for subsistence consumption or artisanal interests.

### 2. Restricted fishing areas

It shall be prohibited for any person to fish or collect sea cucumber within areas declared as fish reserves; marine protected areas, national protection/preservation areas, or declared by villages in their village by-laws, or any areas declared by the Minister.



### 3. Licences and permits

Licences shall be issued to persons or companies that process sea cucumber or export sea cucumber product, in accordance with the criteria identified in Schedule 1. Licence conditions (Schedule 2) will be used to monitor the collection, buying, processing, selling, packaging and export of sea cucumber product. Licence fees will apply as a means of recovering costs against government expenditure for the sustainable management of the sea cucumber fishery. Fishers collecting sea cucumber will not require a licence.

- a. All processing or export of sea cucumber collected from the wild is prohibited.
- b. All processing or export of sea cucumber for commercial export purposes, without authorisation by the CEO of the Ministry of Agriculture and Fisheries (CEO-MAF), issued in the form of a licence, is prohibited.
- c. Any person who intends to process and/or export sea cucumber shall first submit an application to the CEO-MAF, for a sea cucumber processing or export licence (Schedule 3).
- d. Types of licences and permits:
  - i. ***Sea cucumber aquaculture licence***: Applicable to nationals of Samoa who intend to culture/ranch and farm sea cucumber for export. This licence is not transferable, and is valid for a period of 36 months (3 years) from the date of issue.
  - ii. ***Sea cucumber processing and export licence***: Applicable to persons or companies registered with Ministry of Commerce, Industry and Labour (MCIL) and who intend to export processed sea cucumber. This licence is not transferable, and has a period of 12 months from the date of issue. The licence is subject to a species quota and a license fee.
  - iii. ***Sea cucumber export permit***: A sea cucumber export permit shall be issued for all consignments of sea cucumber product destined for export.

#### 4. Maximum number of export licences

The maximum number of sea cucumber process and export licences that are to be issued in any licensing period shall be determined by the CEO-MAF. An export licence shall only be issued to persons registered with the Ministry of Commerce Industry and Labour. An export Total Allowable Catch (TAC) by species shall be determined by the CEO-MAF, and shall apply for each export licence.

#### 5. Export prohibitions and requirements

- a. The export of parts of, broken or damaged sea cucumber is prohibited.
- b. Prior to the export of any consignment of sea cucumber, the export licensee is required to file a Sea Cucumber Export Declaration Form, with the CEO-MAF, at least two working days prior to the day of export. The Sea Cucumber Export Declaration Form shall detail the species code names, quantity source, export destination and value of the product, at the species level, in accordance with the prescribed form (Schedule 4).
- c. An export permit may be issued upon the submission of an export declaration form and the completion of a packing inspection and the verification of the export information provided.

#### 6. Gear prohibitions

- a. No person shall harvest sea cucumber in any manner other than:
  - i. by hand picking either through free diving, or wading;
  - ii. during daylight hours.
- b. All methods of harvesting sea cucumber other than as detailed in paragraph 6 (a) are prohibited.

## 7. Species prohibitions and allowable species

- a. The CEO-MAF shall determine the species and quantity (quota) permitted for export each calendar year.
- b. It shall be prohibited for any person to:
  - i. possess or sell dried sea cucumber smaller than the minimum dry lengths provided in Schedule 5;
  - ii. process or export the following sea cucumber species:
    - i. Curryfish (sea amu'u), *Stichopus herrmanni*,
    - ii. Dragonfish (sea), *Stichopus horrens*,
    - iii. Brown sandfish (fugafuga), *Bohadschia vitiensis*,
    - iv. Tigerfish (ulutunu), *Bohadschia argus* and
    - v. Lollyfish (loli), *Holothuria atra*

## 8. Requirement for other sea cucumber products

- a. Any person who intends to harvest, process or export sea cucumber for pharmaceutical, aphrodisiac, cosmetic or any other non-food products shall first submit an application to the CEO-MAF for authorisation, which may, at the discretion of the CEO-MAF, be required to be accompanied by the following:
  - i. A proposal outlining the proposed operations
  - ii. A description of the types of activities the operation will undertake
  - iii. A description of the type of species to be harvested and the source of stock
  - iv. The identification of the site of the proposed operation
  - v. A statement indicating whether the production will be monthly or yearly
  - vi. An evaluation of the potential environmental impacts of the operation, and an outline of the procedures the operation will undertake to avoid detrimental environmental impacts

- vii. A business plan and indicators to measure the success of the operation
- viii. Any other information required by the CEO-MAF

## 9. Requirements for sea cucumber aquaculture

- a. Any person who intends to produce sea cucumber by hatchery technology, aquaculture or sea cucumber ranching shall first submit an application for a Sea Cucumber Aquaculture Licence in the form prescribed by Schedule 6, which may, at the discretion of the CEO-MAF, be accompanied by the following:
  - i. A sea cucumber hatchery, aquaculture or ranching operational plan
  - ii. A description of the types of activities the operation will undertake
  - iii. A description of the methods of husbandry, including methods of propagation
  - iv. A description of the source and quantity of brood stock species
  - v. The identification of the site of proposed operation
  - vi. A statement indicating whether the production will be monthly or yearly
  - vii. An evaluation of the potential environmental impacts of the operation, and an outline of the procedures the operation will undertake to avoid detrimental environmental impacts
  - viii. A business plan and indicators to measure the success of the operation
  - ix. A letter of approval from the relevant Village Council in respect of the proposed operations
  - x. Any other information required by the CEO-MAF
- b. Any license issued shall be accompanied with terms and conditions in schedule 7



## Part V. Licensing processes

### 1. Licence applications

- a. Applications for a sea cucumber processing or export licence shall be submitted to the CEO-MAF in the form prescribed in Schedule 3.
- b. Applicants shall ensure that the application form is completed, and that all information requested is provided.
- c. No application shall be accepted from a person under the age of 18 years.
- d. Applications must be accompanied by the application fee to be prescribed.
- e. The payment and acceptance of the appropriate application fee does not constitute approval of the application. Application fees are not refundable.
- f. All applications must be submitted by the due date, as specified in the invitation to apply for licences. Any late or incomplete applications will not be accepted.
- g. Upon receipt of an application the Ministry shall review the application, make a determination, and the CEO-MAF shall communicate the determination to the applicant within a period of 30 days.
- h. The Ministry shall issue a licence to a successful applicant no later than 30 days after the applicant is informed of the decision, and after payment of the annual license fee to be prescribed.





## 2. Obligations of Licence Holder

- a. Licence holders must comply with all conditions on the licence.
- b. It is the licensee's obligation to ensure that log forms (Schedules 4 and 8) are filled in correctly and are submitted to the Fisheries Division on a timely fashion, as required by any special conditions on a licence or permit.
- c. The licensee will allow and assist any authorised enforcement officer to carry out his or her duties safely, including inspecting log forms and processing and export facilities, taking photographs and collecting specimens.
- d. For aquaculture or ranched sea cucumber exports the licensee shall provide proof or evidence of F2 (second generation) animals.



## Part VI. Review of the plan

Once every fiscal year, the CEO-MAF shall, conduct an analysis of the conservation, management and development measures set out in this Samoa Sea Cucumber Management and Development Plan, and determine whether the plan should be reviewed. The plan should be reviewed immediately after any resource survey (to be conducted at least once every three years). The Samoa Sea Cucumber Management and Development Plan may be reviewed upon the written approval of the CEO-MAF.

In reviewing the Samoa Sea Cucumber Management and Development Plan the CEO-MAF shall have particular, but not necessarily sole, regard to:

- a. the objectives of the Act and this Samoa Sea Cucumber Management and Development Plan;
- b. the effectiveness of the data collection and monitoring programmes;
- c. the status of the stocks, including changes in yield, species and size composition or distribution;
- d. the benefits to communities;
- e. the status and economic viability of the fishery;
- f. the appropriateness of fees and charges; and
- g. the effectiveness of the conservation, management and development measures.

Having conducted the review, the CEO-MAF shall make recommendations to the Minister in regard to the continued management and development of the sea cucumber fisheries. In particular, the CEO-MAF may make recommendations regarding the amendment, revocation or continuation of the Samoa Sea Cucumber Management and Development Plan.

The CEO-MAF shall consult with key stakeholders prior to making any recommendation to the Minister in relation to the results of the review.

- a. The Fisheries Division may revise and amend the Schedules as necessary.
- b. Any proposed amendments shall be submitted to the Minister for approval.
- c. Any amendments or revisions to this plan shall be made public.

## Appendix I – Characteristics of Samoa's sea cucumber fishery

### 1. General biology

There are over 1000 sea cucumber species distributed throughout the world's oceans, and around 35 species are harvested in the tropical Pacific region for processing into beche-de-mer. Sea cucumbers move slowly across soft and hard bottom areas of lagoons and reefs, where they play an important role in cleaning the sea floor. They feed on dead plant and animal material (detritus) in the sand. Sea cucumbers are important in cleaning and turning over sand on the sea floor.

Sea cucumbers have separate sexes (male and female), and some species, such as sandfish, are relatively fast growing, reaching reproductive size within a year, but they take another two years to reach an acceptable market size. Many species grow slowly, and live between five and 15 years. During spawning, females release eggs into the water, and these are fertilised by sperm released by males. Successful reproduction and recruitment of juveniles depends on large numbers of sea cucumbers being in the same place.

**Table 1: Sea cucumber species found in Samoa**

Common name	Scientific name	Samoaan Name
Black teatfish	<i>Holothuria whitmaei</i>	Susuvalu uliuli
Brown sandfish	<i>Bohadschia vitiensis</i>	Fugafuga
Curryfish	<i>Stichopus hermanni</i>	Sea anu'u
Chalkfish	<i>Bohadschia marmorata</i>	Fugafuga
Deepwater red fish	<i>Actinopyga echinites</i>	Mama'o
Elephant trunkfish	<i>Holothuria fuscopunctata</i>	Fugafuga sama
Greenfish	<i>Stichopus chloronotus</i>	Maisu
Hairy blackfish	<i>Actinopyga miliaris</i>	Loli
Leopardfish/Tigerfish	<i>Bohadschia argus</i>	Ulutunu
Lollyfish	<i>Holothuria atra</i>	Loli aau

Prickly redfish	<i>Thelenota ananas</i>	Fa'atafa
Dragonfish	<i>Stichopus horrens</i>	Sea
Snakefish	<i>Holothuria coluber</i>	Peva
Surf redfish	<i>Actinopyga mauritiana</i>	Mama'o
Tigertail sea cucumber	<i>Holothuria hilla</i>	Sea amu'u
White teatfish	<i>Holothuria fuscogilva</i>	Susuvalu pa'epa'e
King Sea cucumber	<i>Synapta maculatus</i>	Peva

Note: 10 species from this list of 17 species were found in a 2013 survey of sea cucumber in Samoan waters (these are indicated with blue shading in the table)

## 2. History of commercial fishery in Samoa

Beche-de-mer trade began in Samoa in the 1960s, however there are no records about the amount and value exported (Eriksson 2006). In 1987 three tonnes of beche-de-mer was exported to Fiji by one company (which later closed down) (Mulipola 1994). Export reopened in 1992, and consisted mainly of *B. vitiensis* (brown sandfish), *B. argus* (tigerfish) and *A. mauritiana* (surf redfish) (Table 2). The export companies remained economically viable for only a brief period (less than 2 years) due to the collapse of the fishery (Mulipola 1994). Commercial harvesting of sea cucumbers in Samoa was then closed in 1994.



**Table 2: Average price and catch data obtained from export years 1993/94 in Samoa**

Species	Value	Common name	Samoan name	Av. price (USD/kg)	Weight (kg)	2012 value <sup>3</sup> (USD/kg)
<i>Bohadschia vitiensis</i>	L	Brown sandfish	Fugafuga	2.72	18,078	14-20
<i>Actinopyga mauritiana</i>	M	Surf red fish	Mamao	6.04	12,299	25-40
<i>Bohadschia argus</i>	M	Tiger fish	Ulutunu	3.78	7,875	10-25
<i>Stichopus chloronotus</i>	M	Green fish	Maisu	9.00	1,056	25-50
<i>Holothuria whitmaei</i>	H	Black teatfish	Susuvalu uliuli	8.00	977	25-65
<i>Holothuria atra</i>	L	Lollyfish	Loli	1.75	771	5-15
<i>Holothuria fuscogilva</i>	H	White teatfish	Susuvalu pa'epa'e	12.33	153	45-85
<i>Thelenota ananas</i>	M	Prickly redfish	Fugafuga sauai	8.90	97	25-45

L=Low, M=Medium, H=High

Source: Mulipola 1994.

Issues relating to the profitability and local sustainability of sea cucumber have been raised in various reports and forums. These concerns relate to the 'boom-bust' trend or experiences in various countries' sea cucumber fisheries over recent decades, with periods of strong decline in catch and sea cucumber availability, followed by the introduction of fishing moratoriums.

3 The price range that fisheries would expect for good quality beche-de-mer product in 2012 (see Purcell et al. 2012 and Carleton et al. 2013).

### 3. Current subsistence/artisanal fishery

Sea cucumbers are harvested for subsistence and artisanal use, and are consumed either raw or bottled with sea water. The two main target species are *Stichopus horrens* (dragonfish), which is fished for its viscera, and *Bohadschia vitiensis* (brown sandfish), which is fished for its body wall (Table 3).

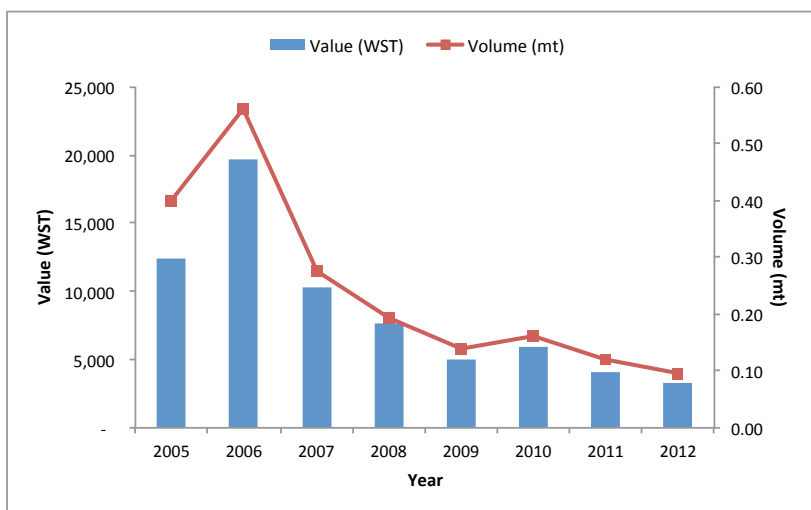
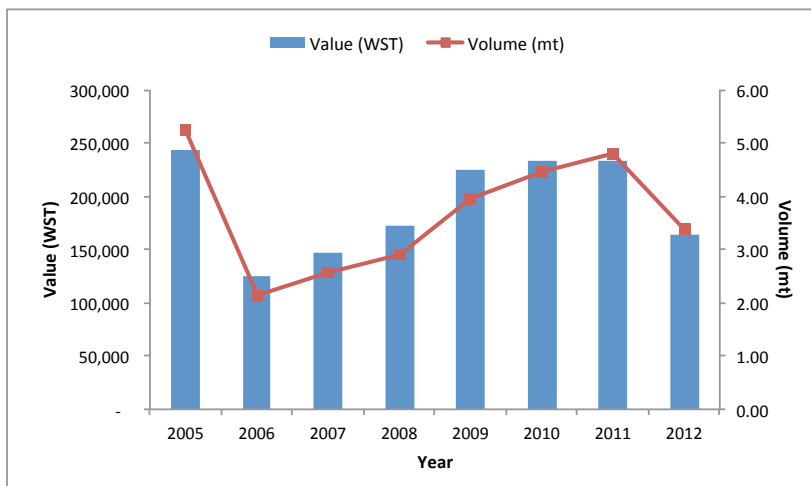
**Table 3: Sea cucumber species harvested and consumed as traditional food items**

Scientific name	Common name	Samoan name	Part consumed
<i>Bohadschia argus</i>	Tiger fish	Ulutunu	Body wall
<i>Bohadschia vitiensis</i>	Brown sandfish	Fugafuga	Body wall
<i>Holothuria atra</i>	Lollyfish	Loli	Body wall
<i>Stichopus hermanni</i>	Curryfish	Sea amu'u	Viscera
<i>Stichopus horrens</i>	Dragonfish	Sea	Viscera

Bottled viscera of dragonfish is a sought-after sea cucumber product in domestic markets, with a price ranging from WST 10-15 (285 ml) to WST 30- 50 (750 ml). Market landings (catches) show that the volume and value of dragonfish have increased over recent years (Figure 1), whereas brown sandfish has declined in terms of both volume and value in the lead up to 2012 (Figure 1). However, both dragonfish and brown sandfish numbers were low in a recent resource assessment of Samoan sea cucumber (Sapatu and Pakoa 2013<sup>4</sup>), so although landings continued to rise for dragonfish in the lead up to 2011, numbers in the water are not increasing, and this would suggest too much fishing effort. The increase in value may reflect the scarcity of the resource.

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4 The status of sea cucumber resources and recommendations for management in Samoa (see Sapatu M and Pakoa K, 2013).



**Figure 1: Weight and value of bottled *S. horrens* (dragonfish) landed at domestic markets (top); Weight and value of bottled *B. vitiensis* (brown sandfish) landed at domestic markets (below).**

Other bottled sea cucumber species are sold at prices of between WST 15 to 25. Some fishers selling these products engage in the practice of filling the bottles with alternative invertebrates or algae (mixed bottles), depending on what they find or catch on a fishing trip, such as a mix of brown sandfish body wall with sea grape (*Caulerpa racemosa*), or dragonfish viscera with sea hare eggs (*Dolabella auricularia*). These mixed products have become more diverse in type, as well as having a greater variation in bottle volumes, rather than the traditional 285 ml and 750 ml bottles.

### **3. Current status of sea cucumber resources in Samoa –2013 resource assessment**

An assessment in 2013 found that the three most abundant species of sea cucumber in Samoan waters were greenfish (*Stichopus chloronotus*), lollyfish (*Holothuria atra*) and tigerfish (*Bohadschia argus*). Greenfish and lollyfish were present at densities above the regional reference densities for healthy stocks. Species exploited by the subsistence fishery – brown sandfish (*Bohadschia vitiensis*) and dragonfish (*Stichopus horrens*) – were not in a healthy stock status and required management intervention. Curryfish (*Stichopus herrmanni*) was last recorded in the 1990s (Mulipola 1994), but was not recorded in this survey, nor in previous surveys, carried out in 2005 and 2006. Eriksson et al. (2006) suggest the species may have disappeared. Dragonfish is the main source of sea (pickled viscera) production. A more accurate assessment of catch landing data is necessary in order to understand subsistence fishery trends for these species. In addition, opportunities for the introduction of some of these fragile species would appear to be an option for further discussion in order to rehabilitate these species.

#### **4. Ecosystem effects from the harvest and processing of sea cucumber**

The beche-de-mer trade has had consequential environmental impacts. Mangrove forest is often deforested as fuel wood for boiling and smoking sea cucumber. It has been estimated that 10 tonnes of wood is needed to produce one tonne of beche-de-mer. Sea cucumber processing also results in the production of stick water, which contains a toxin (holothurine) that originates from the boiling of holothurian body wall. In other countries, the release of stick water directly into the marine environment has resulted in fish kills in shallow coastal areas. Intensive collection of sea cucumber may cause changes to the condition and nature of seafloor sediments, with unknown impacts on other resources.



## **Schedule 1 – Criteria for the issuance of licences**

1. In determining whether or not to issue a Sea Cucumber Processing or Export Licence to an applicant, the Fisheries Division shall take into consideration matters that include, but are not limited to, the following:
  - a. Whether the applicant is registered with the Samoa business registry (with the Ministry of Commerce, Industry and Labour), and the date of registration.
  - b. The level of beneficial ownership of the corporation, business, association or entity by a citizen or citizens of Samoa.
  - c. Whether the applicant gives employment preference to citizens of Samoa.
  - d. Whether the applicant will provide training in the business for citizens of Samoa.
  - e. The range of prices the applicant will be offering to local sea cucumber fishers or processors.
  - f. The export value by species for each unit (WST/kg).
  - g. Whether the applicant has storage facilities which are adequate and secure and allow inspection officers to perform their duties.
  - h. Any history the applicant has of non-co-operation or non-compliance in relation to fishery licences or any other statutory obligations such as taxation, immigration or labour laws.
  - i. The processing methods the applicant will use and disposal of waste product.
2. Processing licences are restricted to citizens of Samoa who are living and resident in Samoa.
3. The Ministry of Agriculture and Fisheries (MAF) shall review all applications against these considerations and any other matter set forth under the Act, and the CEO-MAF (or their delegate) shall advise applicants of the outcome of their licence application.

## Schedule 2 – Licence conditions

As a Sea Cucumber Processing or Export Licence holder, I understand that:

1. I can only purchase, process, trade, pack or have in my possession the sea cucumber species specified in Table A.
2. The quota (export TAC) of processed product I can export for each species during this licence period is outlined in Table A:

**Table A**

Species common name	FAO code	Quota (kg processed dried weight)
A		
B		

3. I must not be involved in any fishing activities, or finance or provide fishing gears, such as boats, outboard engines, underwater breathing apparatus or scuba compressors, to fishers for collecting sea cucumbers.
4. I must not purchase sea cucumbers collected from areas established by the government or a village council as no-fishing areas, reserves, parks or sanctuaries. No-fishing areas include (non-exhaustively) those listed in Table B.

**Table B**

Village/district	Name of closed area	GPS coordinates
a		
b		
c		
d etc		

5. I must not export any sea cucumber species that are smaller than the dried forms as specified by the Samoa Sea Cucumber Fisheries Management and Development Plan or in prescribed regulations (see Schedule 6 – minimum size).
6. I can only export fully processed (dried) beche-de-mer.

7. I must not export partly processed, broken, or strips or pieces of beche-de-mer.
8. I must not pack different processed sea cucumber species together in the same bag or other receptacle; each species is to be packed separately.
9. I must submit an export declaration form with an accompanying invoice to both the Ministry of Agriculture and Fisheries (MAF) and the Ministry of Revenue/Customs Department in order to receive a permit for all consignments of sea cucumber I intend to export. I must submit an export declaration form at least two working days before I intend to export my product.
10. I must provide true and accurate information on all sea cucumber export declaration forms and invoices, and on beche-de-mer monthly log sheets.
11. The Fisheries Division (and/or Customs) may refuse to issue an export permit if I provide misleading, false or incomplete information, or if I do not declare all sea cucumbers that I intend to export.
12. An authorised officer shall be on site to inspect my consignment for export when I pack sea cucumber product for export (e.g. packing sea cucumber product into a reefer container or in containers for airfreight).
13. I must not open my shipping or air freight container after inspection and once it has been sealed by an authorised officer.
14. I must not hold more than one sea cucumber processing or export licence at one time. This condition applies to any manner of holding, including as a legal holder, a beneficial holder, a part holder or through the use of a nominee.
15. Upon request by an authorised officer, I must present my licence to that authorised officer.
16. Upon request by an authorised officer, I must allow my products, processing establishment, holding facility or packaged consignments of sea cucumbers to be inspected by the authorised officer.
17. I am responsible for renewing my licence even without notification from the Fisheries Division. Unless some other expiration date is specified, my licence expires on 31 December of the year of issue.
18. The CEO-MAF may suspend or revoke my licence at any time if I do not comply with the terms and conditions of this licence, and in which case I may not renew or re-apply for another licence for a period of two years from the date of revocation.

### Schedule 3 – Sea cucumber processing or export licence application form

#### Instructions:

- *Please answer all questions on this form, either by filling in the spaces or by providing information on additional sheets of paper.*
- *Underline surnames/family names.*
- *If a question is not applicable, please write N/A.*

#### Send completed form to:

The Chief Executive Officer  
Ministry of Agriculture and Fisheries  
4<sup>th</sup> Floor Tui Atua Tupua Tamasese Efi Building  
PO Box 1874  
Apia, Samoa

[Phone 685 22561, Fax 685 24292]

I hereby apply for a licence to (*process/export*) sea cucumber from Samoa at a place and in the manner described below:

Name of applicant	
Nationality	
Address and location of establishment	
Name, address and contact details of owner of establishment	
Original or certified copy of the applicant's Registration with the Ministry of Commerce, Industry and Labour	Attachment 1
Business plan Structure of business Cash flow of business Staffing details List the processing and business management training offered to fisheries staff Anticipated export quantities	Attachment 2
Police report; details of any violations of fisheries, environment, tax, labour or any other laws	Attachment 3
Species quantity to be <i>processed or exported</i> , and source (village[s]) of supply	Attachment 4
Provide a list of prices by species and product you intend to pay local fishers or processor (product = unprocessed, part processed, frozen, fully processed)  Applications for an <i>Export</i> licence must provide export price (WST/kg) by species	Attachment 5
Application fee	

I declare that I have answered all questions truthfully and to the best of my knowledge, and that I am required to report any change in the information contained in this form to the Chief Executive Officer, Ministry of Agriculture and Fisheries, within seven (7) days of such change.

Signature of Applicant: .....

Date:.....

#### **Schedule 4 – Sea cucumber export declaration form**

*(To be completed by licensee prior to export: must be submitted at least two (2) working days before export)*

Send completed form to:

The Chief Executive Officer  
Ministry of Agriculture and Fisheries  
4<sup>th</sup> Floor Tui Atua Tupua Tamasese Efi Building  
PO Box 1874  
Apia, Samoa

[Phone 685 22561, Fax 685 24292]

Name of exporting company:

Date of shipment:

Sea cucumber export licence no.:

Export permit no:

Export destination and company:

Sea cucumber species code	BDM grade	No. of bags/ species	Average no. of specimens/ bag	Total weight of all bags (kg)	Local purchase value WST/kg
TOTAL					

Black teatfish (HFN), Chalkfish (KUH), Deepwater redfish (KUE), Elephant trunkfish (HOZ), Greenfish (JCC), Hairy blackfish (KUQ), Prickly redfish (TFQ), Snakefish (HHW), Surf redfish (KUY), White teatfish (HFF).

Grade: A: Excellent, top grade; B: Good; C: Poor

**Attachment 1:** Sea cucumber (beche-de-mer) commercial importer invoice; the importer's price list for this consignment must be attached to this export declaration form.

Sea cucumber export Licensee

Fisheries authorised officer/inspector

Name: .....

Name: .....

Signature: .....

Signature: .....

Date: .....

Date: .....



## Schedule 5 – Minimum export size (in cm for dried BDM)

*Minimum wet sizes are used as a guide for fishers and processors*

Species code	Scientific name	Trade Name	Samoan name	Minimum size (cm)	
				Wet	Dry
HFN	<i>Holothuria whitmaei</i>	Black teatfish	Susuvalu uliuli	30	15
CHU	<i>Bohadschia marmorata</i>	Chalkfish	Fugafuga	20	10
KUE	<i>Actinopyga echinities</i>	Deepwater redfish	Mama'o	25	10
HOZ	<i>Holothuria fuscopunctata</i>	Elephant trunkfish	Fugafuga sama	35	15
JCC	<i>Stichopus chloronotus</i>	Greenfish	Maisu	20	10
KUQ	<i>Actinopyga miliaris</i>	Hairy blackfish	Loli	25	10
TFQ	<i>Thelenota ananas</i>	Prickly redfish	Fa'atafa	35	15
HHW	<i>Holothuria coluber</i>	Snakefish	Peva uliuli	40	20
KUY	<i>Actinopyga mauritiana</i>	Surf redfish	Mama'o	25	10
HFF	<i>Holothuria fuscogilva</i>	White teatfish	Susuvalu pa'epa'e	35	15

## Schedule 6 – Sea cucumber aquaculture licence application form

### Instructions:

- *Please answer all questions on this form, either by filling in the spaces or by providing information on additional sheets of paper.*
- *Underline surnames/family names.*
- *If a question is not applicable, please write N/A.*

Send completed form to:

The Chief Executive Officer

Ministry of Agriculture and Fisheries

4<sup>th</sup> Floor Tui Atua Tupua Tamasese Efi Building

PO Box 1874

Apia, Samoa

[Phone 685 22561, Fax 685 24292]

I hereby apply for a licence to culture/farm sea cucumber for commercial export at a place and in the manner described below:

Name of applicant/company	
Nationality	
Address and location of hatchery establishment	
Contact details: Phone/Email/Fax	
Business Licence Number (MCIL)	
Development Consent Number (PUMA, MNRE)	
Business plan	<i>Brief description of the business's aims and goals</i>
Hatchery operation plan	<i>Brief description of the operational plan, based on the requirements for sea cucumber aquaculture</i>
Species source of supply	<i>Indicate whether culture species are to be source locally or import</i>
Application fee	<i>WST 50</i>

I declare that I have answered all questions truthfully and to the best of my knowledge, and that I am required to report any change in the information contained in this form to the Chief Executive Officer, Ministry of Agriculture and Fisheries, within seven (7) days of such change.

Signature of Applicant:..... Date: .....

## **Schedule 7 - Sea Cucumber aquaculture licence terms and conditions**

### **Special conditions**

As a sea cucumber aquaculture licence holder, I understand that:

#### **General conditions:**

1. I can only culture the sea cucumber species indicated in Table 1 of these conditions.
2. My licence is for three (3) years from the date of issue, and I must pay an annual fee of WST 1000 for the duration of the licence.
3. My licence is not transferable, and I may not trade or sell or transfer my licence to any other person.
4. I must have an agreement/lease on land where my hatchery and grow-out facilities are, covering the entire term of my licence.
5. I must begin the set-up of my facility within 12 months of acquiring my licence.
6. I must begin hatchery operations with 24 months of acquiring my licence.
7. I must not discharge effluent into the natural environment without first having treated the effluent to the standards required by all applicable laws and regulations, or by village or district stipulations.

#### **Operating conditions:**

1. I may not import or culture genetically modified sea cucumbers.
2. When collecting stock for culture I must seek permission from village councils/owners, and I must inform the Chief Executive Officer of the Ministry of Agriculture and Fisheries (CEO-MAF) about the quantity of any of the listed species in Table 1, and in any event I must not collect more than 50 individuals in any collection.
3. The Fisheries Division will supervise the collection of wild stock of not more than 50 individuals of the selected species, as indicated in Table 1.

4. I must request written permission from the CEO-MAF, and will cover all relevant costs, for an Import Risk Assessment and/or Environmental Impact Assessment if I intend to introduce sea cucumber specimens for aquaculture or if I intend to import live starter algae for feed production.
5. When releasing juveniles for grow-out I will work with the Fisheries Division on prescribed conditions for grow-out, AND I must keep a record of and report to the MAF the quantity and average size (length and weight), release area and date of release for all such juveniles.
6. I have exclusive rights to harvest aquaculture products within my aquaculture premises.
7. Upon request by an authorised officer, I must allow my products, holding facility or packaged consignments of sea cucumbers to be inspected by the officer
8. The CEO-MAF may suspend or revoke my licence at any time if I do not comply with the terms and conditions of this licence, and in which case I may not renew or re-apply for another licence for a period of two years from the date of revocation.

**Table 1: List of permissible species for sea cucumber aquaculture for commercial export**

Species code	Scientific name	Common/trade name	Samoan name
HFN	<i>Holothuria whitmaei</i>	Black teatfish	Susuvalu uliuli
CHU	<i>Bohadschia marmorata</i>	Chalkfish	Tunu'ulu
KUE	<i>Actinopyga echinites</i>	Deepwater redfish	Mama'o
HOZ	<i>Holothuria fuscopunctata</i>	Elephant trunkfish	Fugafuga sama
JCC	<i>Stichopus chloronotus</i>	Greenfish	Maisu
KUQ	<i>Actinopyga miliaris</i>	Hairy blackfish	Loli
TFQ	<i>Thelenota ananas</i>	Prickly redfish	Fa'atafa
HHW	<i>Holothuria coluber</i>	Snakefish	Peva uliuli
KUY	<i>Actinopyga mauritiana</i>	Surf redfish	Mama'o
HFF	<i>Holothuria fuscogilva</i>	White teatfish	Susuvalu pa'epa'e

**Table 2: Minimum export size (in cm for dried BDM) – minimum wet sizes are used as a guide for fishers and processors**

Species code	Scientific name	Trade name	Samoan name	Minimum size (cm)	
				Wet	Dry
HFN	<i>Holothuria whitmaei</i>	Black teatfish	Susuvalu uliuli	30	15
CHU	<i>Bohadschia marmorata</i>	Chalkfish	Tunu'ulu	20	10
KUE	<i>Actinopyga echinites</i>	Deepwater redfish	Mama'o	25	10
HOZ	<i>Holothuria fuscopunctata</i>	Elephant trunkfish	Fugafuga sama	35	15
JCC	<i>Stichopus chloronotus</i>	Greenfish	Maisu	20	10
KUQ	<i>Actinopyga miliaris</i>	Hairy blackfish	Loli	25	10
TFQ	<i>Thelenota ananas</i>	Prickly redfish	Fa'atafa	35	15
HHW	<i>Holothuria coluber</i>	Snakefish	Peva uliuli	40	20
KUY	<i>Actinopyga mauritiana</i>	Surf redfish	Mama'o	25	10
HFF	<i>Holothuria fuscogilva</i>	White teatfish	Susuvalu pa'epa'e	35	15

## **Schedule 8 – Sea cucumber monthly processor’s log**

To be submitted by all licenced processors on the seventh (7th) day of the month following the month of reporting (e.g. submit on the 7th of June in reporting for May)

Send completed form to:

The Chief Executive Officer  
Ministry of Agriculture and Fisheries  
4<sup>th</sup> Floor Tui Atua Tupua Tamasese Efi Building  
PO Box 1874  
Apia, Samoa

[Phone: 685 22561; Fax: 685 24292]



Name of processor:	Reporting month:
Sea cucumber processor licence number:	

Date	Full name of fisher	Species name	Number of pieces	Weight (kg)	Product source village/district	Price/kg (WST)

Black teatfish (HFN), Chalkfish (KUH), Deepwater redfish (KUE), Elephant trunkfish (HOZ), Greenfish (JCC), Hairy blackfish (KUQ), Prickly redfish (TFQ), Snakefish (HHW), Surf redfish (KUY), White teatfish (HFF).

Product type: Unprocessed (UP); Semi-processed (SP)

Export company owner

Signature: .....

Date: .....

Fisheries Authorised officer/inspector

Signature: .....

Date: .....



