

REPORT OF THE AUDITOR-GENERAL



PERFORMANCE AUDIT ON MANAGING SUSTAINABLE FISHERIES



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Our Reference: 05/05/12
Honourable Speaker of Parliament
Office of the Speaker of Parliament
Parliament of Tuvalu
Vaiaku

10 August 2012

Dear Sir,

REPORT OF THE AUDITOR GENERAL: PERFORMANCE AUDIT REPORT ON MANAGING SUSTAINABLE FISHERIES

The Tuvalu Audit Office has undertaken an independent performance audit on Managing Sustainable Fisheries with the authority under Part 3 Section 25 of the Audit Act. I present the report to you as required under section 45 of the Audit Act since the House of Parliament is not sitting. Nineteen (19) bound copies of the report are provided herewith for distribution to all Honourable Members of Parliament.

Appreciate proper arrangement for all purposes, taken to be a document published by order or under the authority of Parliament and proper scrutiny by the Public Accounts Committee.

Sincerely,

A handwritten signature in black ink, appearing to read "Isaako K. Kine".

Isaako K. Kine
Auditor-General for Tuvalu

Cc: All Honourable members of Parliament
Secretary to Government
Secretary for Natural Resources
Secretary for the Office of the Prime Minister

MANAGING SUSTAINABLE FISHERIES

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1.0 List of Acronyms

ADB	-	Asian Development Bank
AMC	-	Australian Maritime College
CFCs	-	Communities Fishery Centres
CMMs	-	Conservation Management Measures
DCP	-	Defence Co-operation Program
DWFN	-	Distant Fishing Water Nation
EEZ	-	Exclusive Economic Zone
FV	-	Fishing Vessel
FFA	-	Forum Fisheries Agency
FFV	-	Foreign Fishing Vessel
GDP	-	Gross Domestic Product
GEF	-	Global Environment Fund
IUU	-	Illegal, Unregulated and Unreported
IDI	-	INTOSAI Development Initiative
INTOSAI	-	International Organisation of Supreme Audit Institutions
JV	-	Joint Venture
MCS	-	Monitoring, Control and Surveillance
MNR	-	Ministry of Natural Resources
MOU	-	Memorandum of Understanding
MSU	-	Monitoring Surveillance Unit
mt	-	Metric Tonne
NSSD	-	National Strategy for Sustainable Development
OFMP	-	Oceanic Fisheries Management Project
OPM	-	Office of the Prime Minister
PAE	-	Party Allowable Effort
PASAI	-	Pacific Association of Supreme Audit Institutions
PNA	-	Parties to the Nauru Agreement
SPC	-	South Pacific Commission
SPREP	-	South Pacific Regional Environment Programme
TAC	-	Total Allowable Catch
TAE	-	Total Allowable Effort
TUFMAN	-	Tuna Fisheries Database Management System
TMDP	-	Tuna Management Development Plan
TNFD	-	Tuvalu National Fishery Department
UNCLOS	-	United Nations Convention on the Law of the Sea
UNFA	-	United Nations Fish Agreement
USD	-	US Dollars
WCPFC	-	Western Central Pacific Fisheries Commission
WCPO	-	Western Central Pacific Ocean

2.0 Executive summary

2.1 Introduction

This is the Office of the Auditor General of Tuvalu's third Performance Audit Report. The audit was conducted on management of sustainable fisheries in Tuvalu as part of the Pacific Association of Supreme Audit Institution (PASAI) cooperative performance audit initiative.

The Audit Office's mandate, permits the Auditor-General to conduct an audit of all or any particular activities of a public sector entity appropriate and to report findings accordingly to Parliament. The key agencies involved in the audit were the Tuvalu National Fishery Department (TNFD) and the Maritime Surveillance Unit.

The objective of the audit was to assess the effectiveness of the Fisheries Department in the management of offshore fisheries (in particular the tuna fishery) by examining the following:

1. Are the key aspects of Management of off-shore access agreements and fishery licenses identified and planned?
2. Are the economic returns from off-shore access agreement and fishery license appropriate?
3. Is the decision making concerning off-shore fisheries informed by accurate assessments of the fishery? Are changes in the status of the fishery monitored and reported?

2.2 Key Audit Findings

The following audit findings were noted during the review process. The finding number corresponds with the detailed recommendations in the main report:

Key aspects of management of off-shore access agreements and fishery license and fishery licenses identified and planned?

- The Government of Tuvalu does not have any regulation in place prescribing minimum mesh-size and closure of the fisheries EEZ when allocated days have been exhausted as required by the PNA (Parties to the Nauru Agreement).
- The Government of Tuvalu should endorse and fund the Tuna Management and Development Plan (TMDP) to ensure the full implementation of the key objectives (including the development of its work plan).
- The TNFD should put in place a measure to control and minimise by catch in accordance with the requirements of the PNA Additional Conservation and Management Measures.
- TNFD should develop a system that monitors fishing days used by FFVs so that TNFD is not relying on FFA for the monitoring and ensure that VMS records are properly managed and stored in an accessible place.

Are the economic returns from off-shore access agreement and fishery license appropriate?

- The delegation of power by the Minister of Natural Resources should be aligned with requirements stipulated under the Marine Resources Act.
- Official records and minutes of the committee to approve fishing licenses discussed via email should be filed for transparency.

- Sustainability measures set out by PNA and other regional bodies should be followed to minimise overfishing and to ensure continued support from PNA and other regional bodies. This includes not modifying agreements to allow fishing on the high seas.
- Establishment of an effective legal framework surrounding the Vessel Day Scheme (VDS) should be legislated, as well as the other requirements of the PNA.
- Effort limits set by the PNA should be complied with to ensure that scarcity of fishing days is established in order to increase the price of their fishing days.
- Monitoring of the days remaining by each vessel should be performed by TNFD, rather than relying on untimely alerts from PNA.
- Reconciliation of the total amount of fishing revenue to be collected in Tuna Fisheries Database Management System (TUFMAN) to the actual cash received should be performed on a monthly basis.

Is the decision making concerning off-shore fisheries informed by accurate assessments of the fishery? Are the changes monitored and reported?

- TUFMAN data should be up to date by ensuring all staff are able to update the TUFMAN system.
- A regular reconciliation should be performed between Log-sheets (TUFMAN), VMS reports and Observers' reports to identify Foreign Fishing Vessels (FFV) who are yet to submit their log-sheets (and follow up accordingly), do not have a license, or are not in the position which they reported.
- Imposition of fines on FFV should be in accordance with the *Marine Resource Act* as well as the signed Access Agreement. Removal of FFV access to Tuvalu's EEZ should occur if non compliance continues.
- Details of license fees should be entered into TUFMAN, not on a separate excel spreadsheet, to ensure completeness of License fees received.
- Reconciliation of data entered from log-sheets, observers' reports and weekly reports should occur on a regular basis, to ensure that there is consistency of reporting by FFVs.
- TNFD compare VMS reports on days fished by FFVs with TUFMAN days allocated on a FFV basis to determine FFVs who have exceeded their allocated fishing days.
- Observer's data should be entered into TUFMAN to reconcile it to log-sheets and weekly reports.
- A regular reconciliation between VMS reports and TUFMAN should be performed to ensure that all vessels within the EEZ have a licence, the number of days that have been consumed by vessels does not exceed their licensed amount, the reporting entered into TUFMAN agrees with the FFV's position.
- Effort should be made by the TNFD to meet the 100% observer coverage and ensure that all observer conditions are acceptable. Penalties and fines should be imposed on the FFV if they do not provide the observer with adequate conditions.

2.3 Conclusion

Tuvalu has policies and legislation that are applicable to the sustainable management of tuna resources. Tuvalu is also a party to a number of regional and international conventions, protocols and agreements that deals with the sustainable use of managing the tuna resources.

The Tuna Management and Development Plan 2011- 2015 is not yet endorsed by Cabinet or implemented. The TMDP needs to be endorsed as it covers all aspects of managing sustainable offshore fisheries in Tuvalu.

Significant records of access agreements, Joint Venture agreements, fine data and fishing licenses were unable to be located by the TNFD when requested by Audit. This severely limited the scope of the audit testing and more importantly highlight significant management failures by TNFD.

The management of the Vessel Day Scheme and licensing requires improvement for it to be effective and to ensure that maximum benefit is obtained by Tuvalu.

Improvement is required surrounding timely data entry, management and reconciliation of TUFMAN and the VMS. As this data is relied upon by the SPC and PNA to set limits on fishing effort, the accuracy, timeliness and quality of this data is vital.

Additional effort is required to be put into the Observers program to ensure that appropriate coverage is obtained and ensure that the working conditions for the observers are adequate.

In Tuvalu, Fishing licenses are sold according to demand, rather than sustainability.

3.0 Introduction

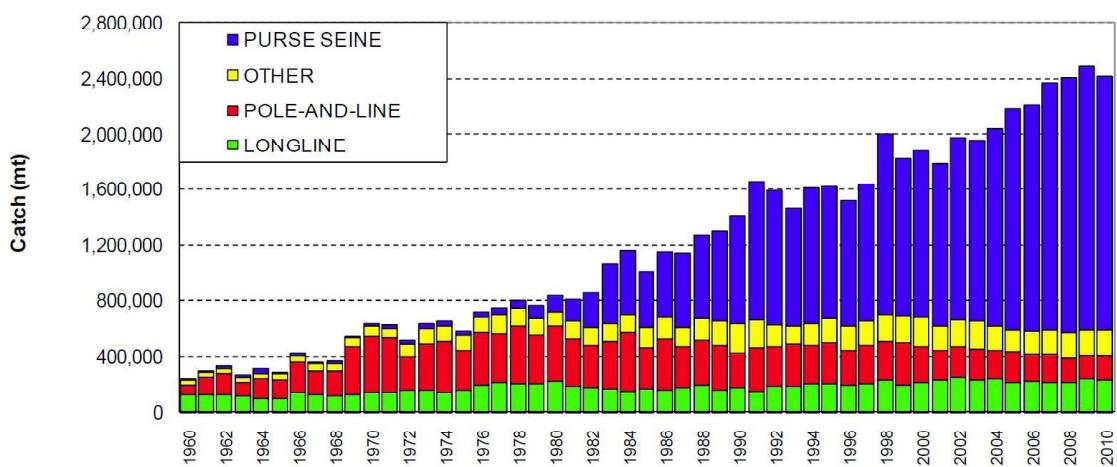
This section of the report provides background information on managing sustainable fisheries arrangements in Tuvalu, the reasons why we conducted the audit, the mandate of the audit, and the entities we audited who are responsible for managing sustainable fisheries arrangements in Tuvalu.

3.1 Background

Tuvalu, formerly known as the Ellice Islands, is an independent state located south of the equator between Kiribati and Fiji. It has a chain of nine islands of which four are reef islands and five are true atolls. With a total land area of 26 square kilometres and a population of 10,472, Tuvalu has a vast Exclusive Economic Zone (EEZ) area of 757,000 square kilometres. The sea in Tuvalu plays a very crucial role socially and economically in the lives of Tuvaluans. The sea is traditionally described as a mother catering for her 10,472 children. The rights to harvest fish in Tuvalu's EEZ are sold to distant water fishing nations (DWFN). For the past ten years, the Tuvalu Fishery has contributed between 6 and 7% of Tuvalu's total Gross Domestic Product (GDP).

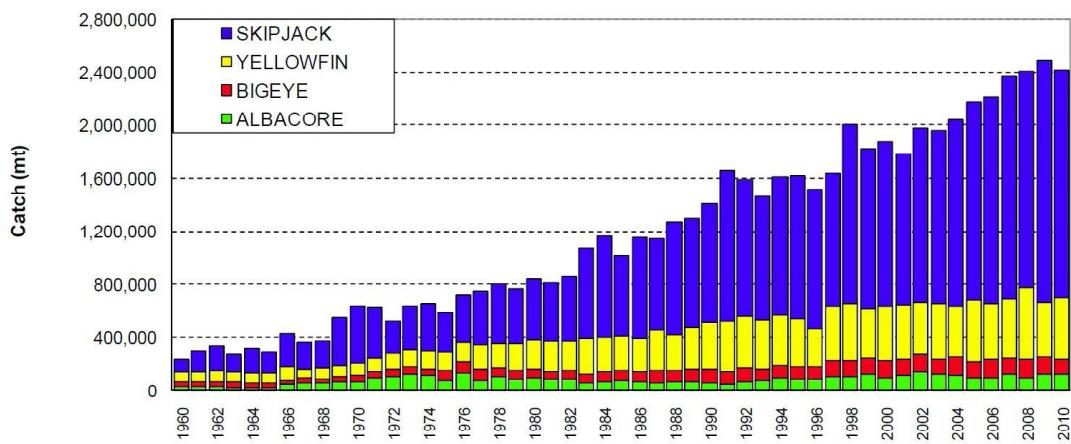
Proper management and conservation of fish resources such as tuna species is necessary, as they are being overfished which is disturbing their life cycle. The graphs below show the increase in total catches of tuna in the pacific region, and the dominant type of fishing gear used in the harvest.

Graph 3.1 Catch (mt) of albacore, bigeye, skipjack and yellowfin in the WCP-CA, by longline, pole- and line, purse seine and other gear types.¹



¹ Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean Scientific Committee Seventh Regular Session
Pohnpei, Federated States of Micronesia 9-17 August 2011 SUMMARY REPORT (Adopted version) paragraph 30

Graph 3.2 Catch (mt) of albacore, bigeye, skipjack and yellowfin in the WCP-CA (Western and Central Pacific Convention Area)²



The exploitation rate of Tuna fisheries in the WCP-CA has been increasing over the past 20 years with a peak in 2002 and above average rates since that year. The main concern is with the skipjack stock as it is above the “above average” exploitation rate.³

3.2 Why we performed the audit and our mandate

The Office of the Auditor-General undertook this audit for a number of reasons. First, due to the public concerns over offshore fishery and the significance of fisheries resource in Tuvalu, it was considered necessary to undertake an audit on managing sustainable fisheries.

Secondly, the Pacific Association of Supreme Audit Institutions (PASAI) at its 14th PASAI Congress held in Tonga in 2011, agreed and endorsed the third regional cooperative performance audit. The topic selected for the audit was “managing sustainable fisheries”. This was part of an initiative developed by PASAI with the support of the Asian Development Bank (ADB) and the International Organisation of Supreme Audit Institutions Development Initiative (IDI). Ten PASAI member countries in the Pacific, including Tuvalu, were selected to participate in the cooperative audit.

Thirdly, this was an opportunity for the Tuvalu Audit Office to engage in its third performance audit and to build capacity within the performance audit division.

The Audit Office’s mandate, as per Part 3 section 25 of the Audit Act, permits the Auditor General to conduct an audit of all or any particular activities of a public sector entity that may be considered appropriate and to report findings accordingly to Parliament.

3.3 Entities audited and their responsibilities

In conducting this audit, we examined the following entities:

² Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean Scientific Committee Seventh Regular Session

Pohnpei, Federated States of Micronesia 9-17 August 2011 SUMMARY REPORT (Adopted version) paragraph 30

³ ibid

1. the Tuvalu National Fishery Department (TNFD) a division in the Ministry of Natural Resources (MNR)
2. the Maritime Surveillance Unit (MSU) under the Police Department and the Office of the Prime Minister (OPM)

The audit focused on the two entities listed above as they were considered to play a major role in the sustainable management of fisheries.

The Tuvalu National Fishery Department (TNFD) under the Ministry of Natural Resources is the National Fishery Authority. The TNFD plays an important part in the sustainable management of fisheries as the governing agency for fishery related activities in Tuvalu. It was mandated under the *Marine Resource Act*, with its aim to ensure long term conservation and sustainable use of living marine resources (detailed in Appendix 1) for the benefit of the people of Tuvalu.

The TNFD maintains direct contact on technical issues with regional and international organisations involved in fisheries management. Tuvalu is a member of the Secretariat of the Pacific Community (SPC), the South Pacific Forum Fisheries Agency (FFA) and the South Pacific Regional Environmental Programme (SPREP). Tuvalu is also a party to a number of treaties and agreements relating to the management of regional fisheries, including:

- the Nauru Agreement Concerning Cooperation in the Management of Fisheries of Common Concern (PNA) – 1982;
- the Treaty on Fisheries between the Governments of Certain Pacific Island States and the Government of the United States of America – 1988;
- the Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific – 1989;
- the Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement in the South Pacific Region – 1992;
- the Palau Arrangement for the Management of the Western Pacific Purse Seine Fishery – 1994

Tuvalu is a signatory member to the United Nations Convention on the Law of the Sea (UNCLOS), the Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean.

With the participation and/or support of external agencies, the TNFD has undertaken fisheries research in Tuvalu. The research that has taken place has followed three main avenues:

- Monitoring intended to allow ongoing assessment of the status of the main fisheries. A major activity has been the Ciguatera Monitoring Project which was established in response to a severe outbreak of this form of fish poisoning on the Tuvaluan island of Nui in 1988;
- Surveys and resource assessments intended to provide snapshots or status reports on specific resources. Bottom fish, bait fish, pearl oysters, beche-de-mer, trochus, tuna and giant clam have been the focus of such surveys;

- o Development-oriented research, aimed at identifying new grounds or techniques with commercial fishing or aquaculture potential. The major activity undertaken in this area has been research into deep-slope bottom fish resources which commenced in 1991, as well as the later development of a management plan for this fishery.

The Maritime Surveillance Unit (MSU) plays an important part in the control of illegal fishing activities. The unit under the direction of the Commissioner of Police, patrols Tuvalu's EEZ by using the Government of Tuvalu's patrol boat. The patrol boat was donated by the Australian government under the Defence Corporation Program (DCP) in October 1994.

4.0 Audit objectives & scope

The objective of the audit was to assess the effectiveness of the management of sustainable fisheries (in particular tuna fishery, given its size and importance to the economy of Tuvalu) by national fisheries authorities in accordance with national fisheries policy and frameworks, by examining the following:

- 1) Are the key aspects of management of offshore fishery licences and access agreement identified and planned?
- 2) Are the economic returns from offshore fishery licences and access agreements appropriate?
- 3) Is the decision making concerning offshore fisheries informed by accurate assessments of the fishery? Are changes in the status of the fishery monitored and reported?

5.0 Audit methodology

This Section of the report outlines the methodologies used by the audit team to gather information utilised for the audit. In addition to documentary reviews and interviews the audit team also conducted site visits.

5.1 Treaties and legislation reviewed

Table 5.1.1 Legislation obtained and reviewed by audit in order to gain an understanding of the framework.

Legislation	Source
<i>Marine Resource Act</i>	Laws of Tuvalu
<i>Fisheries (Vessel Monitoring System) Regulations</i>	Laws of Tuvalu
<i>Conservation and Management Measures (PNA Third Implementing Arrangement) Regulations 2009</i>	Laws of Tuvalu
<i>Marine Pollution Act</i>	Laws of Tuvalu
<i>Marine Zones (Declaration) Act</i>	Laws of Tuvalu
<i>Conservation Areas Act</i>	Laws of Tuvalu

A summary of the Marine Resources Act is contained in Appendix 1. The emphasis of this legislation is to monitor, protect, conserve, prevent and manage the marine environment from

activities of foreign fishing vessels and especially to promote sustainable fisheries in all Tuvalu waters.

Table 5.1.2: Treaties, Conventions and Agreements obtained and reviewed by audit in order to gain an understanding of the framework.

Treaties signatory to:	Source
South Pacific Forum Fisheries Agency Convention. 1979	Forum Fisheries Agency (FFA)
Nauru Agreement <i>concerning cooperation in the management of fisheries of common interest 1982</i>	Forum Fisheries Agency (FFA)
United National Convention on the Law of the Sea 1982 (UNCLOS)	Forum Fisheries Agency (FFA)
Niue Treaty 1992	Forum Fisheries Agency (FFA)
United Nations Fish Stocks Agreement 1995 (UNFA)	Forum Fisheries Agency (FFA)
Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. 2004	Forum Fisheries Agency (FFA)
Palau Arrangement 2010	Forum Fisheries Agency (FFA)
The Harmonised Minimum Terms and Conditions of Foreign Fishing Vessel Access (MTCs)	Forum Fisheries Agency (FFA)
The treaty on Fisheries between the Governments of Certain Pacific Island States and the United States of America (the US Treaty),	Forum Fisheries Agency (FFA)

The purpose of each treaty is reflected in Appendix 2.

5.2 Interviews conducted

Table 5.2.1 Officers whom we interviewed in order to confirm our understanding

Officer and their position	Department and Ministry
Director of Fisheries – Mr Samasoni Auina	Fisheries Department under the Ministry of Natural Resources.
Deputy Director of Fisheries – Mr Nicholas Apinelu	Fisheries Department under the Ministry of Natural Resources.
Fisheries Legal Adviser -Mr Simon Kofe	Fisheries Department under the Ministry of Natural Resources.
Research Officer – Mrs Moeo Ron	Fisheries Department under the Ministry of Natural Resources.
Fisheries Officer – Mr Tupulaga Poulasi	Fisheries Department under the Ministry of Natural Resources.
Maritime surveillance Advisor to Tuvalu – LCDR Brendan Mcharg	Police Department under the Office of the Prime Minister.

Commanding Officer – Mr Talafou Esekia	Police department under the Office of the Prime Minister.
Surveillance Officer – Mr Laitailiu Seono	Fisheries Department under the Ministry of Natural Resources.
Head of the Licensing Department – Mr Falasese Tupau	Fisheries Department under the Ministry of Natural Resources
Fisheries observer – Mr Penihuro Simeti	Fisheries Department under the Ministry of Natural Resources.
Fisheries Information Officer - Mr Solomua Ionatana	Fisheries Department under the Ministry of Natural Resources.
Tuna Data Coordinator – Mr Efoti Ala'	Fisheries Department under the Ministry of Natural Resources.

6.0 Findings and Recommendations

6.1 Key aspects of management of off-shore fisheries are planned

6.1.1 A framework including legislation and policy should be in place to ensure/improve the management of offshore fisheries. The framework should include reporting on a national level which is linked to regional and international obligations.

RELEVANT LEGISLATION

Tuvalu has four relevant Acts and Regulations which govern offshore fisheries. These are listed in table 6.1.1 together with the implementing agency and the fishery services covered. Appendix 2 shows a list of other regional and international obligation that Tuvalu is signatory to.

Table 6.1.1: Relevant legislations governing offshore fisheries

Legislation	Implementing Agency	Fisheries Services Covered
1. <i>Marine Resources Act</i>	Tuvalu Nation Fisheries Department (TNFD) under Ministry of Natural Resources (MNR)	Conservation and sustainable use of the living marine resources
2. <i>Fisheries Monitoring (Vessel System) Regulations</i>	TNFD under MNR Maritime Surveillance Unit (MSU) under the Police Department and under the Office of the Prime Minister (OPM)	Monitoring the position and activities of foreign and other fishing vessels entering Tuvalu's EEZ
3. <i>Conservation and Management Measures (PNA Third Implementing Arrangement) Regulations</i>	TNFD under MNR	Measures to require catch retention of all tuna, prohibition of fish aggregating devices, prohibition of fishing in areas of the high seas and the requirement to use observers.
4. <i>Marine Pollution Act</i>	TNFD under MNR	Prevention of marine pollution and protection of the marine environment.
5. <i>Marine Zones (Declaration)Act</i>	TNFD under MNR	Make provisions in respect of the internal waters, the territorial sea, the EEZ and the nearby zone of Tuvalu

RELEVANT PLANS AND POLICIES

Tuvalu has three plans and policies relating to offshore fisheries. These are listed in table 6.1.2 together with the implementing agency and fisheries services covered.

Table 6.1.2: Relevant Plans and Policies.

Plans and Policies	Implementing Agencies	Fisheries Services Covered
Millennium Development Goal (Kakeega II)	All government ministries.	Highlight goals that the Tuvalu National Fishery department should achieve within the 5 year period.
Tuna Management Development Plan	Tuvalu National Fisheries Department (TNFD)	Contains the mandate of the fisheries department to deliver service with regards to effective conservations, management and development of Tuvalu Tuna Fisheries.
Fisheries Work Plan	Tuvalu National Fisheries Department (TNFD)	Outline daily operations and task related to management of offshore fisheries.

MILLENNIUM DEVELOPMENT GOALS (KAKEEGA II)

Audit confirmed that the National Strategy for Sustainable Development (Kakeega II) was prepared around the Millennium Development Goals which Tuvalu agreed to during the Millennium Development Summit in September 2000.

The National Strategy for Sustainable Development (Kakeega II) major key policy objectives under the Fishery goals for 2011-2015 are;

1. to improve management of fisheries resources inshore and the exclusive economic zone (EEZ) of Tuvalu;
2. review operations of community fishing centres (CFCs) to reduce subsidies through efficiency gains, privatization or closure;
3. increase revenue from fishing license;
4. formulate and implement a clear, coherent, and integrated fisheries sector development program; and
5. develop and adhere to a fully cost business and management plan for the operation of NAFICOT's long-line venture so that no subsidy will be required.

6.1.2 Tuna Management and Development Plan (TMDP) should be implemented, enforced, mandated and reflect offshore fisheries management requirements

TUNA MANAGEMENT DEVELOPMENT PLAN

A Tuna Management Development Plan (TMDP) is required under section 8 of the *Marine Resources Act* and FFA regional arrangements. The TMDP is Tuvalu's high-level fisheries policy. It contains the mandate of the Fisheries Department to deliver services with regard to the effective conservation, management, exploitation, utilization and development of Tuvalu tuna fisheries. It also provides for the necessary Monitoring, Control and Surveillance (MCS) measures and deters Illegal Unregulated and Unreported (IUU) activities that underpin domestic development aspirations in Tuvalu fisheries waters.

The plan has six high level overriding goals and policy objectives that reflect broadly those highlighted in the National Development Strategy (KAKEEGA II) and other related fisheries policies and priorities. The goals are to:

1. maximise sustained long term economic and social benefits from the development of tuna resources;
2. formulate and implement a clear, coherent and integrated fisheries sector development programme;
3. improve effective conservation and management of fisheries resources;
4. ensure the sustainability harvesting of tuna resources in Tuvalu's EEZ;
5. ensure sustainability of the general marine ecosystem and species viability; and
6. maintain food security and ensure sufficient and readily accessible to tuna resources by local population

The development of the TMDP required technical and financial assistance from Forum Fisheries Agency (FFA), Global Environment Fund - Oceanic Fisheries Management Project (GEF-OFMP) and the Secretariat of the Pacific Community (SPC). The vision of the plan is to advance fisheries development while sustainably managing fisheries to ensure long term conservation, and suitable and optimum utilization of highly migratory species for the benefit of Tuvalu people.

Audit noted that the Tuna Management and Development Plan was awaiting approval by Cabinet. Although it was anticipated that the plan would be approved in late 2010 and implementation would begin in early 2011, this has not occurred. There only are two components under the Plan that has already been implemented; they are the two joint ventures between the Government of Tuvalu with Korea and Taiwan.

TMDP JOINT VENTURES

Tuvalu registered its first and only purse seine fishing vessel, Fishing Vessel Taumoana, in mid 2009. The Fishing Vessel (FV) Taumoana was part of a deal negotiated under a joint venture (JV) signed with the Fong Haur fishing company (Tuna FH Co Ltd) based in Taiwan. From this joint venture Tuvalu would receive a share of 50 percent of the ship's profits. Fishing operation of the FV Taumoana started in August 2010 and has been running in the fishery waters of Tuvalu plus other EEZs of other Pacific Islands nations. The catch will be landed directly to ports outside Tuvalu. Apart from shares Tuvalu is still in the negotiation process with the Tuna FH Co Ltd, surrounding employment of local fisherman on the Fishing Vessel Taumoana.

The second joint venture was between Tuvalu and Friendly Tuna Fisheries Corporation which was a Korean fishing company. This joint venture resulted in the acquisition of two long line fishing vessels. This brings the number of Tuvaluan flagged fishing boats to three. These two long line fishing boats fish in the Tuvalu EEZ as well as waters of neighbouring countries and Papua New Guinea through bilateral arrangements. From this deal Tuvalu will get approximately 40 percent share of the profits while the remaining goes to the Friendly Tuna Fisheries Corporation.

No documentation of the Joint Ventures (including the agreements) has been provided to audit for review. The above information is based on interviews with fisheries staff. Given the lack of information available we are unable to test the sustainability and appropriateness of economic returns of the JVs.

TMDP REVIEW

Our review of the TMDP found the following:

1. The plan stated specific tasks to be performed and also indicated an overall outcome the TNFD wanted to achieve. All the objectives in the plan are

measurable as they require a certain level of achievement or specify a time for completion. The TNFD has a process in place for monitoring its progress towards accomplishing the objectives.

2. The plan will be reviewed annually to factor in priority policy changes by the Government of Tuvalu with regards to new information and decisions made by regional and international management agreements which Tuvalu is currently signatory to.
3. The progress of implementation and measure on performance will be reported by the Director of Fisheries in the TNFD's Annual Report.
4. There is a Technical Advisory Committee established as agreed under the TMDP to provide technical input and policy advice to the Minister responsible for fisheries on the conservation, protection and management of oceanic and high migratory species.
5. Annual progress reports over the plan implementation shall be considered by the Technical Advisory Committee, and recommendations provided to the Minister and Cabinet for their consideration.

TMDP Fishing License limit

The TMDP specifically limits fishing licenses to:

- i. 150 for purse seiners
- ii. 100 for long liners

Audit found that in 2010 the Fisheries Department issued 158 fishing licenses for purse seiner and 135 fishing licenses for long liner fleets, both of which exceeded the fishing license limit specified under the TMDP.

PNA requirements

The requirements of the PNA (Parties to the Nauru Agreement), in terms of 100% observer coverage aboard purse-seiners, prohibition of FAD usage at certain times, high seas closures and required retention of all catch of tuna on board have been included in the legislation in Tuvalu as the *Conservation and Management Measures (PNA Third Implementing Arrangement) Regulations*. The requirements of the PNA in terms of minimum mesh-size and closure of the fisheries EEZ when allocated days have been exhausted are both yet to be legislated in Tuvalu.

Recommendations

The Audit recommends the following:

- 6.1.1** The Government of Tuvalu establishes a regulation to ensure compliance with the PNA requirements of minimum mesh-size and closure of the fisheries EEZ when allocated days have been exhausted. This will empower the TNFD to ensure that the fishery is managed in accordance with PNA requirements.
- 6.1.2** The Government of Tuvalu to endorse the TMDP for the full implementation of its key objectives and goals including the enforcement on limits of fishing licenses. Additionally the reporting requirements and governance structure is adhered to.

Management Comments

A three week period was given for management to provide comments and Audit followed up management with phone calls and emails. No comments have been provided by management.

FISHERIES WORK PLAN 2007

The key policy objectives under the KAKEEGA II are reflected in the TNFD Work Plan in 2007 as their main objectives. The annual fisheries work plans for 2008, 2009, 2010, 2011 and 2012 were unable to be presented to audit for review. The below analysis is based on the 2007 work plan.

The Tuvalu National Fisheries Department has a work plan in each financial year, this annual work plan was used as a guideline that serves to guide the department and its respective sections on program activities that needed to be implemented and achieved each year.

One of the anticipated constraints of achieving each target program is due to financial problems or limited budget allocated by the Government to run their program. Most of the target activities concerning domestic and offshore fishery that the people of Tuvalu could directly benefit from, could not be met due to lack of funds provided by the Government of Tuvalu each financial period.

Audit noted that not all the personnel of the Fisheries Department are aware of the legal national policy that governs them in carrying out their duties and responsibilities. The top management level had an acceptable awareness as they deal with negotiation and review of legal policy at the national level. Some of the other fisheries staff did not demonstrate the knowledge of the requirements of the legislation applicable to their terms of appointment. Another issue was the lack of training and development opportunities for key staff involved in the management offshore fisheries.

Tuvalu has a comprehensive legislation in place that regulates the major activities in their Exclusive Economic Zone, in coastal areas and also in the management of offshore fisheries. However, there is a need to ensure that all staff within the Department are familiar with and can implement the Fisheries (Department) Work Plan.

Recommendations

The Audit recommends the following;

- 6.1.3** The work plan for 2012 and 2013 is developed, finalised and implemented. The 2007 work plan could be used as a reference.
- 6.1.4** The Government of Tuvalu allocates more funds to the TNFD in order to achieve planned activities and goals specified in the work plan.
- 6.1.5** There is a need for additional training and development opportunities to be created for key staff involved in order to develop capacity and improve quality of work.

Management Comments

A three week period was given for management to provide comments and Audit followed up management with phone calls and emails. No comments have been provided by management.

6.1.3 National fishery authorities should make sure the type of gear used by fishing vessels (in particular the tuna fishery) does not adversely affect the marine environmental and marine life of tuna resources.

TYPES OF PERMITTED FISHING GEAR

Section (18) of the *Marine Resource Act* states that; for any vessels that has in its possession fishing gears that are not recognised or are illegal in Tuvalu waters will be penalised. Under section (58) of the *Marine Resource Act*: **Use or Possession of Prohibited fishing gear** states that;

"A person who uses for fishing or has on board a vessel in the fishery waters:

- Any net, the mesh size of which does not conform to the minimum mesh size for that type of net as required or prescribed pursuant to this Act;
- Any fishing gear which does not conform to standards required pursuant to this Act for that type of fishing gear; or
- Any fishing gear which is prohibited by this Act, including without limitation a driftnet; shall be liable on conviction to a fine of \$250,000 and to imprisonment for 6 months."

There are 3 types of fishing gear permitted to be used in Tuvalu waters; Purse seine fishing, Long-Line fishing and Pole and Line fishing (see Appendix 5 for detail of each fishing gear). This requirement is also outlined in 'Article 2: Fishing Operation' of the standard Fisheries Access Agreement 2012 for Purse Seiners

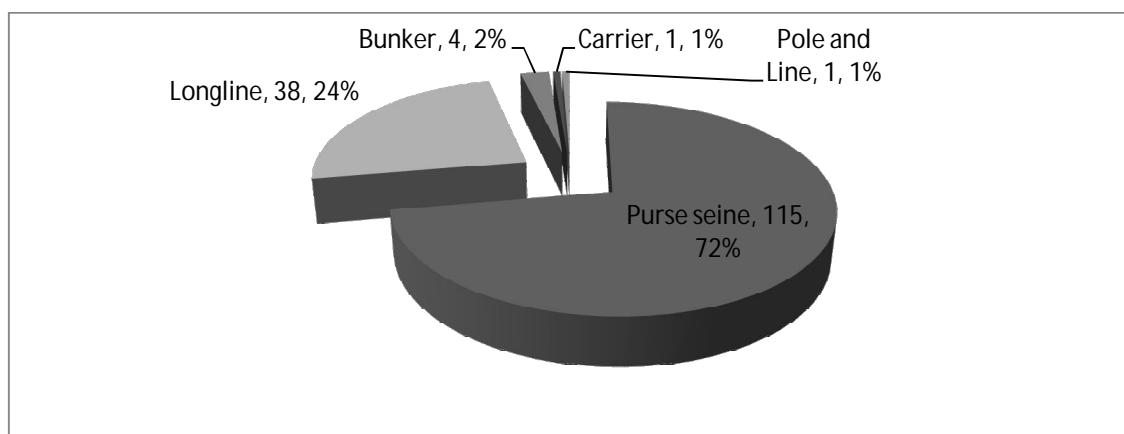
"2.3 All licensed vessel under this Agreement, shall only fish for tuna and tuna like fishes and species caught incidentally thereto by purse seining is permitted. No long lining, trawling, bottom fishing, hand lining, coral fishing or recreational fishing is permitted."

Table 6.1.3: Purse Seiner and Long Liner catches (metric tonnes) in Tuvaluan Waters from 2005 -2010

Year	2005	2006	2007	2008	2009	2010
Purse seiner	14,555	15,149	43,325	40,178	69,309	61,539
Long Liner	806	7	132	266	1,316	706

*there are no records of pole and liner fishing vessels

Figure 6.1.1: Types of licensed fishing vessels in Tuvaluan Waters in 2011



SUSTAINABILITY

LONGLINER

Long liner fishing is not as large of a concern as the catches are not as massive as purse seine catches (*table 6.1.3*). The concern over this method of fishing is by-catches which are accidentally being hooked and the treatment of the by-catch. These include sea turtles, sea birds, dolphin and other marine species.

POLE AND LINER

In terms of sustainability of tuna resource, the fishery officer stated that it was the most sustainable for tuna fishing. It was regarded as the best method because fishes that are assessed to be small are released. It also does not have as many catches and by-catches as Pole and Liner and Purse Seiner.

PURSE SEINE

In terms of sustainability of tuna resource, purse seine gear used by DWFNs fishing vessels has been a concern to Tuvalu Fishery. Purse Seine is the predominant method of fishing in the Tuvalu EEZ. As these fishing vessels are using fishing nets, tuna resources may not be sustainable due to overfishing (*figure 3 in Appendix 5*). In addition, thousands of other marine species (by-catch) and juvenile fish are caught and are killed in the process.

From a survey conducted by the Tuvalu Audit Office, one of our local fisherman (a former observer on purse seine vessels) commented that if the nets are pulled up containing thousands of tuna and assessed to be not at the right size, the whole catch will be thrown overboard. "It was such a waste of precious resources seeing a whole lot of lifeless tuna being discarded to the ocean".

Further detail on the above fishing methods is detailed in Appendix 5.

Conservation and Management Measures (PNA Third Implementing Arrangement) Regulations

Part 2 of the regulation highlights the conservation measures that are required by the PNA surrounding controlling and minimising by-catches. The regulations include prohibition of FADs at certain times, requirement to retain catch, prohibition on fishing in certain areas of the high seas and requirements for use of observers.

Recommendations

The Audit recommends the following:

6.1.6 Audit recommends TNFD continues to put in place tight management measures above the existing regulations to control and minimise by-catch. The regulations should take into account the Western Central Pacific Fisheries Commission (WCPFC) Conservation and Management Measures (CMMs) – see Appendix 6 for more information on WCPFC CMMs.

Management Comments

A three week period was given for management to provide comments and Audit followed up management with phone calls and emails. No comments have been provided by management.

6.1.4 A monitoring, control and surveillance system should be in place to combat illegal fishing (in particularly tuna fishery).

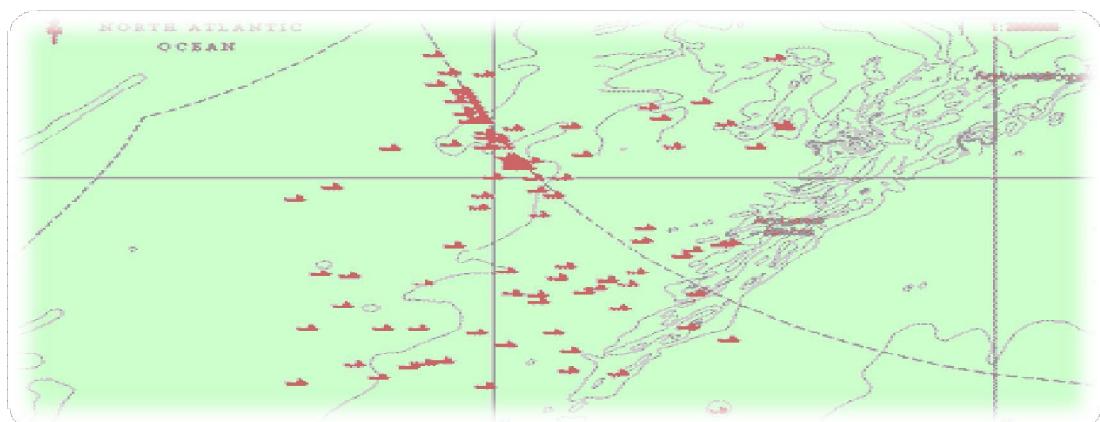
There are Monitoring Control and Surveillance (MCS) measures in place to combat Illegal, Unreported and Unregulated fishing (IUU). This includes; FFA vessel monitoring system (VMS), 'Te Mataili' patrol boat and multilaterals operations. See Appendix 3 for details of the multilateral operations.

FFA VESSEL MONITORING SYSTEM (VMS)

The Vessel Monitoring System is a cost-effective tool used for the successful monitoring, control and surveillance (MCS) of fishery activities. It provides the TNFD and other FFA members with accurate and timely information about the locations and activity of registered fishing vessels. Based at the FFA's regional headquarters, but accessible to all FFA member countries, this satellite-based system monitors the position, speed and direction of registered fishing vessels.

The VMS has been one of the reliable measures set out under the Niue Treaty to combat illegal fishing. As Tuvalu is a signatory to the Niue Treaty, it is a requirement for any fishing vessels licensed to fish in the Tuvaluan EEZ to install and maintain a VMS.

Figure 6.1.2 Vessel Tracking map (VMS)



In the TNFD, the Licensing and Surveillance Section deals with the licensing and monitoring of vessels. The section also operates the VMS which allows Tuvalu authorities to monitor fishing activities across the region.

The VMS can be assessed by all FFA member countries. This makes it more effective because if one FFA country VMS is down, other FFA member countries may assist in reporting and monitoring illegal fishing practice. For instance, if Tuvalu was having trouble with its VMS system, Nauru could inform Tuvalu if there are illegal fishing activities detected in Tuvalu's waters.

In order to be granted a license in Tuvalu, every foreign vessel needs to have a VMS system (automatic location communicator) fitted to their vessel. If a licensed vessel was found with a VMS system turned off, the vessel will be fined in accordance with section (6) and section (7) of the Fisheries Vessel Monitoring System Regulation.

Three people can access the VMS in Tuvalu. In the case of their absence, no one else within the licensing department and the surveillance unit can gain access to the system to monitor Foreign Fishing Vessels (FFV) entering and exiting the Tuvalu EEZ. VMS reports and records cannot be obtained if these staff members are absent as they are stored in a place that only the VMS staff can access.

Under the conditions of the Access Agreements, if a FFV has exceeded its quota of days and continues fishing, then it is fishing illegally. The TNFD should monitor days used by FFVs on VMS to ensure that all FFVs in Tuvalu's waters are licensed. We found that the TNFD does not use VMS records to monitor vessel days consumed in order to ensure that a particular vessel has not exceeded its allocated days. The TNFD relies on the use of the MIS (Management Information System) by FFA to warn Tuvalu about exceeding quotas of days consumed by FFVs.

Moreover, due to slow internet connection, there seems to be little reporting and monitoring of FFVs in the EEZ as VMS is quite slow and cumbersome to use

Recommendations:

The Audit recommends the following:

- 6.1.7** Appointment of a person to monitor FFV on VMS if staff operating the VMS are away for annual leave, sick leave or attending overseas meeting.
- 6.1.8** Ensure that VMS records are properly managed and stored in a place where other staff of the TNFD can access for reference purposes.
- 6.1.9** Development of a system that best monitors fishing days used by FFVs so that TNFD is not relying on FFA for the monitoring.
- 6.1.10** Improve internet connection, TNFD to look for ways that will better improve internet connection to enhance effectiveness of VMS monitoring during working hours.

Management Comments

A three week period was given for management to provide comments and Audit followed up management with phone calls and emails. No comments have been provided by management.

HMTSS TE MATAILI (PATROL BOAT)

The Tuvalu Police force in collaboration with the Surveillance Unit under TNFD plays a vital role in Monitoring, Control and Surveillance. The Tuvalu police department has a Pacific-class patrol boat (HMTSS Te Mataili) provided by the Australian Government under the Pacific Patrol Boat Program for use in maritime surveillance and fishery patrols. The Pacific patrol boat was donated by the Australian government in 1994 and is crewed by locally trained policeman.



"Te Mataili" usually patrols 50 days annually within the Tuvalu waters to board and inspect fishing vessels. These 50 days do not include their multilateral patrol (Tui Moana & Kurukuru Operations) which were 7 to 9 days each.

Table 6.1.3 Fishing vessels apprehended by Tuvalu Patrol Boat "Te Mataili, target and actual days patrolled

YEAR	TARGET DAYS	DAYS PATROLLED	NO. VESSELS APPREHENDED
2008	50	50	3
2009	50	50	20
2010	50	50	29
2011	50	50	5

The Fishing vessels in the above table were apprehended by the Tuvalu Patrol Boat due to fishing illegally, not correctly reporting catch, or other breaches of licensing conditions.

Audit confirmed that inward payment for fines are paid into the government general account but into the same allocation head for fishing license revenue. As a result audit was unable to verify the exact and actual figures paid solely for fines from 2008 to 2010.

As for the year 2011, the Treasury Department managed to allocate a separate allocation head for fines. Audit confirmed three penalty fine payments due to fishing vessels apprehensions in 2011.

FINES

Limited data on fishing licence fines was provided by the Tuvalu National Fisheries Department. This was after multiple attempts by audit to obtain information. We were unable to ascertain what all the fines were for; whether the amount fined is in accordance with legislation, whether proper legal procedure was followed and if the amounts paid are in accordance with the legislation. It is important that TNFD puts in place a transparent process that documents their IUU fishing procedures.

Recommendations:

The Audit recommends the following:

6.1.11 A monthly reconciliation is conducted by the TNFD with the Treasury Department in order to monitor and make certain that all seized fishing vessels fines are paid.

6.1.12 Effort should be focused on documenting fines, including what the fines were for; the amount fined, what regulation breached, legal procedure followed and amount received.

Management Comments

A three week period was given for management to provide comments and Audit followed up management with phone calls and emails. No comments have been provided by management.

6.2 Economic returns from off-shore fishery licenses and access agreements are appropriate

6.2.1 Offshore fishery licenses and access agreements should comply with national rules, legislation and regulations

ACCESS AGREEMENTS

Access agreements are a document that provides fishing opportunities for distant water fleets (fishing vessels to fish outside their own national waters) in return for a financial contribution or in-kind benefits. The United Nations Convention on the Law of the Sea specifies that access should be provided only for 'surplus' fish stocks - stocks that the host country does not have the capacity or the interest to harvest to their full potential. Tuvalu does not have the capacity to harvest tuna resources to their full potential as it does not have a wholly owned domestic fishing fleet.

The Tuvaluan access agreement is a standard agreement document that shows the agreement between Tuvalu and the 'applicant' (any fishing company or DWFN) allowing the applicants' fishing vessels to come and engage in any acceptable fishing activities in Tuvalu EEZ.

Part V section 28 of the *Marine Resource Act* states that;

"No foreign or domestic-based fishing vessel shall be issued a permit to fish in the fishery waters unless an applicable access agreement is in force, duly entered into by the Government in accordance with this Act".

Audit confirmed that the TNFD does comply with the following sections of the *Marine Resource Act*.

Part III of the Marine Resources Act on Administration and Authority Part (5) section (7) states that;

"The Minister may delegate, in writing, the exercise of any or all powers and functions conferred upon him by this Act to such official or officials as he deems fit, except as may be otherwise provided in this Act".

Audit found that the Permanent Secretary for Natural Resources was exercising the power of authorising and signing of any fishing access agreement. However, Audit could not obtain written documentation authorising the Permanent Secretary to act on the Minister's behalf.

Tuvalu has bilateral agreements with a number of foreign fishing countries. Currently there are 12 valid Bilateral Agreements between the Government of Tuvalu and foreign fishing companies for the financial year 2011/2012.

Table 6.2.1 Summary of bilateral access agreement by fleet and by number of valid licenses issued

Summary of agreements by fleet	Number of licenses issued
Spain	9
Korea	20
Taiwan	6
New Zealand	3
Japan	22
Fiji	3
Kiribati	6
Tuvalu	1

Source: Tuna Fisheries Database Management System (TUFMAN), Tuvalu

Audit reviewed a number of access agreements and found the following:

1. The access agreements adhere to the requirements under the *Fisheries (Vessel Monitoring System) Regulation* including monitoring control and surveillance (MCS)
2. The agreements comply with the requirements of the Parties to the Nauru Agreement Third Implementing Arrangement Regulations concerning fishing aggregate device (FAD) closure, catch retention, high seas closure and 100% observer coverage requirements.
3. The access agreements comply with the requirements of the Palau Arrangement for the Management of the Western Pacific Purse Seine Fishery- Management Scheme the Vessel Day Scheme.
4. The access agreements comply with registration and licensing conditions as stated under the *Marine Resources Act*.
5. The access agreements comply with the 1989 FAO standard specifications for the marking and identification of fishing vessels.
6. The access agreements comply with FFA vessel register conditions.

FISHING LICENSE

A fishery license is a permit that allows a DWFN vessel to enter and perform fishing activities or other related activities in Tuvaluan waters.

Section (16) of the *Marine Resource Act* states that;

1. A person entitle to apply for a permit under the act shall fill an application form and be approved by the Minister
2. Applications for a permit for fishing shall specify, inter alia:
 - a. the name, call sign, country of registration, country of registration number, regional register number, name and address of the operator, name of the vessel, master, bank reference number;
 - b. the tonnage, capacity, gear type, processing equipment and such other pertinent information with respect to the characteristics of each vessel
 - c. Minister may require if applicable, the access agreement under which such permit is sought.

The TNFD complies with this section of the *Marine Resource Act*. The *Marine Resource Act* is supported by terms and condition stipulated under Article 8 'Registration and Licensing' of the Access Agreement.

Table 6.2.2 Steps taken by the TNFD in issuing of fishing licenses

1		The company who owns the Foreign Fishing Vessel (FFV) will express their interest to fish in Tuvalu waters through email or phone
2		Licensing officer in Tuvalu will examine and verify the company's details with FFA and other regional and national partners to ensure that FFV and company have a good standing with the FFA.
3		If standing with the FFA is satisfactory, negotiation of a new fisheries access agreement will commence between the company and government of Tuvalu via email/phone
4		Once an agreement is entered into force i.e. agreed and signed by both parties, vessel operator/ owner must submit a formal application for a fishing license through the company.
5		The licensing officer upon receiving the license application will perform the following before issuance of license;
	5.1	Check that the vessel has a good standing on FFA and WCPFC vessel register.
	5.2	check that the vessel is from a WCPFC/FFA member country
	5.3	Ensure the vessel has not engaged in any IUU activities in any of the FFA member countries
	5.4	The license complies with Tuvalu <i>Marine Resource Act</i> , license conditions and other relevant acts

The figures in table 6.2.3 represents fishing licenses issued for foreign fishing vessels. The overall number of licenses issued by the department fluctuates. This trend was caused mainly by the fluctuation in the long line fleet numbers. Nonetheless, for the purse seine fleet, the number has shown to have increased quite steadily for the three consecutive years.

Table 6.2.3 Annual Fishing Licenses issued from 2008 to 2011

Year	Long Liner	Purse Seiner	Pole and Line	Carrier	Bunker	Total
2008	43	130	6	2	0	181
2009	61	144	12	7	1	225
2010	135	158	17	6	4	320
2011	38	115	1	1	4	159

Source TUFMAN (Tuna Fisheries Database Management System)

ACCESS AGREEMENT & LICENSING COMMITTEE

The Fishing Access Agreement and Licensing committee was established in 2011 to deal with reviewing and screening of all license applications. The committee is required under the draft TMDP. This committee has four members. They are the Permanent Secretary of Natural Resources (chair), Director of Fisheries, Fisheries Legal Officer and the Fisheries Licensing and Surveillance Officer (Secretariat).

The functions of the committee are as follows:

- i. the committee shall have the duty to determine all fees relating to licenses, allocation of days under the Purse Seine Vessel Day Scheme (VDS) and consider putting in place other measures
- ii. committee shall keep records of proceedings and minutes of every meeting
- iii. shall keep a cash register outlining all funds collected from license fees
- iv. any application or proposal for Fishing Access Agreements shall be considered and decided by the committee within 5 days of receipt of the application or proposal
- v. Decisions of the committee shall be reached by consensus. In the event consensus cannot be reached the matter shall be referred to the Minister for a decision.
- vi. The Director of Fisheries shall be responsible for preparing the required documentation together with records of the meeting to be submitted to the Minister for a decision.

Audit confirmed that the Access Agreement and licensing committee only correspond with each other through the internet. As such, we were unable to obtain official records to examine how effective the committee was and whether the decisions made were in accordance with the requirements of the legislation.

Recommendations

The Audit recommends the following:

6.2.1 Delegation of power by the Minister of Natural Resources to be aligned with requirements stipulated under part (5), section (7) of the *Marine Resources Act*.

6.2.2 The Secretary for the Access Agreement and Licensing committee should file official records of decisions made (including printing or saving emails), to ensure transparency and accountability of the Access Agreement and Licensing committee.

6.2.3 Recruitment of an additional member from the Ministry of Finance to be part of the Access Agreement and Licensing committee, to ensure that financial oversight occurs.

Management Comments

A three week period was given for management to provide comments and Audit followed up management with phone calls and emails. No comments have been provided by management.

6.2.2 The access agreements and licenses should be reviewed by competent persons for efficiency, effectiveness and economy

Part V and section (29) Access Agreement - Term of Validity of the *Marine Resources Act* states;

- i. The term of validity of an access agreement shall not exceed ten years, and the length of the term shall be established taking into account the:
 - (a) Likely compliance with the access agreement and this Act;
 - (b) Potential economic benefits for Tuvalu,
- ii. An access agreement whose validity exceeds one year shall include provision for annual review by the Minister, and the period of validity of

permits issued under the access agreement shall not exceed one year, subject to renewal after such review.

Audit confirmed that the Fisheries Department does regularly review the access agreement at the end of each validation date i.e. at the end of a 1 year period. The review process takes into account changes to the national fishery laws, sub-regional laws, regional laws and other relevant international laws Tuvalu is subject to. The review process is carried out by the Fisheries Legal Adviser, Director of Fisheries and the Permanent Secretary of Natural Resources.

Audit was unable to obtain any evidence of the review process occurring or the outcome of the review of access agreements. There were no records available for audit assessment.

Recommendations

The Audit recommends the following:

6.2.4 The Fisheries Department keep timely accurate records of the results of reviewing access agreement annually for reference and note any updates.

Management Comments

A three week period was given for management to provide comments and Audit followed up management with phone calls and emails. No comments have been provided by management.

6.2.3 Economic returns from offshore fishery (tuna fishery) licenses and access agreements should be comparable with market rates.

The TNFD rely upon the FFA for advice on which comparable market rates Tuvalu should use in calculating their license fees.

OLD LICENSE FEE

Table 6.2.4 Calculation of License Fee before 2012

A fixed rate of USD\$10,000 is charged to Long Liners per trip (maximum of 6 months) into Tuvalu's EEZ while Pole and Line vessels were charged USD\$10,000 per trip. The Purse Seiner vessels are charged:

Total catch per annum x market rate = Total Sales per annum
Total Sales x 6 % = Total license fee

An upfront payment is required before any vessel is granted permission to fish in Tuvaluan waters. At the end of each year (12 month period), the license fee is calculated (which is 6% of the total catch's market value). If the upfront payment was more than the actual amount calculated at the end of 12 months period, reimbursement of the difference is made. If the actual amount calculated is higher than the upfront payment, the company will make payment for the difference.

PNA (VESSEL DAY SCHEME 2012)

The Tuvalu Fishery successfully implemented the Vessel Day Scheme (VDS). The VDS's objective is to enhance sustainability by the management of purse seiner fishing vessel efforts in the waters of the parties by encouraging collaboration between Parties to the Nauru

Agreement (PNA). The scheme allows vessel owners to purchase and trade days of fishing in places/waters of Parties to the Nauru Agreement (PNA). The Vessel Day Scheme only applies to Purse Seiner FFVs. See Table 6.2.5 for a schedule of the fees.

Based on scientific studies and assessment of 2004 purse seine catches, it has been approved by the PNA that Tuvalu can sell 1055 days of purse seine fishing effort per year within Tuvalu's EEZ. This level is considered sustainable by the PNA. The 1055 days are allocated yearly to DWFNs by the TNFD.

Table 6.2.5 Breakdown of fees levied under the VDS

New Fees levied under the Vessel Day Scheme	
Access Agreement	USD\$20,000
License Fee (minimum)	USD\$5,000/day
Observer Fee	USD\$3,000/vessel

Table 6.2.6 illustrates how the days of fishing effort are allocated by the TNFD to DWFNs. If DWFNs or fleets have used up all of the allocated days sold to them by the TNFD, they are not allowed to enter Tuvalu EEZ to fish and will have to either purchase more days or wait for the next year to purchase fishing days.

Table 6.2.6: Vessel Day Scheme allocation of fishing days to Tuvalu for 2012

Country	Days
New Zealand	183
Japan	16
Korea	226
Spain	134
Kiribati	178
Taiwan	18
Total days allocated	755
Days Standby	300
Total Days per year	1055

The standby days will be sold to any country's vessels which requires more than the days allocated. These days will be sold at a reasonable price above the minimum of USD\$5000. US fishing vessels are not subject to the Vessel Day Scheme as it has its own fishing rights under the US Treaty.

Tuvalu did not sign the Memorandum of Understanding (MoU) on Minimum Bench Mark Fee for FFVs under the VDS of US\$5,000 per day. As a result, Tuvalu can set its own daily price that best attracts companies to fish in Tuvalu EEZ. Tuvalu has not set a price below US\$5,000 per day even though it did not sign the MOU.

The lack of full implementation of PNA sustainable fishing measures including adhering to number of days fishing effort allocated by its member countries was noted by audit. Implementation by parties of conservation and management measures set out by PNA has not been uniform. This has consequences for all parties. In 2011, Tuvalu and Kiribati failed to close their high seas pockets to a Spanish vessel licensee. This cost Nauru €500,000. In addition, Papua New Guinea failed to close its EEZ when it exhausted its allocation of days.

The shift to the VDS has been a challenge for the sustainable management of the tuna fishery, due to parties' concerns about not being allocated enough fishing days. The VDS is intended to create scarcity, however, parties are yet to turn away a FFV once they have used (?) their allocated days. In consequence FFV numbers and catches continue to increase. This puts pressure on the development of a sustainable fishery.

There are very limited efforts made to ensure sustainability measures within the VDS are adhered to in Tuvalu. The PNA is making limitations on fishing effort, which are only adhered to if Tuvalu cannot sell licenses and fishing rights beyond the maximum limit of fishing effort set by PNA.

There was no use of scientific data collected by Tuvalu to monitor sustainability. Fishing licenses appear to be sold according to demand, rather than to ensure sustainability.

Tuvalu exceeded its day quota (its Party Allowable Effort [PAE]) of allocated fishing effort in 2011, even after some days were purchased from Kiribati. The exceeding of allocated effort was not noted by the TNFD. It required the PNA to notify Tuvalu that they had exceeded their allocation of days. Without the PNA notification, Tuvalu would have left its EEZ open. The PNA notification took 8 days, which further increased the number of days that Tuvalu had exceeded its PAE by. Tuvalu then responded by closing its EEZ, however, fishing days were still accumulated after the closure of the EEZ.

A part of a condition to obtain a license to exploit fish in the PNA countries was that licensees (FFV) are not to fish in the high seas pockets. The Government of Tuvalu are currently engaged in negotiations with a fishing company to grant them a fishing license without the condition that they should not fish on the high seas, for a higher rate per day. This is contrary to the agreement between the PNA countries.

The above demonstrates that the TNFD are not monitoring PAE remaining, instead are reliant on the PNA to notify them, which takes more time and can cause Tuvalu to further exceed its allocated days.

Recommendations

The Audit recommends the following:

6.2.5 Ensure that sustainability measures set out by PNA and other regional bodies are being followed to minimise overfishing and to ensure continued support from PNA and other regional bodies. This includes not modifying agreements to allow fishing on the high seas.

6.2.6 We suggest that the PNA properly disclose relevant measures to its member parties including the exceeding of allocated days to ensure the full implementation of measures by each member party.

6.2.7 Establishment of an effective legal framework (i.e. VDS regulations) that requires the TNFD to close off the EEZ, or to terminate access arrangements once Tuvalu's PAE is fully utilised, as well as the other requirements of the PNA.

6.2.8 Compliance with the PAE limits set by the PNA to ensure that scarcity of fishing days is established, in order to increase the price of their fishing days.

6.2.9 Monitoring of the days remaining by each vessel to be performed by TNFD, rather than reliance on untimely alerts from PNA. This will ensure that maximum revenue will be obtained from fishing within Tuvaluan waters.

Management Comments

A three week period was given for management to provide comments and Audit followed up management with phone calls and emails. No comments have been provided by management.

ECONOMIC RETURNS

Revenues derived from access fees, fishing license, fishing agreements have a positive economic impact on GDP and also on the development of services related to fisheries in Tuvalu (refer to table in Appendix 4 for detailed amounts). Revenue received from fisheries licenses are allocated to other economic sectors like health, education and rural development within the Government. Fisheries licensing revenue are all paid in US dollars. This makes the economic returns from fishing licences sensitive to movements in the US dollar.

Fishing vessel licenses data are entered into TUFMAN (Tuna Fisheries Database Management System), including days allocated, type of vessel, amount of fee paid and tracking details. A bank cable confirming that the license fee has been (this is not confirmation of payment into the Government of Tuvalu's account) received by the TNFD is sent and then a License certificate is issued to the FFV.

There is no formal reconciliation process to ensure that payment has been made. The Treasury Department in the Government of Tuvalu receipts the payments; however, there was no process to notify TNFD that the payment has been received or the amount of the payment. TNFD can request a copy of the payment documentation; however, this is not a formal process.

The table below summarises the revenue received for issuing of license from offshore tuna fishery.

Table 6.2.7: Revenue generated from foreign fishing licenses incl. Fines & penalties

Year	Total Licence Payment (AUD)	Total Government Revenue (AUD)	Licences as % of total Government Revenue
2008	8,400,035	25,801,229	32.50%
2009	9,005,663	31,143,499	28.90%
2010	7,396,494	31,741,882	23.30%

Source: Treasury Department unaudited figures (ACCPAC System)

US MULTILATERAL TREATY

In 1988 the members of the Forum Fisheries Agency finalised a Multilateral Treaty Fishing Agreement with the United States of America. Under this agreement US purse seiners could fish in the zones of FFA member countries. The agreed fee is shared amongst the member countries the following way.

- I. 15 per cent shared equally and the remaining
- II. 85 per cent allocated based on the location of the catch taken

Audit was unable to determine the value received by Tuvalu from FFA as agreed under the US Multilateral Treaty.

Audit noticed the high discrepancies between revenue recorded by Treasury and by the TNFD in their TUFMAN system. These were caused by the lack of regular reconciliation of revenues between the two agencies.

Recommendations

The Audit recommends the following:

6.2.10 Reconciliation of the total amount of fishing revenue recorded in TUFMAN to the actual cash received from Treasury is performed on a monthly basis and the process is formally documented. This will ensure that all payments entered into TUFMAN have actually been paid and that the Government of Tuvalu has been collecting the maximum amount of revenues. The reconciliation could also include the licensing records as well as the number of vessel days purchased.

6.2.11 Ensure shares and payments from the US Treaty are recorded and are up to date

Management Comments

A three week period was given for management to provide comments and Audit followed up management with phone calls and emails. No comments have been provided by management.

6.2.4 The economic returns for Tuvaluan residents in the fishing industry should be appropriate to the economy cost.

There are various ways that Tuvaluan residents benefit from the fishing industry. The fishery industry's main contribution is providing employment to people.

EMPLOYMENT



A workshop conducted by fisheries for CFC workers

A total of 37 estimated positions exist in the Fisheries department of which 31 have been filled. These positions exclude fisheries staff in Community Fishing Council (CFC) located on each of Tuvalu's seven outer islands. The Extension officer stated that there are three posts each in the outer islands. These three posts consist of one CFC manager, a fish processor and a mechanic. Thus, there are 64 positions altogether in the Fisheries Department. All are financed by the Government of Tuvalu with an annual salary of each staff paid at \$4,468 to \$18,664 depending on seniority and qualifications.

Apart from staff in the Fisheries department, fishermen also have a portion of the economic returns from the fishing industries. From a survey conducted by the audit team, it was found that there are a lot of local fishermen in Funafuti, but only few of them are willing to report their catches to the fisheries department. Local fishermen usually sell their catches at \$3.75 a kg. The total amount of revenue received by a local fisherman was estimated to be \$1400 per week depending on their catches.

Women also play a vital role in the selling and distribution of fish. As fishermen return with their catches, they often employ women to assist them in selling their fish. Revenues received from selling Tuna are shared amongst the fishermen and the woman who has been employed to sell the fish. A local fisherman commented that the woman often receives the largest payment since it's a whole day job whereas the remaining balance will be equally shared amongst each fishermen involved.

Management Comments

A three week period was given for management to provide comments and Audit followed up management with phone calls and emails. No comments have been provided by management.

6.3 Decision-making concerning off-shore fisheries is informed by accurate assessments of the fishery; and changes in the status of the fishery are monitored and reported

6.3.1 National Fishery Authority should maintain a system that records and ensure the accuracy of reporting of tuna catches.

The collection and management of tuna data is one of the core tasks for staff employed in the TNFD. The data they collect should provide a clear picture of the fishery and a solid basis for management decisions, and also offer an appreciation of historical fishing patterns. To support this task, the Oceanic Fisheries Department of the Secretariat of the Pacific Community (SPC) developed the comprehensive, integrated database system called the Tuna Fishery Data Management System (TUFMAN) to enable Pacific island fishery agencies to record, analyze and summarise their tuna fishery data for relevant decision making.

TUFMAN

This system provides for data entry, data management, data quality control, administration, and reporting of tuna data. It has been developed over many years and has evolved from a simple system to one that is becoming a comprehensive tuna data management tool. Tuvalu Fisheries started using this data management system in 1998.

TUFMAN supports many types of tuna fisheries data including that of the major gears (long line, purse seine, and pole-and-line) as well as local vessels. The types of data supported include:

- ✓ Licensing
- ✓ Port sampling
- ✓ Log sheets
- ✓ Unloading
- ✓ Observer trips
- ✓ Packing lists
- ✓ Vessel Activity Reports
- ✓ Vessel Position Reports
- ✓ VMS

TUFMAN also has a mapping component than can produce catch and effort maps as well as tracks of log sheet, position reports, and VMS data.

TUFMAN records are managed by licensing officers and the head of the licensing department in the TNFD in Tuvalu. These records are then used to provide catch and licensing data to the PNA Management Information System and the SPC. This data is then used to decide the sustainable level of fishing effort within the collective PNA EEZs.

Not all components of TUFMAN are used by the licensing officers in Tuvalu. One reason could be because there has been limited training conducted on those components.

The TNFD enters into TUFMAN licensing data, number of days allocated under VDS, weekly catch logs and daily log sheets. During audit testing it was noted that TUFMAN data was not up to date. The two major causes of the delay in entering data was due to the late receipt of log-sheet reports from FFA and FFVs; and due to frequent travelling of staff operating TUFMAN with no one else in the licensing department being able to enter the data

on their behalf. The licensing department only receives log-sheets for FFVs who are operating under PNA arrangements. There are no log-sheets submitted to Tuvalu under the US Multilateral Treaty. As a result, incomplete log-sheet information is entered into TUFMAN.

The licensing section uses an excel spreadsheet to record details of license fees. This data should be entered into TUFMAN. As a result, TUFMAN becomes less effective in tracking FFV license fee payments and there are two systems being run concurrently. Excel spreadsheets do not have any form of data checking or logging and a mis entry of data is unlikely to be identified. Additionally the users of TUFMAN outside Tuvalu are unable to make use of the licensing data on the spreadsheets.

There is no reconciliation of data (e.g. catch amounts and species, vessel location, fishing status) between log-sheets, VMS and observers' reports, weekly reports and daily catch reports of Purse Seiner and Long Liner vessels, thus there may discrepancies between TUFMAN records and the log sheets submitted by FFV. These discrepancies could reveal inconsistencies in data which could be investigated to increase TUFMAN data integrity and perhaps identify IUU fishing.

Audit noted in some situations log sheets provided by FFV reflect only the total catch amount without specifically categorising the catch into species. As a result, the fishery officer will categorize the total catch to each species based on assumptions not actual data.

It was also noticed that there are no follow up made by the TNFD with FFV that have not performed reporting in accordance with their licensing agreement. There are no consequences for non submission of reports.

All of the above issues decrease the level of accuracy and therefore usefulness of TUFMAN data. To ensure that appropriate decisions surrounding sustainability are made in a timely manner, accurate data needs to be entered in a timely manner.

The VMS (Vessel Monitoring System) uses TUFMAN licensing data to cross check that all vessels in Tuvalu's waters have a fishing license and that the vessels have not used all of their allocated vessel days. Without timely licensing data, the ability and effectiveness of the VMS to monitor fishing in Tuvaluan waters is greatly decreased.

Observers' data is not being entered into TUFMAN by the TNFD. Observers' data is scanned and checked for basic additions and then emailed to the SPC. There is no reconciliation between the observer's data and the data in TUFMAN. This reconciliation is especially important concerning the weight of fish caught.

There are no reconciliations done in Tuvalu between VMS and TUFMAN records to ensure all FFV within the EEZ hold a valid license and have not exceeded their allocated fishing days.

Recommendations

The Audit recommends the following:

6.3.1 Ensure that TUFMAN data is up to date by making sure all staff are able to update the TUFMAN system.

6.3.2 Perform a regular reconciliation between Log-sheets (TUFMAN), VMS and Observers' reports to ensure the early identification of FFVs who are yet to submit their log-sheets, do not have a license, or are not in the position which they reported.

6.3.3 Develop further data analytic tools with the PNA to ensure that all fishing vessel data is used to its maximum potential. This would include the reconciliation of all data to ensure that it is consistent, including observers' reports, weekly reports and log reports. This will require that TUFMAN is updated in a timely manner for the reports to be effective.

6.3.4 Ensure that records entered into the system represent the total catch reported by FFV. If the reports received from FFV are in aggregate amount, not categorising the types of species caught, the TNFD through the licensing department should contact the responsible FFV to report according to the conditions of the access agreement.

6.3.5 Ensure that all FFVs fishing in Tuvalu EEZ submit their Log-sheets on time, and that log-sheets from FFA are received in a timely manner.

6.3.6 Fines should be imposed on FFVs for non submission of log-sheets or weekly reports in accordance with the Marine Resource Act and the signed Access Agreement. If non compliance continues the TNFS should remove the FFV's access to Tuvalu's EEZ.

6.3.7 Continue training for licensing officers for the full operation of the TUFMAN.

6.3.8 Enter details of license fees (IP numbers, dollar amounts, etc) received in TUFMAN, not on a separate excel spreadsheet. This will ensure completeness of License fees received and will increase effectiveness of TUFMAN.

6.3.9 Reconciliation of data entered from log sheets, observers' reports and weekly reports occurs on a regular basis, to ensure that there is consistency of reporting by FFVs. If there are discrepancies between the three data entry points (Weekly reports, Observer's reports and Log sheet reports), perform investigations as to why and take the appropriate action once the investigation is completed.

6.3.10 TNFD compare VMS reports on days fished by FFVs with TUFMAN days allocated on a FFV basis to determine FFVs who have exceeded their allocated fishing days.

6.3.11 Observer's data is entered into TUFMAN and reconciled to log sheets and weekly reports. If this data is entered by the SPC, then request the data and perform the reconciliation.

6.3.12 Perform a regular reconciliation between VMS reports and TUFMAN records to ensure that all vessels within the EEZ have a licence, the number of days that have been consumed by vessels does not exceed their licensed amount, the reporting entered into TUFMAN agrees with the FFV's position and to ensure that TUFMAN is up to date.

Management Comments

A three week period was given for management to provide comments and Audit followed up management with phone calls and emails. No comments have been provided by management.

OBSERVERS PROGRAM

All FFA member countries have established an observers program to employ local observers. These observers are trained by the FFA who also provide support to observers in their roles. Observers are deployed on fishing vessels to independently report on fishing catches and the method of fishing.

Tuvalu currently has 14 fishing observers working under the Licensing & Surveillance Section. One observer is overseas for short course training at the Tasmania Australian Maritime College (AMC) in Launceston, Tasmania. The other 8 observers are currently on Funafuti while the remaining five observers are working on fishing vessels.

The PNA third implementing arrangement regulation 2009 has enforced the 100% observer coverage requirement for purse seiners that are licensed to fish within PNA's EEZ. This requirement is an issue for the TNFD since there are not enough observers in the office.

There is a requirement by FFA under the 3rd Implementation arrangement in 2009 that all member countries must make an effort to meet 100% observer coverage on all purse seiners. Tuvalu cannot meet the 100% coverage as there are not enough observers employed. To mitigate the lack of observer coverage, a request was made to FFA for Tuvalu to be provided an observer from a neighbouring country to be deployed on the fishing vessel. This is to ensure full coverage of observers on Purse Seine fishing vessels.

The other main reason for not meeting the requirement of 100% coverage was that conditions on some vessels are not acceptable for an observer to be deployed to that particular fishing vessel. This provides an incentive for vessels to provide poor quality conditions for observers, to maximise the chance that they will not have an observer on board.

Recommendations

The Audit recommends the following:

6.3.13 Effort to be made by the TNFD to meet the 100% observer coverage by Tuvaluans and to ensure that all purse seine vessels have adequate conditions for observers.

6.3.14 Impose penalties and fines on the FFV if they do not provide the observer with adequate conditions and in circumstances of repeated non compliance, revoke their fishing license.

Management Comments

A three week period was given for management to provide comments and Audit followed up management with phone calls and emails. No comments have been provided by management.

7.0 Conclusion

Tuvalu has policies and legislations that are applicable to the sustainable management of tuna resources. Tuvalu is also a party to a number of regional and international conventions, protocols and agreements that deal with the sustainable use and management of tuna resources.

The managing of tuna resources in Tuvalu is monitored by various legislation and regulations such as the *Marine Resources Act*, and the *Fisheries (Vessel Monitoring System) Regulations*. The Tuna Management and Development Plan (TMDP) 2011- 2015 is not yet endorsed by Cabinet. The TMDP needs to be endorsed as this plan covers all aspects of managing offshore fisheries and sustainable management of Tuna resources in Tuvalu. Once the plan has been endorsed, then full implementation is required to take place to support the TNFD in managing offshore fisheries.

Records of the access agreements, Joint Venture agreements and fishing licenses were unable to be located by the TNFD when requested by Audit. This severely limited the scope of the audit testing and more importantly highlights significant management failures by TNFD. In addition, there are also problems surrounding handling and recording of revenues derived from fishing licenses, fines and FFA shares from the US Treaty between TNFD and Treasury Department. This results from TNFD and Treasury Department not conducting regular monthly reconciliations and maintaining a poor filing system.

The management of fines was unable to be tested by Audit given the lack of documentation presented by TNFD. The management of the Vessel Day Scheme and licensing requires improvement for it to be effective and to ensure that maximum benefits are obtained by Tuvalu.

Data entry, management and reconciliation of TUFMAN and the VMS require improvement. Timely data needs to be entered and reconciled with other data in both VMS and TUFMAN. Tuvalu's reliance on the PNA to notify them how many vessel days are remaining is not acceptable. As this data is relied upon by the SPC and PNA to set limits on fishing effort, accuracy, timeliness and quality of this data is vital.

Additional effort is required to be put into the Observers program to ensure that appropriate coverage is obtained and ensuring that the working conditions for the observers are adequate.

The findings in this report suggest that the effective management of sustainable fisheries (tuna resources) is heavily dependent on the support and commitment of all stakeholders including the Government of Tuvalu and overseas donors (PNA, FFA, WCPFC, SPC - GEF and SPREP) who have contributed financially and technically towards the sustainable management of tuna resources in Tuvalu. Without such dedication and support the effective management of the tuna resources will continue to struggle in the long run.

In Tuvalu Fishing licenses are sold according to demand, rather than sustainability.

8.0 Appendices

Appendix 1: Marine Resource Act

The basis of fisheries law in Tuvalu is the Fisheries Ordinance of 1978, which is incorporated into the 1990 revision of the laws of Tuvalu then again revised in 2008 and now known as the *Marine Resources Act* (the Act). The Act provides for the Minister to take such measures as he sees fit to promote the development of fisheries and to ensure that fishery resources are exploited fully.

This *Marine Resources Act* makes provision for the management, conservation and sustainable use of fisheries resources of Tuvalu and regulates to a certain extent aquaculture, mariculture and the fishing of Tuvalu fishing vessels outside the Fishery Waters of Tuvalu. The principal objective of the Act is to ensure the long-term conservation and sustainable use of the living marine resources for the benefit of the people of Tuvalu.

In pursuance of this objective, the Minister who has the authority for the conservation, management, development and sustainable use of the living resources in the Exclusive Economic Zone (EEZ) in accordance with this Act shall take into account stated principles and objectives.

Under the *Marine Resource Act*, The Minister has the authority and power to ensure that:

1. Management measures are adopted which promote the objective of optimum utilization;
2. Management measures are based on the best scientific evidence available and designed to maintain stocks at levels capable of producing maximum sustainable yield.
3. Principles and measures for fisheries conservation and management are applied in accordance with standards set by this Act (*Marine Resource Act*)
4. Taking measures to prevent or eliminate over-fishing and excess fishing capacity.
5. Implementation and enforcement of conservation and management measures through effective monitoring, control and surveillance.
6. Allowable fishing allocation in accordance with this Act and may declare any stock of fish to be endangered in accordance with stated criteria.

In addition to duties of the Minister, the Director of Fisheries, acting as the Fisheries Officer shall determine total allowable catch, prepare Fisheries Plans, issue permits and authorizations and carry out other specified duties.

The Act further provides, among other things, with respect to access agreements, requirements for Tuvalu vessels operating outside Fishery Waters, fishing gear, marking of vessels in accordance with FAO standards, monitoring, control and surveillance, enforcement, offences and legal proceedings.

Appendix 2: Regional and International Obligations Tuvalu is part of:

Treaties Tuvalu Signatory to:	Purpose of the Treaties
International Obligations:	
1. United National Convention on the Law of the Sea 1982 (UNCLOS)	coastal and island states control over up to 200 nautical miles radius of their coastal waters as their Exclusive Economic Zone (EEZ). This control involves rights and obligations: rights to natural resources in these waters and obligations to sustainably manage the aquatic ecosystems they contain.
2. United Nations Fish Stocks Agreement 1995 (UNFA)	Provides coastal states with exclusive rights to explore, exploit, conserve and manage fisheries within 20 nautical miles of their shores. Is a key tool that is helping the international community raise the global standard for the sustainable management of straddling, highly migratory and high seas discrete stocks.
Regional Obligations	
1. The Harmonised Minimum Terms and Conditions of Foreign Fishing Vessel Access (MTCs)	Applies to all foreign vessels fishing within FFA member EEZs. Attempts to apply a consistent access framework to all foreign fishing vessels. Provides a cooperative and coordinated approach to assist Forum Island Countries when negotiating access agreements.
2. Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. 2004	To address problems in the management of high seas fisheries resulting from unregulated fishing, over capitalization, excessive fleet capacity, vessel re-flagging to escape controls, insufficiently selective fishing gear, unreliable database and insufficient multilateral cooperation in respect to conservation and management of highly migratory fish stocks.
3. Convention on the Prohibition of Long Driftnets in the South Pacific	Treaty call for country to discourage use of driftnets in the South Pacific and to take measures consistent with international law, including prohibition of transhipment of driftnet catches, prohibit landings, processing and importation of driftnet catches. It applies to Pacific Islands states exclusive economic zones as well as the surrounding high seas areas.
4. South Pacific Forum Agency Convention 1979	This convention established the Pacific Island Forum Fisheries Agency (FFA). The FFA is a regional fishery body. Convention Objective: to enable member countries to manage, conserve and use the tuna resources in their exclusive economic zones and beyond, through enhancing national capacity and strengthening regional solidarity. Focus is exclusively tuna stocks.

Treaties Tuvalu Signatory to:	Purpose of the Treaties
Sub- Regional Obligations:	
1. Parties to the Nauru Agreement concerning cooperation in the management of fisheries of common interest	The parties to this agreement have set forth the minimum terms and conditions of access to fisheries zones of the parties like requiring foreign fishing boats to retain their full catches, banning the use of fish aggregating devices for three months each year, mandatory onboard observers, and closing areas of high seas that are adjacent to EEZs.
2. Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement in the South Pacific Region	Cooperation between FFA members about monitoring, control, and surveillance of fishing- including exchange of information (about where the position and speed of vessels at sea, which vessels are without licenses) plus procedures for cooperation in monitoring, prosecuting and penalising illegal fishing vessels.
3. Federated States of Micronesia (FSM) Arrangement	1. Cooperate to secure maximum sustainable economic benefits from exploitation of tuna resources of Central and Western Pacific 2. Promote greater participation by PNA in fisheries and assist in development of national fisheries industries 3. Establish a licensing regime under which fishing vessels of PNA members may gain access to waters within the Arrangement area on terms and conditions no less favourable to those granted to foreign fishing vessels under other access arrangements. 4. Establish and enforce agreed criteria to ensure that only those fishing operations which are capable of providing genuine and quantifiable benefits to the PNA members are eligible for licenses; 5. Allow access to the exclusive economic and fisheries zones of PNA members by purse seine fishing vessels on terms and conditions consistent with provisions of Palau Arrangement.
4. The treaty on Fisheries between the Government of Certain Pacific Island States and the United States of America (the US Treaty)	Commenced in June 1988 and licensing arrangements have been extended twice and now running up to 2013. Parties receive minimum of US\$21 million each year in return for 40 purse seiners licensed to fish in the Parties fisheries waters

Appendix 3: Kurukuru Operation

The KuruKuru operation is a maritime surveillance and patrol operation run by the Pacific Island Forum Fishing Agency (FFA) to detect and deter illegal, unregulated and unreported (IUU) fishing activity.

The operation covers an area of 12 million square kilometers - including the Exclusive Economic Zones (EEZ) of Cook Islands, Fiji, Kiribati, Niue, PNG, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu and areas of the high seas. Operation Kurukuru involved surveillance, police, fisheries and military personnel from all of these countries working together with their counterparts from Australia, New Zealand, France and US over 10 days of surveillance.

There were no fishing vessels apprehended during the Kurukuru Operation in 2005, however one vessel was apprehended by the Tuvalu Patrol Boat during the Kurukuru operation in 2006. This fishing vessel was found to have excessive shark fins on board and the owners paid a USD\$10,000 penalty to the Government of Tuvalu. Again in 2009 a foreign fishing vessel was fined for misreporting its catch and in 2011 another foregn fishing vessel was apprehended as their logbook was not written in English, fish equipment was not marked in English, and had no interco signal publication. The vessel was fined USD\$20,000. The Kurukuru operation is made successful from the help and support by aerial surveillance provided by 4 maritime patrol aircraft supplied by Australia and New-Zealand, a Gurdian aircraft supplied by France and a Hercules aircraft from the US Coast Guard.

Appendix 4: Economic Returns Generated from Fishing Licenses

Total economic returns generated from Fishing Licenses

Year	Total Licence Payment (AUD)	Total Government Revenue (AUD)	Licences as % of total Government Revenue
2000	9,480,076	42,467,676	22.32
2002	11,795,440	22,365,212	52.47
2003	8,694,953	41,931,352	20.74
2004	1,474,300	21,384,693	6.89
2005	3,144,672	19,580,402	16.06
2006	5,232,030	21,240,548	24.63
2007	3,321,552	20,957,595	15.85
2008	8,400,035	25,801,229	32.56
2009	9,005,663	31,143,499	28.92
2010	7,396,494	31,741,882	23.3

Source: ACCPAC, Tuvalu Government Treasury

Financial Benefits to Tuvalu under the US Multilateral Treaty

Licensing Period	85% Catch share (US\$)	15% Equal share (US\$)	Development Fund Contributions (US\$)	TOTAL(US\$)
2008	2,886,776.92	155,349.06	156,250.00	3,198,375.98
2009	2,031,682.10	176,307.75	156,250.00	2,364,239.85
2010	1,547,640.31	181,818.72	156,250.00	1,885,709.03
2011	2,242,840.66	164,759.05	156,250.00	2,563,849.71

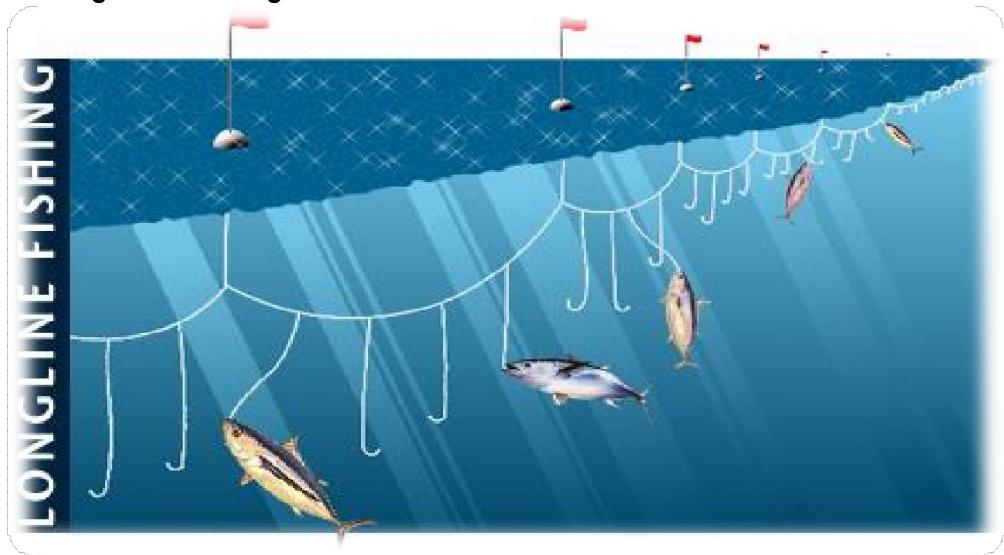
Source: Forum Fisheries Agency

Appendix 5: Types of Permitted Fishing Gear

ONGLINER

Long liner is an acceptable fishing method allowed within the Tuvalu EEZ. A fishing vessel uses a Long line which has many short lines (called snoods) carrying baited hooks attached. The snoods are attached at regular intervals to a longer main line that is laid on the bottom of the ocean or is suspended horizontally with the help of surface floats. Main lines can be over 100km long and can carry several thousand hooks.

Figure 1: Long Line Fishing



POLE AND LINER

Pole-and-line, or 'bait-boat' fishing, attracts surface-schooling fish to the vessel, where they are driven into a 'feeding frenzy' by throwing live or dead bait into the water and spraying water onto the sea surface to simulate the escape of small prey. Lines are used to hook the fish, which are then pulled on board by manual or powered devices. On these vessels, used primary for catching of tuna and skipjack, the fishermen stand at the railing or on special platforms, and fish with poles and lines.

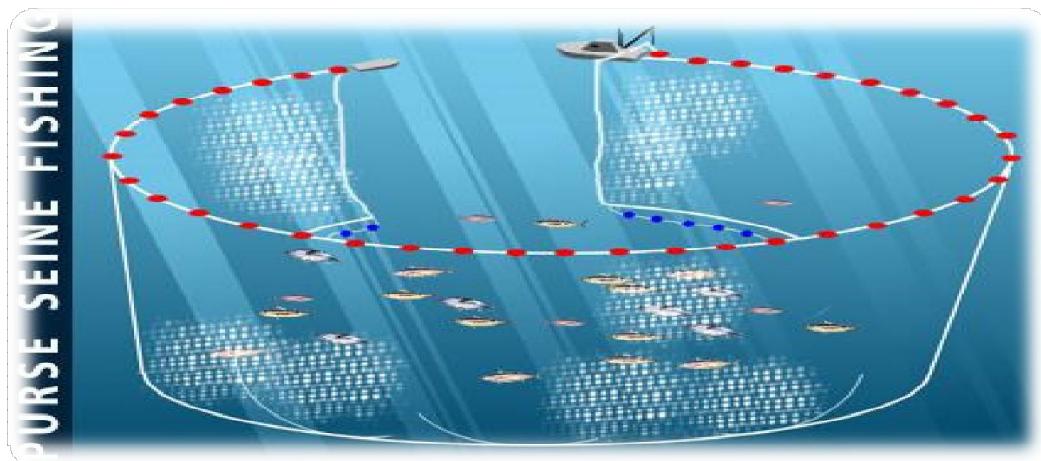
FIGURE 2: Pole and Liner



PURSE SEINE

Purse Seine is an acceptable method of fishing allowed in the Tuvalu EEZ. Purse Seine fishing has the highest number of licensed fishing vessel fishing in Tuvalu. The vessels encircle fish with a large 'wall' or net, which is then brought together to retain the fish by using a line at the bottom that enables the net to be closed like a purse.

FIGURE 3: Purse Seine Fishing



Apart from the three main fishing methods explained above Fishing Aggregated Devices (FADs) are also used.

FISHING AGGREGATING DEVICE (FAD)

Marine life is attracted to floating objects, and FADs are designed to mimic this effect for gathering or aggregating fish. They can be pieces of wood tied together and weighted or sophisticated steel structures, anchored to the sea floor and fitted with electronic monitoring equipment that can transmit detailed information to fishing vessels by radio, including water temperature and quantity of fish in the vicinity.

In terms of sustainability of tuna resources, the director for fisheries commented that using FADs has also been a concern especially if purse seine vessels are involved. As the device attracts marine life, most of the attracted species are juvenile tuna and other juvenile species.⁴ As such, it is more likely that catches at FADs will be juvenile marine species and other unwanted species (by-catch) such as dolphins and sharks.⁵

The 3rd Implementing Arrangement Regulation was set by PNA to minimise fishing using FADs. In the 3rd Implementing Arrangement Regulation, it was agreed by the PNA to close FAD fishing for a period of 3 months (between 0001 hours GMT on 1 July and 2359 hours GMT on 30 September each year). Any fishing vessel caught breaching will be fined accordingly.

⁴ International Greenpeace View's paper 2010

⁵ ibid

FIGURE 4: Picture of a Fish Aggregating Device



Appendix 6: WCPFC Conservation and Management Measures (CMMs)⁶

On the 8th February 2005 at its first meeting as a commission in Phonpei, Federated State of Micronesia, the WCPFC created a new legally binding fishing rules, called Conservation and Management Measures or CMMs. Top of the list was a Record of Fishing Vessels authorized to fish in their area and sorting through how fishing vessels would be ‘marked’ so they could be easily identified.

It was all about the fish at the second meeting of the Commission where CMMs were introduced setting limits and methods in place for Bigeye, Yellowfin Tuna, and Albacore. Non-binding resolutions were also created on bycatch and sea turtles. However on the 16th February 2006, the commission created resolution on the Reduction of Overcapacity, resolution on Non-Target Fish Species and a resolution to Mitigate the Impact of Fishing for Highly Migratory Fish Species on Sea Turtles

A new CMM for Bigeye and Yellowfin Tuna was introduced on the 13th February 2007, as well as one for Striped Marlin. A CMM locking in the Regional Observer Programme was also created together with high seas boarding and inspection procedures endorsed allowing WCPFC members to board and inspect fishing vessels on the high seas (a world first).

The WCPFC in its meeting on the 7th December 2007 in Tumon, Guam, looked into rules aimed at stepping up effectiveness, and meeting a major challenge to the Western Central Pacific Ocean (WCPO) and WCPFC illegal fishing. They added to the Regional Observer programme CMMs with a rule detailing how it will be run, and added to that targeting vessel monitoring measures and blacklisting vessels fishing illegally in WCPO. A measure aimed at reducing dangers to seabirds, a by-catch problem for tuna fishers, was also endorsed.

The WCPFC in its meeting on the 7 December 2008 in Bushan, Korea, added to its fishing rules for Bigeye and Yellowfin Tuna to help deal with overfishing, setting out a detailed list for members to follow, including cutting back on the numbers of days vessels can fish and temporary closures of FADs in some national EEZs. Members endorsed a ban on drift netting, or wall of death fishing and passed rules to protect sea turtles, swordfish and sharks. The rules ensure sharks and Sea turtles, already endangered as by-catch are not commercially fished in the Convention area and aims to respect the cultural value of these species to many Pacific nations where they are fished for food. These rules will be supported by a satellite-based vessel monitoring system allowing WCPFC to monitor registered vessels on the high seas.

⁶ Fact Sheet 4: Action of the WCPFC (What has WCPFC done so far)