WCPFC/PrepCon/WP.15/Add.1

Capacity of Pacific Island Countries and Territories to Meet the Likely Data Requirements of the Western and Central Pacific Fisheries Commission

A paper prepared by the

Oceanic Fisheries Programme
Secretariat of the Pacific Community

For Working Group II of the Preparatory Conference

Fifth Session, Rarotonga, Cook Islands

29 September – 3 October, 2003

September 2003

Acronyms

ALC	Automatic Location Communicator
BOFM	Bureau of Oceanic Fisheries management (Palau)
CES	Catch and Effort query System
DCC	Data Collection Committee
DMWR	Department of marine and Wildlife Resources (American Samoa)
DWFN	Distant-Water Fishing Nation
EC	European Community
EEZ	Exclusive Economic Zone
FAD	Fish Aggregation Device
FFA	Forum Fisheries Agency
FLEU	Fisheries Licensing and Enforcement Unit (Kiribati)
FSM	Federates States of Micronesia
MAFFM	Ministry of Agriculture, Forestry, Fisheries and Meteorology (Samoa)
MIMRA	Marshall Islands Marine Resources Authority
MMR	Ministry of Marine Resources (Cook Islands)
MNRD	Ministry of Natural Resources Development (Kiribati and Tuvalu)
NFA	National Fisheries Authority (Papua New Guinea)
NFMRA	Nauru Fisheries and Marine Resources Authority
NGO	Non Governmental Organisation
NMFS	National Marine Fisheries Service (United States)
NORMA	National Oceanic Resources Management Authority (Federated States of Micronesia)
OFP	Oceanic Fisheries Programme (of the Secretariat of the Pacific Community)
PICT	Pacific Island Country or Territory
PNG	Papua New Guinea
PrepCon	Preparatory Conference (of the Western and Central Pacific Fisheries Commission)
PROCFish	Pacific Regional Oceanic and Coastal Fisheries (Project)
SCG	Scientific Coordinating Group (of the Preparatory Conference)
SCTB	Standing Committee on Tuna and Billfish
SPC	Secretariat of the Pacific Community
TMP	Tuna Management Plan
UNFSA	United nations Fish Stocks Agreement
VMS	Vessel Monitoring System
WCPF	Western and Central Pacific Fisheries (Convention or Commission)
WCPO	Western and Central Pacific Ocean
WG II	Working Group II (of the Preparatory Conference)

Table of Contents

Introduction

In considering the issue of long-term data requirements of the Western and Central Pacific Fisheries (WCPF) Commission, the PrepCon through Working Group II (WG II), requested the Secretariat of the Pacific Community (SPC) Oceanic Fisheries Programme (OFP) to compile information on the current capacity and capacity needs of Pacific Island Countries and Territories (PICTs) to fulfil their likely scientific data collection and reporting obligations. Note that this report deals only with scientific data requirements and obligations. PICTs may also have broader fisheries management obligations with respect to their Exclusive Economic Zones (EEZs) and national fleets under the Convention, including obligations related to monitoring, control and surveillance, and development and implementation of fisheries management measures for their EEZs. These obligations may also have considerable capacity implications for PICTs, but these are not dealt with in this report.

Part I of the report provides overview material on topics related to this issue. First, we review the current status of fishery development in PICTs, as the level of development will bear considerably on the extent of data collection and reporting obligations. Second, we outline the likely long-term data requirements of the Commission, based on guidelines provided by the United Nations Fish Stocks Agreement (UNFSA), the WCPF Convention, and discussions that have taken place within the PrepCon framework, particularly in WG II and in the first two meetings of the Scientific Coordinating Group (SCG). Third, we describe the main sources, or methods of collection, of the data that are likely to be required. Fourth, we examine how the responsibilities for various data collection programmes might be allocated in the context of the tuna fisheries in the Convention Area, and the current capacity of PICTs to meet these responsibilities. Finally we make some remarks on the likely capacity needs of PICTs in the area of data analysis. A general summary and conclusions section completes Part I.

Part II of the report provides more detailed, country-specific information on current scientific data collection and reporting capacity by PICTs, and identifies specific areas where additional capacity is needed. Note that this survey of PICT capacity and needs is not exhaustive. A more comprehensive needs assessment of Forum Fisheries Agency (FFA) member countries will be undertaken in 2004 as part of a new project being funded by the Global Environment Facility and being implemented by SPC and FFA.

Part I: Overview

1. Status of Tuna Fishery Development in PICTs

The extent of national obligations for data collection and reporting, however specified, will inevitably be related to the level of development of tuna fisheries in PICTs. There are two ways in which PICTs have "developed" their tuna fisheries, and both need to be recognised in the context of data collection and reporting obligations. First, the extent to which vessels flagged[1] by PICTs fish for tuna in the Convention Area will determine a principal data obligation. Second, the extent to which PICTs license foreign vessels to fish in their EEZs may also have implications for data obligations of PICTs, as will be discussed below.

Table 1 provides an overview of both types of fishing activity in PICTs, as reflected by data available to the OFP for the year 2002. In terms of fishing activity by national fleets, many PICTs have

[1] In SPC databases, nationality is not determined strictly by flag, but by the nationality of the controlling interest in a vessel. This definition of nationality may be different in some cases to the flag. The terms are used inter-changeably in this report, but any data presented by nationality are in relation to the SPC definition.

developed small-scale longline fisheries in recent years. The largest of these (in terms of catch) are currently Fiji, American Samoa, French Polynesia and Samoa, with four other national fleets recording catches of more than 1,000 t in 2002. Fewer PICTs have developed national purse seine fleets. Papua New Guinea now has a purse seine fleet catching at approximately the level of the United States fleet, while Marshall Islands and Federated States of Micronesia also have catch levels that are significant in the regional context. Solomon Islands and Kiribati have smaller national purse seine fleets. Only Solomon Islands currently has a substantial pole-and-line fishery, with smaller operations in Fiji and French Polynesia.

Most PICTs license foreign fishing in their EEZs, either through multilateral (US Treaty and FSM Arrangement) or bilateral access agreements. The two multilateral arrangements in place are administered by FFA on behalf of its members.

In 2002, the catch by foreign licensed purse seiners in the Kiribati EEZ was in excess of 300,000 t. The distribution of purse seine catches among EEZs varies considerably over time, with *El Niño* conditions (which prevailed in 2002) favouring EEZs in the east of the region (Nauru, Kiribati, Tuvalu and Marshall Islands) and *La Niña* conditions favouring EEZs towards the west (Palau, Federated States of Micronesia, Papua New Guinea, Solomon Islands). Overall, the 2002 purse seine catch in the EEZs of PICTs was in excess of 600,000 t. Much of this catch is unloaded or transhipped in regional ports, which provides opportunities for catch monitoring and sampling.

Federated States of Micronesia, Kiribati, Marshall Islands and Vanuatu licensed the majority of foreign longline fishing in their EEZs in 2002. Foreign longliners consist of smaller locally-based vessels that fish primarily in EEZs (Japanese, Taiwanese and Chinese fleets based in Guam, Palau, Federated States of Micronesia and Marshall Islands) and larger distant-water vessels (from Japan, Korea and Taiwan) that fish both in EEZs and on the high seas. The locally-based fleets unload their catches in base ports (from where they are air-freighted to Japan) while distant-water vessels typically undertake long campaigns and return to their home ports to unload.

The activities of the Japanese pole-and-line fleet in the tropical region of the Convention Area has reduced over the years. In 2002, the fleet fished in Marshall Islands and in previous years has regularly fished in Palau, Federated States of Micronesia, Kiribati Solomon Islands and elsewhere. The fleet also fishes extensively in international waters. All catch is landed directly in Japan.

Table 1. Longline, purse seine and pole-and-line catches and vessel numbers by flag for PICT fleets, and foreign catches and vessels numbers by PICT EEZ. Source: logsheet data held by OFP.

Flag or EEZ	2002 Fishing Activity by Domestically Flagged Vessel						2002 Fishing Activity within EEZs by Foreign Licensed Vessels					
	Longline		Purse seine		Pole & Line		Longline		Purse seine		Pole-and-line	
	Catch (t)	Vessels	Catch (t)	Vessels	Catch (t)	Vessels	Catch (t)	Vessels	Catch (t)	Vessels	Catch (t)	Vessels
1.1. FFA countries												
Cook Islands	1,134	17					83	9	2,674	22		
Federated States of Micronesia	825	22	18,128	7			3,003	175	58,892	136		
Fiji	10,974	119			431	2	79	15				
Kiribati			5,112	1			2,144	89	302,292	170		
Marshall Islands			38,242	5			1,996	71	28,812	121	7,316	35
Nauru									94,755	129		
Niue												
Palau							827	82				
Papua New Guinea	2,198	41	119,873	28					94,597	103		
Samoa	4,901	80							86	6		
Solomon Islands	856	25	8,079	2	9,642	12	839	46	1,786	48		
Tokelau									6,397	30		
Tonga	1,642	26										
Tuvalu							35	14	24,438	51		
Vanuatu	354	13					2,303	72	63	1		
1.2. US Territories												
American Samoa	7,754	70										
Guam												
Northern Marianas												
1.3. French Territories												
French Polynesia	5,755	45			620	15						
New Caledonia	1,936	25										
Wallis & Futuna												

2. Data Requirements of the Commission

The long-term data requirements of the Commission have not yet been precisely defined. However, some guidance is provided by the UNFSA Annex 1 and by recent recommendations of the SCG.

2.1. UNFSA Annex 1

The following data types are specified in Annex 1 of UNFSA:

Basic Fishery Data

(i) time series of catch and effort statistics by fleet;

(ii) total catch in number, nominal weight, or both, by species (both target and non-target) as is appropriate to each fishery;

(iii) discard statistics, including estimates where necessary, reported as number or nominal weight by species, as is appropriate to each fishery;

(iv) effort statistics appropriate to each fishing method;

(v) fishing location, date and time fished and other statistics on fishing operations as appropriate;

(vi) composition of the catch according to length, weight and sex;

(vii) other biological information supporting stock assessments such as information on age, growth, recruitment, distribution and stock identity; and

(viii) other relevant research, including surveys of abundance, biomass surveys, hydro-acoustic surveys, research on environmental factors affecting stock abundance, and oceanographic and ecological studies.

Vessel Data and Information

(i) vessel identification, flag and port of registry;

(ii) vessel type;

(iii) vessel specifications (e.g. material of construction, date built, registered length, gross registered tonnage, power of main engines, hold capacity and catch storage methods);

(iv) fishing gear description (e.g. types, gear specifications and quantity);

(v) navigation and position fixing aids;

(vi) communication equipment and international radio call sign; and

(vii) crew size.

The annex further states that "States should ensure that data are collected from vessels flying their flag on fishing activities according to operational characteristics of each fishing method (e.g. each individual tow for trawl, each set for long-line and purse seine, each school fished for pole-and-line and each day fished for troll) and in sufficient detail to facilitate effective stock assessment". This suggests that a fundamental obligation of flag states is to ensure that catch and effort (i.e. logsheet) data, and possibly other information, such as size composition data, are recorded at an operational level.

2.2. Scientific Co-ordinating Group

At its second meeting (July 2003), the SCG made some progress towards identifying the long-term data requirements of the Commission. To this end, the SCG recommended that:

> Operational level data be collected by all fleets and be made available to the Commission for stock assessment and other scientific analyses, with appropriate arrangements for data security and confidentiality;
>
> Annual catches by species, gear and fleet in the Convention area be reported by flag states and coastal states;
>
> Size composition data should be collected, at the operational level where practical, according to a statistically sound sampling design to ensure that the data are representative of the fishery.

In most other fishery commissions, the obligations for collection and provision of such data would be on flag states. However, there is recognition that, because of the unique characteristics of this region, coastal states have a critical role to play in regional data collection and provision to the WCPF Commission. This arises because a substantial proportion of the catch occurs within the EEZs of coastal states, both through the operation of domestic fleets and through licensed foreign fishing. In respect of the latter, most coastal states require the submission (to them) of complete logsheet data as a condition of licence, and will continue to do so when the WCPF Commission is in place. As a result of these conditions, coastal states in some cases collectively hold more complete historical data on the fishing operations of some fleets than the flag states themselves. Also, many foreign vessels unload or transship their catches in regional ports, providing opportunities for catch verification and sampling. In recognising this situation, the SCG recommended that

> Flexibility be maintained in establishing data reporting requirements for the Commission and that coastal states and flag states cooperate in ensuring that the Commission receive data in a timely fashion.

2.3. Data Verification

Verification of data is required under the UNFSA and examples of verification methods are provided in Annex 1 of the Agreement:

- position verification through vessel monitoring systems;
- scientific observer programmes to monitor catch, effort, catch composition (target and non-target) and other details of fishing operations;
- vessel trip, landing and transshipment reports; and
- port sampling.

WGII and the SCG have not yet discussed the details of data verification requirements, but for the purpose of this report, reasonable assumptions can be made based on the above.

2.4. Likely Data Requirements of the Commission

Given the above background, a list of likely initial data requirements by the Commission can be proposed for the purpose of determining the obligations of PICTs and assessing their capacity to meet those obligations. These are as follows:

(i) Operational-level catch and effort data primarily for target and retained by-catch species;

(ii) Estimates of appropriately verified total annual catches (including discards) of target and non-target species and levels of effort by gear and national fleet;

(iii) Estimates of catch composition according to species, length, weight and (for some species) sex; and

(iv) Vessel and gear characteristics.

In the next sections, we look in greater detail at the possible sources of such data, and the types of infrastructure and expertise that PICTs will require to apply them.

3. Fishery Data Sources

The data required by the Commission will be collected from a number of sources or methods, most of which are commonly utilised by other tuna commissions for these purposes. Table 2 presents a summary of the possible sources for each data type, which are discussed below.

3.1. Operational Level Catch and Effort Data

Operational level catch and effort data are most commonly collected by the use of logsheets. Additional information, for example details of fish aggregation device (FAD) use by purse seiners, may be collected by observers. Logsheet data needs to cover a high proportion of the total catch in order for it to be considered representative. Coverage rates in excess of 80% would likely be considered acceptable.

3.2. Total Annual Catch and Effort and Catch–Effort Verification

Estimates of total annual catch and effort are a product of several data sources. Verification is an important aspect of this process. If 100% coverage logsheet data are available in a timely fashion and the catch and effort estimates therein are considered accurate, the estimation of total annual effort and retained catch is a relatively trivial task. However, 100% logsheet coverage is rarely obtained and estimates of coverage rates are required to estimate total effort and catches of retained species. Also, verification of declared logsheet catches and fishing effort against other data sources is required.

Logsheet coverage rates may be estimated from landings (including transshipment) data if such data cover all fishing activity by the fleet concerned. Landings data are normally collected at the vessel-trip level at unloading locations by port sampling programmes with the cooperation of vessel operators and unloading or processing companies. Where landed catches are exported, export documentation (such as packing lists for sashimi longline fish) may provide a convenient estimate of landings. Currently, there is no other formal and widely applied system of documenting landings in most PICTs. In addition to determining coverage rates of logsheet data, landings data may also be used to correct logsheet catch declarations at the individual trip level.

The South Pacific Regional Fishing Trip and Port Visit Log, which was proposed by the 5th meeting of the SPC/FFA Tuna Fishery Data Collection Committee (DCC – Anon. 2003) may also provide an authoritative source of information on vessel activity. This form would be a vessel-specific annual return documenting fishing trip details and periods of inactivity throughout the year, and would be an effective means of verifying fishing activity and estimating the coverage of landings and logsheet data.

VMS also has the potential to provide complete records of vessel activity, and therefore will be invaluable for estimation of logsheet and landings data coverage when in universal use. VMS will also be important for verifying the fishing locations reported on logsheets.

Estimates of discarded target and non-target catch need to be incorporated into total catch estimates. Such data are only available through observer programmes, and the accuracy of the resulting estimates are dependent on the observer coverage rate for each fleet. For rare but important non-target species (such as turtles) very high observer coverage rates may be required to obtain reliable estimates. More common non-target species catches can be estimated with reasonable precision with lower coverage rates, e.g. 20-30% (Lawson 2003). Generally, the level of observer coverage will depend on the level of precision desired and the frequency with which the various species of interest occur in the catch.

3.3. Catch Composition Data

Catch composition by species, length, weight and other characteristics (such as sex) are typically obtained by sampling catches at sea through observer programmes and at the point of unloading by port sampling programmes. Sampling programmes need to be designed to ensure that the samples are

representative of the catch. At-sea sampling by observers has the advantage of enabling sampling of both the retained catch and the catches of target and non-target species that are subsequently discarded. An additional advantage is that operational-level sampling data can be obtained and, in the case of purse seiners, protocols adopted to promote representative sampling that are more difficult to implement by port sampling. Thus, observer programmes are the preferred method of sampling catches. However, there are often cost and logistical difficulties in achieving sufficiently high observer coverage rates for this method to be relied upon alone to generate catch composition data. Therefore, port-based sampling of catches at unloading sites is usually required to augment observer-based sampling. For some fleets (e.g. distant-water longline fleets that remain at sea for long periods), port sampling may be currently the only feasible method of sampling the catch.

For small-scale sashimi longline fleets that unload their catch in PICTs for export to overseas sashimi markets, export documentation, or so-called packing list data, provides an alternative to port-based size sampling. Packing list data comprise the individual weights of all fish exported. Often, similar data for export rejects are also available. Such data are usually attributable to a particular vessel and trip, and therefore information on time and location of catches can be derived in the same way as for port sampling data. The advantages of utilising packing list data are that they are readily available in written form and usually represent a very high proportion of the total catch, therefore ensuring representative sampling. However, the sheer volume of data can present data processing challenges.

3.4. Vessel and Gear Characteristics

Information on vessel and gear characteristics has not been systematically collected from regional tuna fisheries to date. Some information is potentially available from existing sources, such as national licensing databases and regional or international vessel registries. However, the experience has so far been that the quality of such data has been insufficient to support stock assessment and related analyses. Therefore, it is likely that the Commission will need to develop new procedures for collecting information on vessels and fishing gear.

We suggest that collection of accurate data on vessel and gear characteristics will need to utilise several new and existing data collection methods.

- Basic vessel data such as various parameters of vessel size, engine horsepower, fish-holding capacity, and other parameters listed in Annex IV of the Convention, would not be expected to change very often and might be collected through an annual vessel return provided by the flag state.
- Gear characteristics of potential importance to stock assessment might change more frequently and could be collected on a trip-specific basis as part of a logbook. The SPC/FFA Tuna Fishery Data Collection Committee is currently testing a multi-page logbook (in contrast to the single-page logsheet that is currently used by most fleets in the WCPO), which contains detailed information regarding vessel and gear attributes.
- Both types of information could be verified periodically through in-port inspections and observers. These methods may also allow the collection of more detailed information of vessel and gear characteristics.

Table 2. Required data types and possible methods of collection.

Data type	Data Source/Method	Comments
Operational level data	logsheet observers	Logsheets record mainly effort and catches of target and retained by-catch species. More detailed information (e.g. FAD deployment by purse seiners, hook-by-hook data for longliners) need to be collected by observers.
Total annual catch and effort and catch-effort verification	logsheet landings vessel activity log VMS observers	Estimation typically requires high-coverage logsheet data and estimates of coverage rates provided by landings/transshipment data, VMS data and vessel activity log data. Observer data are required for estimates of discards of target and non-target catch. Observers can verify the accuracy of operational-level data reported on logsheets; landings (including transshipment) data are used to verify trip-level data from logsheets; vessel activity logs provide documentation of fishing activity; VMS provides verification of fishing location and fishing activity.
Catch composition	observers port sampling export documentation	Length, weight and other catch composition sampling can normally be obtained at the operational level for purse seiners by observers and port sampling; operational-level data for longline and pole-and-line can be obtained by observers only, and trip-level data by port sampling. Trip-level weight frequency data of high coverage are often available through export documentation (packing lists).
Vessel and gear characteristics	annual vessel return logbook in-port inspections observers vessel registries licensing databases	Information on basic vessel characteristics would be most usefully collected via an annual vessel return. Trip-specific data on gear characteristics may be collected via logbooks. Vessel registries and licensing databases may provide useful adjunct data. In-port inspection and observer programmes provide a means of verification of supplied data and may allow the collection of more detailed information on vessel and gear characteristics.

4. Data Collection Responsibilities and Current Status of Data Collection in PICTs

Table 3 indicates the likely responsibilities for data collection and provision utilising the various data sources. Table 4 summarises the current status of data collection by PICTs in respect of their national fleets. Below we discuss likely data collection responsibilities and current status of data collection in PICTs for each of the major data sources identified.

4.1. Logsheet Programmes

Responsibility

While flag states are required to ensure that logsheet data are collected (as stipulated by UNFSA Annex 1, article 2(a)), both UNFSA and the WCPF Convention are silent on the issue of who should have responsibility for provision of logsheet data to the Commission. In this region, coastal states licensing foreign fishing vessels have compiled logsheet data that have been collected by those vessels for many years. In some cases, the coastal states may collectively possess more complete logsheet data in respect of certain flag states than the flag states themselves. This is because some flag states have lacked a mechanism for compiling such data from their vessels, and in some cases because of data confidentiality clauses in agreements between coastal states and foreign fishing companies. It is therefore likely that, unless the Commission decides otherwise, provision of logsheet data to the Commission or its contracted data manager will be a joint responsibility of both flag states and those

coastal states which license foreign fishing in their EEZs. If this is the case, PICT responsibilities will include the collection and provision of logsheet data to the Commission or its contracted data manager in respect of their national fleets, and the compilation and provision of logsheet data collected in respect of licensed foreign fishing in their EEZs.

Current Status in PICTs

Almost all PICTs that are listed in Table 1 as having national tuna fishing fleets have logsheet data collection programmes in place. Likewise, countries that license foreign fishing in their EEZs compile logsheet data from licensed vessels. For both categories of fishing activity, regional logsheets developed by the SPC/FFA Tuna Fishery Data Collection Committee are widely used. Most countries rely heavily on the OFP to provide data processing and data management services for both national and licensed foreign fleets[2]. Exceptions to this include Fiji, French Polynesia, Papua New Guinea and Solomon Islands who undertake some or all of their own logsheet data processing. Cook Islands is in the process of developing in-house data processing capacity. Most countries have in-house national database systems developed and maintained by the OFP, and have staff that have been trained in the use of those systems.

The adequacy of logsheet coverage of the total catch of PICT fleets is indicated in Table 4. Many of the fleets are relatively new, and there has been some lag in implementing logsheet data collection systems. However, there has been rapid improvement, with 16 out of 19 national fleets recording high (>80%) coverage levels in 2002. This situation is expected to improve even further in 2003.

Logsheet coverage of the total catch by foreign licensed fleets in PICT EEZs is difficult to measure in the absence of independent catch estimates for the EEZs. Coverage is likely to vary by licensed vessel nationality and gear type. Logsheet coverage of foreign licensed purse seiners is likely to be high if not 100% for all fleets and EEZs. For purse seine fleets other than Japan, high-coverage logsheet data for fishing activities on the high seas are also provided to coastal states that license their activities in EEZs. Logsheet coverage of foreign longline fleets is more variable. High EEZ coverage of Japanese, Korean, Chinese and offshore Taiwanese (based in Micronesia) fleets is maintained, but there has been low coverage of the EEZ activities of the Taiwanese distant-water fleet (targeting albacore). Few if any logsheet data on high seas fishing activities by distant-water longline fleets are provided to PICTs. The activities of the Japanese pole-and-line fleet operating in the EEZs of PICTs is well covered by logsheet data, but data are not provided for the high seas.

Overall, the logsheet data held by PICTs in respect of foreign licensed fishing, and consolidated in the Regional Tuna Fishery Database managed by the OFP, represent a valuable source of historical logsheet data for all major fleets. Recent logsheet data coverage of foreign licensed fleets for their combined EEZ and high seas fishing activities (in the Convention Area south of 20°N but excluding Indonesia and the Philippines) has averaged 81% across all fleets, with 88% for purse seine (1999–2002), 32% for longline (1999–2001) and 42% for pole-and-line (1999–2001).

4.2. Landings/Transshipment Monitoring

Responsibility

The issue of responsibility for monitoring catch landings, including transshipments, has not been specifically dealt with in existing legal instruments nor has it yet been discussed in the PrepCon or its subsidiary bodies. Nevertheless, purely as a matter of logistics, it might be reasonable to assume that this monitoring function will become a port state responsibility, irrespective of the nationality of the vessel that is landing catch. This is because it would be difficult if not impossible for flag states to effectively monitor landings in the large number of foreign ports in which vessels unload their catch

[2] The US National Marine Fisheries Service provides tuna fishery monitoring and data processing and management services to the US Territories (American Samoa, Guam and Northern Marianas).

in the Convention Area[3]. Port state responsibility in this area would be consistent with Article 27, paragraph 2 of the WCPF Convention, which states that "whenever a fishing vessel of a member of the Commission voluntarily enters a port or offshore terminal of another member, the port State may, *inter alia*, inspect documents, fishing gear and catch on board such fishing vessel".

Current Status in PICTs

The survey of national fleets in Table 4 indicates that the monitoring of landings in PICTs is currently inconsistent and is largely inadequate to support verification of logsheet declarations and estimation of total annual catches. This is an area where PICTs will need to develop additional monitoring capability, both in respect of their national fleets, and, if catch landing monitoring is designated a port state responsibility, for foreign fleets landing their catches in PICT ports.

4.3. Vessel Activity Log

Responsibility

The proposed South Pacific Regional Fishing Trip and Port Visit Log form (an annual vessel return) would, if completed accurately, fully document periods of activity and inactivity during the reporting year. We would suggest that completion of this form be a flag state responsibility and that its timely provision be linked to maintenance of good standing on the Commission's vessel register and on their national equivalents. This would ensure a complete and timely record of vessel activity throughout the Convention Area.

Current Status in PICTs

Data collection using the DCC's South Pacific Regional Fishing Trip and Port Visit Log form is not yet being implemented, but countries are actively encouraged to do so as soon as possible. Data systems to process and manage this information would need to be developed.

4.4. VMS

Responsibility

Article 24, paragraphs 8–10 of the WCPF Convention indicate a shared responsibility among flag states, coastal states licensing foreign fishing and the Commission itself to have a coherent VMS that will ideally cover all vessels fishing for highly migratory species in the Convention Area. Flag states would have the responsibility of requiring that vessels flying their flags use "near real-time position-fixing transmitters" while fishing on the high seas and in the EEZs of other Commission members. The Commission shall determine the standards, specifications and procedures for high seas VMS, while coastal states shall make such determinations for waters under their jurisdiction. Any coastal state would have the right to include its waters in the Commission VMS. Flag states are not obligated to require their vessels to use VMS while fishing in their own EEZs, but it would be clearly desirable for flag states to do this so as to ensure universal VMS coverage of all vessels wherever they are fishing in the Convention Area. Flag states and coastal states will need to cooperate through the Commission to ensure that VMS data are compiled in such a way as to allow verification of fishing activity and catch locations while protecting the confidentiality of such data.

Current Status in PICTs

VMS is in operation at some level in 10 out of the 19 PICT national fleets (Table 4). However, in some of these cases, coverage of vessels is less than complete. Therefore, considerable effort will be required for systems to be implemented across all national fleets.

In addition to national VMS, FFA operates a regional VMS for foreign vessels licensed by their member countries. Almost all purse seiners licensed by FFA members are in good standing on the

[3] Only the Japanese fleets and distant-water longline fleets of Korea and Taiwan routinely unload their catches in non-PICT ports.

FFA VMS Register, but slower progress has been achieved for foreign longline fleets, with the exception of Japan.

4.5. Observer Programmes

Responsibility

The WCPF Convention (Article 28) states that the Commission shall operate a regional observer programme and that flag states are required to ensure that their vessels, except those that operate exclusively in waters under national jurisdiction, are prepared to accept an observer from the Commission's regional observer programme. Flag state permission is required for Commission observers to continue their duties if the observed vessel enters the EEZ of the flag state. Vessels that fish exclusively in the national waters of the flag state are not required to carry Commission observers. Such vessels may be covered by national observer programmes, but this is the prerogative of the coastal state concerned.

The Commission will likely need to play a key role in ensuring that the regional observer programme is well coordinated with national programmes. Attention will need to be paid to specifying the overall scientific sampling objectives of the programmes and having an adequate level and distribution of observer coverage to meet those objectives. Some objectives (such as size sampling of retained target species) will be shared with port sampling programmes; therefore programme design will need to also consider the information that is available via this method.

Current Status in PICTs

The current status of observer coverage for the national fleets of PICTs is summarised in Table 4. Assessment of the adequacy of observer coverage for scientific purposes is somewhat complicated and has not been attempted here in a detailed way. The FFA-administered observer programmes conducted on US purse seine vessels operating under the US Tuna Treaty and on vessels operating under the FSM Arrangement target a coverage level of 20% of trips over the course of annual licensing periods. Also, Lawson (2003) found that coverage levels on longliners of 20–30% were required to achieve reasonable precision in estimating catch rates of common by-catch species. We have therefore used >20% as an indicator of high coverage in assessing the current status of PICT observer programmes, with 10–20% defined as moderate coverage, and <10% defined as low coverage.

Of the 19 existing national fleets of PICTs, 8 did not have any observer coverage in 2002 (Table 4). For those fleets covered by national observer programmes, most had low coverage; only 2 fleets had high rates of coverage (>20% of trips) in 2002. While the development of national observer programmes is not a specific requirement of the WCPF Convention, it is clear that PICTs will need to develop such programmes in order to collect data that are likely to be required. Most PICTs have in fact signalled their intention to develop national observer programmes, and the OFP is actively engaged in assisting countries in this respect. However, much remains to be done in the areas of observer training and developing national capacity in observer programme administration and data quality control. These are clearly an areas where PICTs will require assistance for some time to come.

4.6. Port Sampling Programmes

Responsibility

As with several other data collection methods, responsibility for the implementation of port sampling programmes has not yet been discussed in any detail. However, as for monitoring vessel landings, logistics would seem to dictate that port sampling be designated a port state responsibility, with some overall coordination provided by the Commission. That is, sampling would be carried out by port state authorities for vessels landing or transshipping catch in their ports regardless of the flag of the vessel that is unloading. The OFP has assisted many PICTs to establish port sampling operations over the past 10 years, and generally speaking these operations sample vessels regardless of their nationality.

So there is some precedence for port states taking this responsibility. Article 27 of the WCPF Convention would appear to provide some support for this.

Current Status in PICTs

Table 4 outlines the current coverage of PICT national fleets with respect to port sampling using a rating scheme similar to that used for observer programmes. Twelve of the 19 national fleets are currently covered by port sampling operations, and of those, 9 are at a level that is considered to be high coverage. Of the fleets not currently covered, the most important are the Solomon Islands fleets, although in this case lack of port sampling is ameliorated to some extent by moderate to high observer coverage.

The information in Table 4 covers sampling of PICT national fleets only. In addition to this, existing port sampling operations in American Samoa, Federated States of Micronesia, Fiji, Marshall Islands, Palau and Papua New Guinea also sample foreign vessels that land or transship their catches in those ports. For several foreign fleets, these sampling operations provide the only known size composition data for those fleets. As noted above, it would appear to be in the interests of the Commission to utilise these existing programmes, and expand upon them where necessary, to obtain adequate sampling coverage of all fleets landing or transshipping catches in the region.

Port sampling of purse seine fleets poses particular problems for PICTs. The spatial distribution of purse seine catches varies greatly from year to year, being influenced by oceanographic conditions associated with the *El Niño–La Niña* cycle. As a result, the location of purse seine landings and transshipments can vary greatly and is difficult to predict. It is therefore difficult for PICTs to establish port sampling infrastructure in individual ports when no unloading might occur there for periods of one year or more. On the other hand, it is difficult to rapidly establish a port sampling presence in a particular port at short notice when a large number of vessels begins to unload there. This problem may indicate that a greater reliance on sampling by observers is appropriate for purse seiners, augmented by sampling in ports that consistently receive unloading activity (e.g. those that have processing facilities, such as American Samoa, Marshall Islands and Papua New Guinea).

Overall, port sampling programmes are well established in the region, but new sampling operations are required in several countries. The initiation and maintenance of port sampling programmes requires an ongoing commitment to training and the development and retention of skills in programme management and data quality control.

4.7. Export Documentation

Responsibility

Export documentation (packing lists) is a valuable source of weight-frequency data for sashimi longline fleets unloading their catches in the region. Such documentation is normally supplied to customs authorities of the exporting country, i.e. the country in which the catch is landed. Copies of the packing lists and associated vessel trip information can normally be collected from the local company handling the transaction. It is often convenient for port sampling staff to compile such information in preparation for data processing. The nature of the system therefore points to the compilation of this type of information as being a port state responsibility. Again, Article 27 of the WCPF Convention would provide support for port state responsibility in this matter.

Current Status in PICTs

The PICTs in which packing list data are potentially available include Cook Islands, Federated States of Micronesia, French Polynesia, Fiji, Guam, Marshall Islands, New Caledonia, Palau, Papua New Guinea, Solomon Islands and Tonga. Currently, such data are routinely compiled by fisheries authorities in Guam and Papua New Guinea and provided to the OFP for use in regional stock assessments. The OFP will be working with the other countries mentioned above to obtain similar data from fleets unloading catches in their ports. These data should be relatively easy to obtain, and could be incorporated into the functions of port sampling programmes with little additional effort. The main capacity implication of compiling packing list data is the additional data processing required.

4.8. Vessel Registries, Licensing Systems and Port Inspections

Responsibility

Article 24, paragraphs 4–6 of the WCPF Convention requires flag states to provide information (as set out in Annex IV of the Convention) to the Commission on fishing vessels authorised to fish in the Convention Area beyond the EEZ of the flag state. The Commission will compile and maintain the accuracy of such information. Such a vessel register would provide basic information on vessel characteristics that could be used in scientific analyses.

There is no requirement in the Convention for flag states to maintain similar records for vessels that fish only in waters under their jurisdiction; however such information would be necessary in order to have complete records of all vessels fishing for highly migratory species in the Convention Area.

Current Status in PICTs

PICTs that license foreign fleets generally have developed and maintained (with OFP assistance in most cases) licensing databases that contain similar information in respect of those foreign fleets to that given in Annex IV of the WCPF Convention. Most of these systems also cater for national flag vessels as well. Known systems are indicated in Table 4; however, the completeness of data in most cases is uncertain.

It is unlikely that existing vessel registries and licensing systems will be able to provide all of the technical information required on vessel and gear characteristics required for stock assessment and related analyses. As noted earlier, it is suggested that an annual return documenting basic vessel characteristics (as a flag state responsibility) and an enhanced logbook system could provide the basis of a data system for vessel and gear characteristics. It would not be too difficult to incorporate this into existing data collection systems operated by PICTs.

Port inspections (along with observer programmes) are considered a useful source of information on vessel and gear characteristics and could be used to verify the information provided on annual returns and in logbooks. While only Papua New Guinea currently collects such information through port inspections, it is anticipated that other PICTs will do so in the future.

5. Analytical Capacity

This report has so far focused on the capacity of PICTs to collect, compile and manage data of various types that will essentially be the “raw materials” for the Commission’s scientific information requirements. There is an additional capacity issue, which is the ability of PICTs to use, manipulate and analyse these data to produce data products for either their own domestic use in discharging their Commission-related responsibilities, or as a direct provision of information to the Commission. Two of the likely Commission data requirements identified earlier in this report will involve a degree of statistical treatment in order to produce the required information. These are estimates of annual catch and effort and estimates of catch composition by size, species and possibly by sex.

5.1. Estimating Annual Catch and Effort

It is likely that PICTs will need to be able to generate two types of annual catch and effort estimates either as a direct information requirement of the Commission, or as a basis for decision-making with respect to their own EEZs. These are (i) estimates of annual effort and catches of target and non-target species for their national fleets; and (ii) estimates of annual effort and catches of target and non-target species for their EEZs. As has been described above, the derivation of such estimates will involve a combination of logsheet, landings, vessel activity, VMS and observer data. Depending on the circumstances, not all of the necessary data may be readily available to PICTs, e.g. landings data from foreign ports, vessel activity data from foreign vessels and data from regional observer and VMS programmes. There will likely be a need for the Commission, through its data managers, to play a coordinating role in ensuring that PICTs are able to access the necessary data to perform these functions.

However, given that these data will be available and accessible, few PICTs at this stage would have the in-house capacity to conduct the necessary statistical analyses. There are some exceptions to this, notably the US and French Territories. For most other PICTs, the OFP has provided direct support in the estimation of annual catch and effort. Some of the larger FFA members, such as Papua New Guinea and Fiji, are well on the way to building the necessary capacity to undertake this task themselves. Nevertheless, considerable capacity building in this area will be required for the majority of PICTs, and both OFP and Commission support is likely to be required in this area.

5.2. Estimating Catch Composition

In the case of estimating catch composition by size, species and possibly by sex, it is expected that a combination of observer and port sampling according to a regionally-coordinated sampling design will be established to provide the basic data to be used in regional stock assessment analyses. There are two main options for the provision of catch composition data. The first is for data to be provided to the Commission essentially in the form in which they are collected, with integration of the data into a form suitable for stock assessment analyses occurring at the Commission level. In this case, little if any statistical treatment of the data would be required prior to submission, although data would need to be evaluated to ensure that sampling protocols are being followed, species are being correctly identified, etc. The second option would be for countries to undertake the statistical analyses required to produce reliable and representative catch composition estimates for their national fleets and to provide such estimates to the Commission rather than the raw sample data. This would involve considerable statistical treatment of the data to match samples with catch data at an appropriate stratification. At this point, it is unclear which approach the Commission will take. Clearly, the second option has significant analytical capacity implications for PICTs and few would be in a position at this stage to be able to meet such a requirement. Therefore, it is likely that most PICTs will supply sampling data to the Commission or its data managers in raw form, with the analyses required to produce input data for stock assessment being undertaken at that level. However, there are likely to be some needs for PICTs to generate catch composition estimates at the national level (either in respect of national fleets or EEZs or both) in order for them to discharge their national responsibilities. To date, the OFP has assisted PICTs in this regard and will continue to do so; however, this is an area in which it is envisaged that national capacity building will need to occur.

6. Summary and Conclusions

This report has provided information on likely data requirements of the WCFP Commission, identified possible sources or methods of collecting those data, suggested key responsibilities for the various data collection programmes and assessed the current status of PICTs regarding their capacity to meet suggested responsibilities. The main conclusions of the report are:

(i) The main routine fishery data requirements of the WCPF Commission will be operational-level catch and effort data, annual catch and effort estimates with verification, catch composition data and data on vessel and fishing gear characteristics. A range of data collection programmes will be required to generate these data, the most important of which are logsheet (or logbook) programmes, catch landings/transshipment monitoring, vessel characteristics and activity documentation, VMS, observer programmes, port sampling programmes, vessel registries and/or licensing databases, and port inspections.

(ii) In respect of the collection and compilation logsheet data, most PICTs have well established programmes in place for foreign licensed vessels fishing in their EEZs and for their national fleets. Logsheet data from foreign licensed fishing compiled by PICTs and consolidated in the Regional Tuna Fishery Database managed by the OFP will be a valuable source of historical and future logsheet data for the Commission. For PICT national fleets, higher logsheet coverage is required for Federated States of Micronesia longline; coverage of the smaller Samoa longliners (*alias*) would be desirable; and logsheet data collection from the small Fiji pole-and-

line fleet should be re-established. The collection of fishing gear information by logsheet (or logbook) programmes should be established.

(iii) Monitoring of catch landings and transshipments at the vessel-trip level is appropriately a port state responsibility. The status of landings monitoring in PICTs is inconsistent and will need to be improved in many cases in order to provide useful information on total catches.

(iv) Vessel activity monitoring via an annual return is proposed as a flag state responsibility to provide supporting information for the estimation and verification of total catch and effort levels. A form has been designed for the latter purpose by the SPC/FFA Tuna Fishery Data Collection Committee (Anon. 2003) but is not yet in wide usage.

(v) An integrated VMS covering all fishing activity in the Convention Area would provide the ultimate documentation of vessel activity and verification of catch location. VMS will be a shared responsibility among the Commission, flag states and coastal states that license foreign vessels. Some PICTs have implemented VMS for their national fleets, but considerable additional effort will be required for systems to be implemented across all national fleets.

(vi) Observer programmes are completely lacking or operating at low levels of coverage for most PICT national fleets. PICTs will require ongoing assistance to develop observer programmes, and in particular to train sufficient numbers of observers to achieve adequate levels of coverage and to train national programme coordinators to manage observer placements, provide on-going training and evaluate data quality.

(vii) Port sampling programmes are appropriately a port state responsibility. A majority of PICT national fleets are covered by existing port sampling programmes, although not all at a sufficient level of coverage. As for observer programmes, most PICTs will require ongoing assistance to train port samplers and ensure consistent high-quality data collection. Some rationalisation of purse seine port sampling will be required because of the large variability in unloading locations.

(viii) The use of export documentation (packing list data) for sashimi longline fleets is currently an under-utilised but potentially valuable source of size composition data. Compilation of such data could be readily incorporated into port sampling programmes. Assistance with computer processing of these data may be required.

(ix) Information on vessel characteristics should be provided by flag states by way of an annual return. These data would be stored on the Commission's vessel registry. Fishing gear characteristics could be collected via logbook programmes. In-port inspections and observers would provide independent verification of these data.

(x) The system of data collection and compilation that has evolved in the region over many years is essentially a partnership between PICTs and the OFP. PICTs have the legal responsibilities of compiling data from national and foreign licensed fleets and for making informed management decisions regarding the activities of those fleets. The OFP has played a supporting role in providing a range of data-related services to PICTs over many years. The centralisation of some functions, such as data-form design, data processing and database management, has assisted in the maintenance of data consistency and quality and seems to have been a cost-effective means for PICTs to jointly develop and manage an extensive and diverse data system. The OFP will continue to supply these services and to assist PICTs as required and as funding allows. The OFP will also continue to work with PICTs and the WCPF Commission to develop the necessary in-country capacity for PICTs to fulfil their obligations for collection, compilation, analysis and provision of scientific data to the Commission.

7. References

Anon. 2003. Report of the Fifth Meeting of the Tuna Fishery Data Collection Committee. 2–6 December 2002, Brisbane, Australia. Oceanic Fisheries Programme, Secretary of the Pacific Community, Noumea, New Caledonia and Forum Fisheries Agency, Honiara, Solomon Islands.

Lawson, T. 2003. Observer coverage rates and the accuracy and reliability of CPUE for offshore longline fleets targeting South Pacific albacore. Standing Committee on Tuna and Billfish 16, Working Paper SWG-4.

Table 3. Indicative responsibilities for various data sources.

Key Data Source	Responsibility
Logsheet	Flag state, coastal (licensing) state
Landings/transshipment	Port state
Vessel activity log	Flag state
VMS	Flag state, Commission (high seas), coastal (licensing) state (EEZs)
Observers	Flag state (home waters), Commission (multiple EEZs, high seas), coastal (licensing) state (locally-based foreign fleets)
Port sampling	Port state
Export documentation	Port state
Annual return of vessel characteristics, vessel registry	Flag state for data provision, Commission for maintenance of vessel registry
In-port inspections	Port state

Table 4. Current (2002) levels of fishery monitoring by logsheet, landings, observer, port sampling and VMS for national fleets of PICTs. For logsheet and landings data, coverage is rated according to the percentage of the total catch by weight measured or monitored. For port sampling and observers, coverage is rated according to the percentage of the catch measured for length for longline and the percentage of sets length sampled for purse seiners. For VMS, coverage is rated according to the proportion of vessels currently in good standing on the FFA VMS Register. The known existence of vessel information on registries or licensing databases in indicated by Y. A dash indicates that data are not currently collected and ? indicates status unknown.

PICT		Logsheet H:>80% M: 50-80% L: <50%	Landings H:>80% M: 50-80% L: <50%	Observer H:>20% M: 10-20% L: <10%	Port Sampling H:>20% M: 10-20% L: <10%	VMS H:>80% M: 50-80% L: <50%	Vessel Data
FFA Countries							
Cook Is.	Longline	H	H	L	H	L	Y
FSM	Longline	M	M	L	H	-	Y
	Purse seine	H	L	M	L	H	Y
Fiji	Longline	H	H	-	H[4]	M	Y
	Pole-and-line	-	-	-	-	-	?
Kiribati	Purse seine	H	-	-	-	H	Y
Marshall Is.	Purse seine	H	L	-	H	H	Y
PNG	Longline	H	H	L	H[4]	L	Y
	Purse seine	H	L	H	L	H	Y
Samoa	Longline	M	L	-	H	-	Y
Solomon Is.	Longline	H	-	M	-	-	Y
	Purse seine	H	L	M	-	H	Y
	Pole-and-line	H	-	H	-	-	Y
Tonga	Longline	H	H	-	H	-	Y
Vanuatu	Longline	H	L	-	-	H	Y
US Territories							
American Samoa	Longline	H	H	L	H	L	Y
French Territories							
French Polynesia	Longline	H	-[5]	L	L	-	Y
	Pole-and-line	H	-	-	-	-	Y
New Caledonia	Longline	H	H	L	H	-	Y

[4] For these fleets, considerable additional weight measurement data are available from either export documentation or from port sampling operations.

[5] But new procedures introduced in 2003 should result in complete landings data.

Part II: Country Summaries

In this section, summary information is presented for each PICT having either a national tuna fishing fleet, significant licensed foreign fishing in its EEZ or significant landings or transshipment activity in its ports. Therefore, the only PICTs not included in this section are Northern Marianas, Wallis and Futuna and Pitcairn. If tuna fishery developments occur in those territories, information can be compiled as appropriate.

The information presented includes fishery background, institutional structures, fishery monitoring, data management and reporting, and recommended priority measures to strengthen capacity in fishery monitoring. The information has been compiled mainly on the basis of data of various types held by the OFP on behalf of PICTs. Attempts have been made to verify the accuracy of this information with officials from each PICT; however, some of the summaries may not include the most recent developments that have occurred. The OFP would welcome any additional feedback from PICTs concerning the information presented in this report.

American Samoa

Background

The commercial tuna longline fishery in American Samoa began in about 1994, using small catamaran style *alias* that are typically less than 10 m in length, and which conduct mainly one-day trips. In the late 1990s, larger longliners (>20 m length) typical of the vessels that fish in several South Pacific island countries began entering the fishery. As a result, total effort and catch expanded dramatically beginning in 2001. The catch is dominated by albacore, which is sold to the local canneries in Pago Pago. In 2002, 70 vessels, comprising approximately equal numbers of *alias* and mono-hull longliners, were engaged in the fishery; however, total effort in hooks set is now dominated by the larger vessels. Fishing occurs in the EEZ and in adjacent EEZs under access arrangements. Fishing by US flag longliners in international waters within the US Treaty area has recently been allowed by amendment to the Treaty. No foreign fishing is allowed in the EEZ around American Samoa.

Institutional structures

The fishery is managed under the Pelagic Fisheries Management Plan administered by the Western Pacific Regional Fisheries Management Council and the U.S. National Marine Fisheries Service. A limited entry programme is soon to be introduced, supplementing an existing 50 mi closure around the islands for vessels larger than 50 feet in length. The American Samoan Department of Marine and Wildlife Resources (DMWR) plays a significant role in fishery monitoring and data management.

Fishery monitoring

Logsheets: All domestic longliners based in American Samoa are required to report operational level catch and effort data through a federal logbook system, which was initiated in 1996. Logbook coverage is very high and was close to 100% in 2002.

Landings: Landings data for the larger longliners unloading to the canneries are collected by DMWR and cross-checked against logbook returns. DMWR also conducts regular offshore creel surveys to estimate landings of small subsistence, recreational and commercial vessels undertaking one-day trips.

Vessel activity log: Since 1999, DMWR have conducted a daily effort census, which has been effective in monitoring the effort of the *alia* component of the fleet.

VMS: Several larger vessels that fish in the American Samoan fishery and that also have Hawaii limited entry permits carry VMS.

Observers: There has been no observer coverage to date of the American Samoan longline fleet. However, NMFS are in the process of implementing an observer programme, which is expected to have a coverage rate of 20% when fully operational.

Port sampling: Port sampling of both American Samoan and foreign longliners, and the US purse seine fleet unloading their catches to the Pago Pago canneries is carried out by the NMFS port sampling programme. This is the largest and longest running port sampling operation in the region and coverage rates are high.

Export documentation: The majority of catches landed in American Samoa are processed in the local canneries, so packing list data is generally not available.

Vessel characteristics: DMWR and NMFS maintain a comprehensive database of vessel characteristics.

In-port inspections: Not undertaken.

Data management and reporting

DMWR have undertaken longline logbook data processing since 2000, with the data files being provided regularly to NMFS in Honolulu. All data collected by the port sampling programme are processed and managed by NMFS. DMWR and NMFS report aggregated catch and effort estimates to the Council on a quarterly basis. Catch and effort data aggregated at 5 degree square month resolution and port sampling data are provided to the OFP for incorporation into regional databases.

Priority measures/recommendations to strengthen capacity in fishery monitoring

1. Increased resources are likely to be required to increase observer coverage of the longline fleet.

Cook Islands

Background

The Cook Islands EEZ currently accounts for approximately 0.2% of the total tuna catch from the WCPO. The tuna fishery is expanding rapidly and is conducted by domestic and foreign longline vessels. Many of the new entrants in the fishery are from neighbouring PICTs, principally Samoa. The longline catch is dominated by albacore, while yellowfin and bigeye contribute significantly to the value of the catch. The longline fleet operates from Rarotonga and in the northern area of the EEZ by vessels based in Pago Pago or Apia. Cook Islands registered vessels have also operated beyond the EEZ in recent years, principally in the Fiji EEZ. There is limited fishing activity by US purse seine vessels in the Cook Islands EEZ.

Institutional structures

Management of the tuna resource is the responsibility of the Ministry of Marine Resources (MMR). A draft of the "Cook Islands Tuna and Large Pelagic Fishery Plan: 2003" is currently under consideration by the Cook Islands Government.

Fishery monitoring

Logsheets: All foreign and domestic licensed vessels are required to provide catch and effort information at the operational level on approved logsheets. Logsheet coverage for the longline fishery is likely to be high for Rarotonga-based vessels although the level of logsheet coverage for the Pago Pago-based vessels is unknown. Full logsheet coverage is available from the limited fishing undertaken by the US purse seine fleet.

Landings: Landings are monitored in Rarotonga by the port sampling programme, and coverage is high for this component of the fleet. It is not known to what extent vessels unloading in Pago Pago are monitored for landings.

Vessel activity log: Not yet implemented.

VMS: MMR is instigating FFA approved VMS for foreign and charter longline vessels.

Observers: In 2002, an Observer Coordinator was appointed and an observer training programme was instigated. For the longline fishery, a target of 20% coverage has been established. Recent coverage has been about 5%. Given the recent loss of some observers and the large increase in fishing activity, coverage is likely to remain low. All observers are based in Rarotonga and, consequently, coverage is likely to be biased to the southern area of the EEZ.

Port sampling: Port sampling activities principally cover the component of the catch landed in Rarotonga. NMFS staff based in Pago Pago provide port sampling coverage of the vessels operating in the northern area of the fishery. The level of coverage of this component of the catch is believed to be high.

Export documentation: Individual weight data for air-freighted yellowfin and bigeye tuna are potentially available but are not yet routinely collected.

Vessel characteristics: MMR operates a licensing database that contains information on vessel characteristics.

In-port inspections: Not undertaken.

Data management and reporting

MMR has developed a database with OFP assistance for storage of licensing, logsheet, port sampling and observer data. Logsheet data are processed by MMR and copies forwarded to the OFP for data entry verification. The OFP also processes all observer and port sampling data. All data are incorporated into regional and Cook Island national databases. MMR are equipped with the CES software for generating reports of catch and effort data. MMR routinely collates catch and effort data from the tuna fishery. Summary data are provided annually to SCTB.

Priority measures/recommendations to strengthen capacity in fishery monitoring

1. Ensure that sufficient resources are allocated to fishery monitoring as further increases in the level of fishing activity occur.
2. Increase observer coverage to 20%, with coverage of the northern part of the EEZ if possible.
3. Introduce annual returns for vessel activity and vessel characteristics for all domestic vessels.
4. Systematically collect unloadings data for all landings and transshipments in Rarotonga.
5. Develop the capacity for staff to analyse catch and effort data to enable routine monitoring of the fishery.

Federated States of Micronesia

Background

The FSM EEZ currently accounts for approximately 6% of the total tuna catch from the WCPO. The tuna fishery is composed of purse seine, longline, and pole-and-line methods and is dominated by foreign licensed vessels. The foreign purse seine fleet is comprised of Japanese, US, Korean, Taiwanese, Philippines, New Zealand and Chinese vessels, while a small fleet (8) of domestic vessels also operates. FSM is a party to the FSM Arrangement and the domestic fleet also operates within the EEZs of other signatories. The longline fleet is comprised of Taiwanese and Japanese vessels based in Guam, Japanese distant-water vessels, and Chinese and FSM-registered vessels based in Pohnpei (about 20 vessels). The pole-and-line fishery is operated by distant-water Japanese vessels. FSM is regionally important for the transshipment of purse seine catch.

Institutional structures

The National Oceanic Resource Management Authority (NORMA) is divided into three sections: Administration, Licensing and Research. The Statistics, Licensing, and Computer Section (4 staff) is responsible for processing permit applications, issuing licenses, monitor vessel activities, the collection of fees, and the processing of vessel logsheets. The Research Section is responsible for managing the port sampling and observer programmes, the analysis of the resultant data, monitoring of catch and effort of all foreign and domestic fishing operators and provision of advice to the Executive Director on management issues at national, regional, and international levels.

Fishery monitoring

Logsheets: All foreign and domestic licensed vessels are required to provide catch and effort information at the operational level on approved logsheets. However, recent longline logsheet coverage has been low for the domestic fleet (about 50%), while logsheet coverage of the other sectors of the fishery is high.

Landings: Landings data are collected from purse seiners and longliners unloading in FSM ports, although coverage is incomplete. Landings data from the Guam-based longline vessels are provided by the Guam Department of Statistics and Planning.

Vessel activity log: Not yet implemented.

VMS: All foreign and domestic purse seine vessels are required to carry ALCs.

Observers: NORMA administers an observer programme with approximately 9 trained observers. The current target level of annual observer coverage is 20% of fishing trips (all methods combined). In recent years, coverage of the longline fishery was <1%, while 4-5% coverage was achieved for purse seine and pole-and-line trips. Coverage of FSM purse seiners occurs under the FSM Arrangement and approaches 20%. The Taiwanese and Japanese longline vessels based in Guam pose difficulties for observer placement. Coverage of this section of the fleet is poor.

Port sampling: Unloadings in FSM are covered by port sampling programmes administered by NORMA. Port sampling coverage of longline catch has been high in recent years (about 50%, with a target of 80% coverage), although the programme does not include that component of the longline catch landed in Guam. Port sampling of the domestic purse seine catch is undertaken, although coverage is low.

Export documentation: Individual weight data for air-freighted yellowfin and bigeye tuna are potentially available but are not routinely collected.

Vessel characteristics: NORMA operates a licensing database that contains information on vessel characteristics.

In-port inspections: Not undertaken.

Data management and reporting

NORMA processes summary information from logsheets, unloadings and observer data. OFP processes all detailed logsheet and port sampling data. All catch and effort data, landings data, and port sampling and observer data are incorporated into regional databases by the OFP. OFP also provides routine updates of national data to NORMA for incorporation into their national database. NORMA are equipped with the CES software for generating reports of catch and effort data. NORMA employs a Fisheries Resource Analyst who analyses fisheries data and provides management advice. Summary data are provided annually to SCTB.

Priority measures/recommendations to strengthen capacity

1. Increased observer coverage, in particularly on the Japanese and Taiwanese longline fleets.
2. Increased port sampling coverage of purse seine catches landed in FSM.
3. Introduce annual returns for vessel activity and vessel characteristics for all domestic vessels.
4. Systematically collect unloadings data for all landings and transshipments in FSM ports.

Fiji

Background

The Fiji EEZ currently accounts for approximately 0.4% of the total tuna catch from the WCPO. The tuna fishery is dominated by the domestic longline fleet, which has expanded considerably over the last five years. A small domestic pole-and-line fishery also operates in the Fiji EEZ. There is limited purse seine activity in the northern area of the EEZ. The longline fishery is principally comprised of Fiji registered vessels. Their catch is dominated by albacore, while yellowfin and bigeye contribute significantly to the value of the catch. Many of the Fiji longline vessels also fish in the Vanuatu and Solomon Islands EEZs and adjacent international waters. Fiji is an important transport hub in the Pacific, and catches from the Fiji EEZ and adjacent waters are unloaded in Fiji, principally through Suva.

Institutional structures

The Department of Fisheries of the Ministry of Fisheries and Forests is currently responsible for the management of the Fiji tuna fishery. However, it is intended that this responsibility will be conveyed to a new agency, the Fiji National Fisheries Authority. Currently, the Offshore Section of the Department of Fisheries manages vessel licensing, compliance, port sampling, unloadings monitoring and processing of all vessel logsheet and landings data. In 2002, the Fiji Government implemented a Tuna Development and Management Plan (TMP) for the domestic tuna fishery. The TMP established a Total Allowable Catch for the tuna longline fishery and an associated number of vessel licences. These measures were initially introduced for a two-year period (2002–2003).

Fishery monitoring

Logsheets: All foreign and domestic licensed vessels are required to provide catch and effort information at the operational level on approved logsheets. Recent longline logsheet coverage within the Fiji EEZ has been high (>80%), while logsheet coverage of the pole-and-line vessels was negligible. Fiji vessels operating outside of the Fiji EEZ are also required to provide logsheets to the Department of Fisheries.

Landings: Vessel unloadings and transshipments are monitored by compliance staff of the Offshore Section; there is a requirement for all vessels to document the landed catch from each trip. The Department has also endeavoured to collect unloadings data from non-licensed vessels discharging their catches in Fiji.

Vessel activity log: Not yet implemented.

VMS: Fiji licensed vessels are required to carry ALCs.

Observers: In 2002, an observer coordinator position was established within the Offshore Section and the observer programme has been strengthened with the recruitment of 11 observers. However, to date these resources have been used mainly for port sampling and monitoring of landings. Consequently, observer coverage of the longline fishery has been very low (<1%), although there has been increased emphasis on at-sea monitoring in 2003.

Port sampling: Most vessel landings are monitored, ensuring a high level of port sampling coverage.

Export documentation: Individual weight data for air-freighted yellowfin and bigeye tuna are available but not routinely collected.

Vessel characteristics: The Offshore section of the Department of Fisheries operates a licensing database that contains information on vessel characteristics.

In-port inspections: Occurs to some extent during monitoring of landings.

Data management and reporting

All logsheet and landings data are processed by the Offshore statistics group. Observer data are processed by OFP. Copies of logsheet, landings and port sampling data are forwarded to the OFP for data entry verification and incorporation into regional databases. Fiji Fisheries are equipped with the CES software for generating reports of catch and effort data. Summary data are provided annually to SCTB. Reporting procedures are being developed to provide routine summaries of catch and effort data from the Offshore database. This will enable improved monitoring of trends in the tuna fishery.

Priority measures/recommendations to strengthen capacity

1. Further strengthen data entry and data management procedures.
2. Increase the level of observer coverage of the longline fishery.
3. Collect logsheet data from the domestic pole-and-line fishery.
4. Develop the capacity for staff to analyse catch and effort data to enable routine monitoring of the fishery.
5. Introduce annual returns for vessel activity and vessel characteristics for all domestic vessels.
6. Systematically collect unloadings data for all landings and transshipments in Fiji ports.

French Polynesia

Background

The French Polynesia EEZ currently accounts for approximately 0.3% of the total tuna catch from the WCPO. The tuna fishery is dominated by the longline method and has expanded considerably over the last five years and further development is planned. In recent years, the longline fleet has been comprised principally of domestic vessels. Their catch is dominated by albacore, while yellowfin and bigeye contribute significantly to the value of the catch. There is a fleet of smaller vessels ("bonitiers") that undertakes fishing using a number of methods, including longlining and pole-and-line. The importance of this sector of the fleet has declined with the recent entry of larger longline vessels. The domestic longline fleet operates almost exclusively within the French Polynesia EEZ and most of the catch is unloaded in Papeete. Papeete is also an important port for the service, supply, and transshipment of the Japanese, Korean, and Taiwanese distant-water longline vessels.

Institutional structures

Service de la Pêche is responsible for the management of the French Polynesian tuna fishery. The agency employs 60 staff and is divided into four departments. Departement Reglementation et control is responsible for vessel licensing, Departement Statistiques et communication is responsible for data collection, while Departement Developpement undertakes routine data analysis. Service de la Pêche is implementing a development plan for the tuna fishery, which is targeting annual catches of 30,000 t within the next 10 years.

Fishery monitoring

Logsheets: All foreign and domestic licensed vessels are required to provide catch and effort information at the operational level on approved logsheets. Logsheet coverage of the longline vessels (excluding bonitiers) has been about 70% in recent years. The logsheet coverage is supplemented by a biannual survey of each category of longliner and these data are collectively used to determine estimates of total catch.

Landings: No landings data are currently available. However, since 2003, there has been a formal requirement for vessels to report the landed catch from each trip. This should provide complete landings data for the domestic fleet.

Vessel activity log: Not yet implemented.

VMS: There is currently no intention to introduce a VMS for the domestic longline fleet.

Observers: A Monitoring Supervisor/Liaison Officer and two observers were recruited in September 2002 (under EC-PROCFish funding). The observer staff are principally involved in at-sea sampling and have no compliance function. An additional observer is employed by Service de la Pêche. This has resulted in an increase in observer placements, particularly on medium-sized (<20 m) fresh tuna vessels. There are also plans for placements on the larger freezer vessels. Recent coverage represents about 3-5% of longline trips.

Port sampling: Port sampling has been very limited in recent years, partly due to difficulties in accessing landed catches. However, these difficulties have been partly overcome by the completion of a centralised unloading facility in Papeete. A number of the new longliners operating in the fishery are now processing the catch of albacore at sea and, consequently, this component of the catch is not available to the port sampling programme.

Export documentation: Fish export data are collected by the customs agency. Individual weight data for air-freighted yellowfin and bigeye tuna are potentially available but not routinely collected.

Vessel characteristics: Service de la Pêche operates a licensing database that contains information on vessel characteristics.

In-port inspections: Not undertaken.

Data management and reporting

All processing of logsheet data and port sampling data is undertaken by Service de la Pêche. Observer data are processed by OFP. All logsheet, observer and port sampling data are provided to OFP for incorporation into regional databases. Service de la Pêche are equipped with the CES software for generating reports of catch and effort data. Service de la Pêche has the capacity to analyse information collected from the fishery. Summary data are provided annually to SCTB.

Priority measures/recommendations to strengthen capacity

1. Increase port sampling and observer coverage of the domestic longline fleet.
2. Introduce annual returns for vessel activity and vessel characteristics for all domestic vessels.
3. Systematically collect unloadings data for all landings and transshipments in French Polynesia.

Guam

Background
Industrial-scale commercial tuna fishing does not occur in the EEZ around Guam. A relatively small amount of tuna is caught locally by recreational trollers. However, Guam is regionally important as a transshipment port. A large fleet of mainly smaller Taiwanese and Japanese longline vessels fishing in Micronesia unload their catches in Guam, from where they are air-freighted to sashimi markets in Japan. In the past, purse seine vessels have also transhipped on Guam, but this is now a relatively rare occurrence.

Institutional structures
Tuna fishing in Guam is managed under the Pelagic Fisheries Management Plan administered by the Western Pacific Regional Fisheries Management Council and the U.S. National Marine Fisheries Service. The Division of Aquatic and Wildlife Resources monitors the local recreational fishery. The Department of Statistics and Planning compiles and processes transshipment and individual weight data from packing lists.

Fishery monitoring
Logsheets: N.A.
Landings: Landings data for foreign longliners transshipping on Guam are collected by the Department of Statistics and Planning. Landings are compiled from export packing lists and export rejects. Coverage of transshipment activity is high.
Vessel activity log: N.A.
VMS: N.A.
Observers: N.A.
Port sampling: N.A.
Export documentation: High coverage packing list (individual weight) data are available from longliners transshipping on Guam.
Vessel characteristics: N.A.
In-port inspections: Inspections are undertaken by NMFS enforcement personnel, but it is not known if information on vessel and gear characteristics is systematically collected.

Data management and reporting
The Department of Statistics and Planning maintains a database, originally developed by the OFP and now maintained by NMFS, on landings and catch size (weight) composition. Landings and packing list data are routinely provided to NMFS and to the OFP for incorporation into regional databases.

Priority measures/recommendations to strengthen capacity in fishery monitoring
No recommendations.

Kiribati

Background

The Kiribati EEZ currently accounts for approximately 11% of the total tuna catch from the WCPO, although the level of catch is highly variable between years. The tuna fishery is composed of purse seine, pole-and-line, and longline methods. The fishery is dominated by foreign licensed vessels, with the longline fishery comprised of mainly Japanese and Korean vessels. The purse seine fleet consists of US, Japanese, Taiwanese, and Korean vessels, and agreements have been reached recently to allow licensing of New Zealand and European Union vessels. Kiribati also operates a purse seine vessel that fishes under the FSM Arrangement The Japanese distant-water pole-and-line fleet operates intermittently in the Kiribati EEZ. Kiribati is currently investigating the potential to develop a domestic tuna longline fishery. There are no onshore facilities for vessel discharge although considerable transshipment activity occurs in Kiribati, primarily in Tarawa and Kiritimati Island.

Institutional structures

The Fisheries Division of the Ministry of Natural Resources Development (MNRD) is currently responsible for the management of tuna fisheries in Kiribati. The Fisheries Licensing and Enforcement Unit (FLEU) of the Fisheries Division is responsible for vessel licensing, monitoring, and processing of vessel logsheets. The structure of the Fisheries Division was reviewed during the formulation of the draft Tuna Management Plan for Kiribati. The draft plan includes a proposal for the establishment of a Fisheries Licensing and Law Enforcement Authority.

Fishery monitoring

Logsheets: Foreign licensed vessels are required to provide daily catch and effort information on regional logsheets and communicate weekly catch reports. Logsheet coverage is approximately 100% for purse seine and pole-and-line vessels. Logsheet coverage of the longline fleet is unknown due to uncertainty regarding the level of logsheet coverage for the main Korean fleet.
Landings: There is a requirement to document catch transshipments, although the unloadings documents are not provided to OFP and coverage is assumed to be low.
Vessel activity log: Not yet implemented.
VMS: All foreign vessels are required to carry ALCs and vessel locations are monitored by FLEU.
Observers: In 2002, an observer coordinator position was established within the MNRD and the observer programme has been strengthened with about 20 observers employed on a contractual basis. Observers are based in Tarawa and Kiritimati Island. The observer programme was developed in accordance with the regional protocols developed by OFP. Most vessel access agreements specify a level of observer coverage. However, the current level of observer coverage, particularly for the longline fishery, is very low (<1%).
Port sampling: Few port sampling data have been collected to date.
Export documentation: There is no export of tuna from Kiribati except by carrier vessels.
Vessel characteristics: FLEU operates a licensing database that contains information on vessel characteristics.
In-port inspections: Not undertaken.

Data management and reporting

Weekly vessel catch reports are entered in a database administered by the FLEU. Logsheets and observer data are provided to OFP for data processing and incorporation into regional databases and the Kiribati national tuna database. FLEU are equipped with the CES software for generating reports of catch and effort data. Summary data are provided annually to SCTB.

Priority measures/recommendations to strengthen capacity

1. Ascertain the level of logsheet coverage for the Korean longline fleet and improve coverage, if necessary.
2. Strengthen data management procedures, including the timely provision of data to OFP.
3. Increase the level of observer coverage, in particular for the foreign longline fishery.
4. Develop the capacity for staff to analyse catch and effort data to enable routine monitoring of the fishery.
5. Introduce annual returns for vessel activity and vessel characteristics for all domestic vessels.
6. Systematically collect unloadings data for all landings and transshipments in Kiribati.

Marshall Islands

Background

The Marshall Islands EEZ currently accounts for approximately 2.9% of the total tuna catch from the WCPO. The fishery is conducted by longline, purse seine, and pole-and-line vessels. The pole-and-line fishery is conducted exclusively by the Japanese distant-water fleet. The purse seine fleet is comprised of domestic vessels (5) and foreign vessels operating under multilateral (US Treaty, FSM Arrangement) and bilateral access agreements (Japan, Taiwan, Korea). There is considerable transshipment activity and servicing of the purse seine fleet in Majuro. The domestic purse seine vessels also operate in the adjacent waters under the reciprocal access rights granted by the FSM Arrangement. The longline fishery is dominated by the Japanese distant-water fleet although there has been an increase recently in fishing activity by locally-based foreign vessels (principally Chinese flagged vessels, but also including and vessels from FSM Taiwan and Japan).

Institutional structures

Management of the tuna fishery is the responsibility of the Marshall Islands Marine Resources Authority (MIMRA). MIMRA is in the process of developing a National Tuna Management Plan to establish a framework for the development and management of the tuna fishery.

Fishery monitoring

Logsheets: All foreign and domestic licensed vessels are required to provide catch and effort information at the operational level on approved logsheets. Logsheet coverage of domestic and foreign purse seine vessels is considered to approach 100%. Logsheet coverage of the Japanese longline and pole-and-line fleets is also considered to be high. The current level of logsheet coverage of the locally-based foreign longline vessels is uncertain.

Landings: No unloadings (landings and transhipments) data are currently collected from either the purse seine or longline fleets. MIMRA plans to introduce routine landings data collection by 2004 to cover all vessels landing or transshipping in Majuro.

Vessel activity log: Not yet implemented.

VMS: Foreign and domestic purse seine vessels and some foreign longline vessels are monitored by the VMS administered by FFA.

Observers: MIMRA, with assistance from the OFP, has recently recruited a national observer and port sampling coordinator, and has a commitment to achieve coverage levels of 5–10% by 2005.

Port sampling: In recent years, port sampling has covered a large number of transshipments by purse seine vessels, although no routine port sampling has been undertaken of the longline catch. By 2004, MIMRA hopes to sample all landings and transshipments that occur in Majuro.

Export documentation: Individual weight data for air-freighted yellowfin and bigeye tuna are potentially available but not routinely collected.

Vessel characteristics: MIMRA operates a licensing database that contains information on vessel characteristics.

In-port inspections: Not undertaken.

Data management and reporting

Logsheet and port sampling data are processed by OFP and incorporated into regional databases and the Marshall Islands national database. MIMRA are equipped with the CES software for generating reports of catch and effort data. Summary data from the fishery are provided annually to SCTB.

Priority measures/recommendations to strengthen capacity

1. Port sampling of the longline catch landed by the locally based foreign longline vessels.
2. Observer coverage of the longline and purse seine fisheries.
3. Introduce annual returns for vessel activity and vessel characteristics for all domestic vessels.
4. Systematically collect unloadings data for all landings and transshipments in Majuro.
5. To develop the capacity for staff to analyse catch and effort data to enable routine monitoring of the fishery.

Nauru

Background
The Nauru EEZ currently accounts for approximately 4% of the total tuna catch from the WCPO. The fishery is comprised of foreign longline and purse seine vessels. Most distant-water and FSM Arrangement purse seine fleets fish to some extent in the Nauru EEZ. There is intermittent pole-and-line activity in the zone by the Japanese distant-water fleet. There is currently no domestic tuna fishery and no significant transshipment activity in Nauru. However, there is the potential for the development of a locally-based longline fishery exporting product by air-freight to the sashimi market.

Institutional structures
Management of the tuna resource is the responsibility of the Nauru Fisheries and Marine Resources Authority (NFMRA). The authority has a staff of four and is responsible for vessel licensing, vessel monitoring, and data collection.

Fishery monitoring
Logsheets: All foreign licensed vessels are required to provide catch and effort information at the operational level on approved logsheets. Vessels are also required to provide entry and exit reports and weekly catch reports when operating in the Nauru EEZ, although the level of reporting is unknown. It is also unknown whether these data are used to trace logsheets from individual vessels. Logsheet coverage of the purse seine and pole-and-line fishery is considered to approach 100%.
Landings: There is limited transshipment activity in Nauru.
Vessel activity log: N.A.
VMS: Foreign licensed vessels are monitored by the VMS administered by FFA.
Observers: Observer coverage of the purse seine fleet when operating in the Nauru EEZ is likely to be comparable to fisheries operating in adjacent EEZs. Observer coverage of the foreign longline fleet is negligible.
Port sampling: Not necessary; as there is limited transshipment activity in Nauru.
Export documentation: There is no significant export of tuna from Nauru.
Vessel characteristics: NFMRA operates a licensing database that contains information on foreign licensed vessel characteristics.
In-port inspections: Not relevant as there are no port calls by the foreign fleet.

Data management and reporting
Logsheets are forwarded to OFP for processing; these data are incorporated into regional and Nauru national databases. NFMRA are equipped with the CES software for generating reports of catch and effort data.

Priority measures/recommendations to strengthen capacity
1. Introduce procedures to improve the provision of logsheets to OFP.

New Caledonia

Background
The New Caledonia EEZ currently accounts for approximately 0.1% of the total tuna catch from the WCPO. The tuna fishery currently consists of 25 domestic longliners based in Noumea and Koumac and further development is envisaged. Their catch is dominated by albacore, while yellowfin and bigeye contribute significantly to the value of the catch. The longline fleet operates exclusively within the New Caledonia EEZ. There is currently no licensed foreign fishing in the EEZ.

Institutional structures
The Service de la Marine Marchande et des Pêches Maritimes is responsible for management of the tuna fishery. The agency provides technical advice and is responsible for the implementation the management policies of the Territorial Government. The agency is responsible for vessel licensing and the collection of fisheries statistics (logsheets and landing data).

Fishery monitoring
Logsheets: All licensed vessels are required to provide catch and effort information at the operational level on approved logsheets. The longline fleet has increasingly adopted the regional longline logsheet. Current logsheet coverage is considered to be approximately 80%.
Landings: Unloadings data are available for most of the fishing trips, although some companies may not yet be providing these data.
Vessel activity log: Not yet implemented.
VMS: A VMS is currently being assessed and is planned for implementation by late 2004.
Observers: A Monitoring Supervisor/Liaison Officer and one observer were recruited in September 2002 (under EU-PROCFish funding) and are based in the OFP. Observer placement, data quality and data processing is undertaken by the OFP. Observer coverage is currently of the order of 5% of trips.
Port sampling: Port sampling is managed by the OFP under the PROCFish project. Coverage is about 75% in Noumea and 100% in Koumac.
Export documentation: Individual weight data for air-freighted yellowfin and bigeye tuna are potentially available but not yet collected.
Vessel characteristics: The Service de la Marine Marchande et des Pêches Maritimes operates a licensing database that contains information on vessel characteristics.
In-port inspections: Not undertaken.

Data management and reporting
Port sampling and observer data are collected and processed by the OFP. Logsheet data are processed by OFP and incorporated into regional and the New Caledonian national databases. Service de la Marine Marchande et des Pêches Maritimes are equipped with the CES software for generating reports of catch and effort data. Service de la Marine Marchande et des Pêches Maritimes has the capacity to analyse information collected from the fishery. Summary data are provided annually to SCTB.

Priority measures/recommendations to strengthen capacity
1. Increased observer coverage, particular of vessels based in Koumac.
2. Introduce annual returns for vessel activity and vessel characteristics for all domestic vessels.
3. Systematically collect unloadings data for all landings in New Caledonia.

Niue

Background

The tuna catch from the Niue EEZ is very small (< 0.001%) relative to the entire catch from the WCPO. A small domestic fishery operates to supply the local market. Currently, the only foreign fleet licensed to fish in the Niue EEZ are Taiwanese distant-water longline vessels. This fleet was absent from the fishery from 1998 to 2002, but were re-licensed in 2002–2003 and now have an ongoing licensing arrangement. The Taiwanese fleet is comprised of about 20 vessels and fishing activity in the Niue EEZ is intermittent. There is considerable interest in the development of the domestic fishery through the establishment of joint venture operations with offshore partners, particularly from neighbouring countries (e.g. Samoa and American Samoa). This would include the development of onshore processing facilities. Niue is a signatory to the US Treaty, although no fishing activity has been reported by the US purse seine fleet.

Institutional structures

Management of the tuna fishery is the responsibility of the Fisheries Division of the Ministry of Agriculture, Forestry and Fisheries. The Fisheries Division has 4-5 staff and is responsible for all fisheries management, policy and development. The Division is also responsible for vessel licensing, monitoring and data collection. There is no requirement for port sampling, although Niue does have a number of trained observers who are occasionally deployed on US Treaty purse seine vessels.

Fishery monitoring

Logsheets: All foreign licensed vessels are required to provide catch and effort information at the operational level on approved logsheets, although the level of logsheet coverage of the Taiwanese fleet is unknown (no data have been provided for 2002). Vessels are also required to provide entry and exit reports and weekly reports of catch and fishing activity when operating in the Niue EEZ; the level of such reporting is unknown. The Fisheries Division is currently developing systems to link these various reports to ensure the provision of logsheets from individual vessels.
Landings: There is currently no significant landing of tuna in Niue.
Vessel activity log: N.A.
VMS: All foreign licensed vessels are required to participate in VMS programme administered by FFA.
Observers: Observer coverage of the Taiwanese distant-water longline fleet is negligible. Niue are planning to develop an observer programme to cover new joint venture longline fishing.
Port sampling: N.A.
Export documentation: There is currently no significant export of tuna from Niue.
Vessel characteristics: Fisheries Division operates a licensing database that contains information on characteristics of licensed vessels.
In-port inspections: N.A.

Data management and reporting

The Fisheries Division forwards logsheets to the OFP for data processing and incorporation in the regional database. A national fisheries database and CES interface has not yet been established for Niue. Summary data from the tuna fishery are provided annually to SCTB.

Priority measures/recommendations to strengthen capacity

1. There is potential for the development of a locally-based longline fishery in the Niue EEZ. This may require additional resources for fishery monitoring, including observers, port sampling and landings monitoring. The scale of any future development of the fishery will dictate the level of resources required.
2. Establish a comprehensive national database with CES interface and develop the capacity for staff to analyse catch and effort data to enable routine monitoring of the fishery.

Palau

Background
The Palau EEZ currently accounts for approximately 0.4% of the total tuna catch from the WCPO. The fishery is principally conducted by locally-based foreign longline vessels (Chinese and Taiwanese) and the Japanese offshore fleet. In recent years, minimal purse seine activity has occurred in the Palau EEZ, although access arrangements exist for several (Japan, US Treaty, FSM Arrangement). There is currently no active pole-and-line fishery in the EEZ.

Institutional structures
Management of the tuna fishery is the responsibility of the Bureau of Oceanic Fisheries Management (BOFM) of the Ministry of Resources and Development. BOFM manages fisheries access agreements, vessel licensing, the collection of associated fees, and the collection and compilation of fisheries statistics.

Fishery monitoring
Logsheets: All foreign and domestic licensed vessels are required to provide catch and effort information at the operational level on approved logsheets. The level of logsheet coverage of the locally based longline fleet is considered to be high (approaching 100%). Logsheet coverage is also considered high for the Japanese longline fleet.
Landings: Unloadings data are collected from the locally based longline fleet. These are routinely compared with tuna export data.
Vessel activity log: Not yet implemented.
VMS: Foreign purse seiners fishing in the Palau EEZ are covered by the FFA VMS programme.
Observers: No observer programme is currently in place, although BOFM is currently investigating means to re-establish an observer programme.
Port sampling: A well-established port sampling programme operates in Palau. Port sampling coverage of the locally-based longline catch has approached 100% in recent years.
Export documentation: Individual weight data for air-freighted yellowfin and bigeye tuna are routinely collected.
Vessel characteristics: BOFM operates a licensing database that contains information on vessel characteristics.
In-port inspections: Not undertaken.

Data management and reporting
Logsheet data are processed by OFP, while trip summary data, unloadings data, and port sampling data are processed by BOFM. All data are incorporated into regional databases and the Palau national database. BOFM are equipped with the CES software for generating reports of catch and effort data. Summary data from the longline fishery are provided annually to SCTB.

Priority measures/recommendations to strengthen capacity
1. Implement an observer programme to cover the locally-based foreign longline fleet.
2. Introduce annual returns for vessel activity and vessel characteristics for all locally-based foreign vessels.
3. Develop the capacity for staff to analyse catch and effort data to enable routine monitoring of the fishery.

Papua New Guinea

Background

The Papua New Guinea (PNG) EEZ currently accounts for approximately 9% of the total tuna catch from the WCPO. The fishery is comprised of a large domestic, locally-based foreign (Philippines), and foreign (US, Taiwanese, Philippines, Chinese, and Korean) purse seine fleet and a developing domestic longline fleet. Papua New Guinea is a signatory to the FSM Arrangement and PNG licensed purse seine vessels also operate in the EEZs of other parties to the Arrangement. An increasing amount of processing of the purse seine catch is occurring in PNG. A component of the domestic longline fishery targets shark.

Institutional structures

Management of PNG tuna fisheries is the responsibility of the National Fisheries Authority (NFA). A National Tuna Fishery Management Plan was first gazetted in 1999. Management of the tuna fishery is undertaken through consultation with the Tuna Consultative Committee, which includes industry representatives, NGOs, and government officers. The NFA is responsible for all licensing, fisheries management, monitoring, and compliance. The Licensing and Information Group is responsible for processing catch, effort and export data. The observer programme is managed by the Monitoring Control and Surveillance Group.

Fishery monitoring

Logsheets: All foreign and domestic licensed vessels are required to provide catch and effort information at the operational level on approved logsheets. Logsheet coverage is approximately 100% for the purse seine fleet and 70% for the domestic longline fleet.

Landings: Fishing companies are required to provide landings and transshipment data to NFA. Landings data are currently available for approximately 15% of the purse seine catch. Systematic recording of transshipments is not currently undertaken.

Vessel activity log: Not yet implemented.

VMS: Some domestic longline vessels are fitted with ALCs. Foreign licensed purse seiners and PNG vessels fishing under the FSM Arrangement are required to participate in the VMS programme administered by FFA. PNG also operates a national VMS for vessels fishing exclusively in the PNG EEZ.

Observers: The PNG observer programme is the largest and best supported of the PICT observer programmes with approximately 50 active observers based at 10 ports around the country. NFA has specified target levels of observer coverage for purse seiners fishing in mothership operations (100%), other purse seine operations (20%), and longliners (5%). Observer coverage of the purse seine fleet has now been shifted from the motherships to the smaller catcher vessels. Overall, coverage of the purse seine fleet is 20% or greater.

Port sampling: Port sampling of the longline fishery is currently undertaken at Port Moresby, Lae, and Rabaul. The recent high level of observer coverage on purse seine catcher vessels means that port sampling of this component of the fleet is unnecessary. However, increased port sampling coverage of the foreign vessels landing in Wewak and Rabaul is required.

Export documentation: Individual weight data for air-freighted yellowfin and bigeye are routinely collected.

Vessel characteristics: NFA operates a licensing database that contains information on vessel characteristics.

In-port inspections: Routinely undertaken by NFA staff; vessel data are collected but are not currently entered to a database.

Data management and reporting

NFA processes all logsheet and landings data. Observer, port sampling and packing list data are forwarded to OFP for processing. OFP also provides data entry verification of logsheet data. However, in future these data may be provided electronically from NFA. All PNG data are incorporated into regional databases and the PNG national database. NFA are equipped with the CES software for generating reports of catch and effort data. The NFA routinely collates catch and effort data from the tuna fishery. Summary data are provided annually to SCTB.

Priority measures/recommendations to strengthen capacity

1. Further improve logsheet coverage of the domestic longline fishery.
2. Initiate port sampling of the foreign purse seine vessels landing in Wewak.
3. Increase observer placements to achieve the target levels of coverage for longline and purse seine fleets.
4. Introduce annual returns for vessel activity and vessel characteristics for all domestic and locally-based foreign vessels.
5. Systematically collect unloadings data for all purse seine landings in PNG, including critical species composition data.

Samoa

Background
The Samoa EEZ currently accounts for approximately 0.3% of the total tuna catch from the WCPO. The tuna fishery developed rapidly during the mid-1990s and is conducted by domestic longline vessels. Initially, most vessels were small *alias* but larger mono-hull vessels have entered the fishery in recent years. Catches consist primarily of albacore, while yellowfin and bigeye contribute significantly to the value of the catch. There is also limited fishing activity by US purse seine vessels in the Samoa EEZ. The longline fleet is based in Apia, although some larger vessels are now operating in neighbouring EEZs, principally the Cook Islands.

Institutional structures
Management of the tuna fishery is the responsibility of the Fisheries Division of the Ministry of Agriculture, Forestry, Fisheries and Meteorology (MAFFM). A management and development plan for the fishery was implemented in 2000. Management is undertaken through consultation with the Commercial Fisheries Management Advisory Committee which is comprised of elected industry representatives and government officers. The Fisheries Division is responsible for research, vessel licensing, and fishery monitoring.

Fishery monitoring
Logsheets: Logsheet data are required from longliners over 15 m. There has been a high level of logsheet coverage from these vessels in recent years. Monitoring programmes are well established to estimate the level of catch from the large number of smaller vessels (daily effort census surveys and port sampling). However, these data do not provide details of location of the catch or the associated level of fishing effort (although some of this information is available from the port sampling).
Landings: Vessel unloadings data are not collected from the entire fleet due to the many small vessels operating in the fishery.
Vessel activity log: A daily effort census is carried out to verify the activity of *alias*.
VMS: There is no requirement for longline vessels to carry ALCs.
Observers: Currently, no at-sea observer programme operates in the domestic longline fishery.
Port sampling: All vessels are required to land their catch in Samoa and, consequently, landings are available for port sampling. There is a well-established port sampling programme and up to 50% of all longline landings have been sampled in recent years. Sampling is overseen by the Port Sampling Coordinator and currently two port sampling staff are funded under the EU-PROCFish project.
Export documentation: Individual weight data for air-freighted yellowfin and bigeye tuna are potentially available. Export data are routinely used to determine annual catch estimates.
Vessel characteristics: MAFFM operates a licensing database that contains information on vessel characteristics.
In-port inspections: Not undertaken.

Data management and reporting
All data collected from the tuna fishery are processed by the Fisheries Division and are provided to the OFP for incorporation into regional databases. MAFFM are equipped with the CES software for generating reports of catch and effort data. The Fisheries Division routinely collates quarterly catch and effort data from the tuna fishery. Summary data are provided annually to SCTB.

Priority measures/recommendations to strengthen capacity
1. The implementation of an observer programme in the Samoa longline fishery.
2. Introduce annual returns for vessel activity and vessel characteristics for all domestic longline vessels.
3. Systematically collect unloadings data for all landings in Apia.
4. Further develop the capacity for staff to analyse catch and effort data to enable routine monitoring of the fishery.

Solomon Islands

Background

The Solomon Islands EEZ currently accounts for approximately 3.1% of the total tuna catch from the WCPO. The fishery consists of domestic and foreign longline, purse seine, and pole-and-line vessels. The longline fleet is comprised of domestic and foreign registered vessels (Korea, Taiwan, Vanutau, and Fiji). The domestic longline fishery expanded considerably in the late 1990s, but has declined in the last few years. The pole-and-line and purse seine fisheries consist mainly of domestic vessels. Solomon Islands is a signatory to the FSM Arrangement allowing reciprocal access rights to other Parties. In particular, PNG registered purse seine vessels operate in the Solomon Islands EEZ, while domestic vessels undertake considerable fishing in neighbouring EEZs and international waters. Solomon Islands is a signatory to the US Treaty although there has been minimal fishing by the US purse seine fleet in the EEZ in recent years. Japanese, Korean and Taiwanese purse seine vessels have also been licensed to fish in the Solomon Islands EEZ in recent years.

Institutional structures

Management of the tuna fishery is the responsibility of the Fisheries Division of the Ministry of Fisheries and Marine Resources. In 1999, Solomon Islands implemented a National Tuna Management Plan. The plan included the establishment of a Tuna Management Committee to advise the Minister of Fisheries on development and management issues. The committee includes representatives from the fishing industry and government agencies. Under the terms of the plan, a limit on the number of vessel licenses was established for each of the main fishing methods.

Fishery monitoring

Logsheets: All foreign and domestic licensed vessels are required to provide catch and effort information at the operational level on approved logsheets. The level of logsheet coverage of the domestic longline, purse seine and pole-and-line fleets is believed to be high. Logsheet coverage of all components of the foreign longline fleet is highly uncertain. Logsheet coverage of foreign purse seine vessels approaches 100%.

Landings: Landings data are available for the domestic pole-and-line and purse seine catch although coverage for the latter has been low (about 20%). Limited transshipment activity has occurred in the Solomon Islands EEZ in recent years. Honiara is the main transshipment port. There is no routine collection of data from vessel transhipments when they occur.

Vessel activity log: Not yet implemented.

VMS: Foreign licensed vessels are required to participate in the regional VMS programme administered by FFA. Domestic purse seiners also participate in the regional VMS programme.

Observers: The observer programme ceased during the disruption to domestic fishing operations that occurred during the recent period of unrest. The programme was recently re-established with a staff of 12 observers, an Observer Coordinator and an assistant Observer Coordinator and has achieved coverage rates of 20% or more for domestic fleets. The programme has not covered the foreign longline fleets. It has been proposed to increase coverage to 30% for longline, 40% for pole-and-line, and 100% for purse seine.

Port sampling: Prior to the civil unrest in Solomon Islands, port sampling was conducted in each of the main ports (Honiara and Noro). Sampling ceased during the period of unrest and has not yet been reinstated.

Export documentation: Individual weight data for air-freighted yellowfin and bigeye tuna are potentially available but are not routinely collected.

Vessel characteristics: Fisheries Division operates a licensing database that contains information on vessel characteristics.

In-port inspections: Not undertaken.

Data management and reporting

Logsheet data are processed by the Fisheries Division. However, some inadequacies with the current database system have been identified and the OFP is working with the Fisheries Division to rectify these problems. All data are provided to the OFP for incorporation into regional and Solomon Islands national databases. Fisheries Division are equipped with the CES software for generating reports of catch and effort data. Annual fishery summaries are routinely provided to SCTB.

Priority measures/recommendations to strengthen capacity

1. Audit the Fisheries Division database and suggest areas requiring improvement.
2. Introduce annual returns for vessel activity and vessel characteristics for all domestic vessels.
3. Systematically collect unloadings data for all landings in Solomon Islands.
4. Develop the capacity for staff to analyse catch and effort data to enable routine monitoring of the fishery.

Tokelau

Background

The Tokelau EEZ currently accounts for approximately 0.2% of the total tuna catch from the WCPO. Historically, the tuna fishery is characterised by fishing by distant-water longline vessels and intermittent fishing by foreign purse seine fleets (principally US vessels). In recent years, there has been increased interest in fishing in the Tokelau EEZ by longline vessels operating from neighbouring countries, principally Samoa. There are four New Zealand flagged longline vessels licensed to fish in the Tokelau EEZ, although these vessels have not yet commenced fishing. Tokelau is investigating the potential for development of a domestic tuna industry, although infrastructure is limited.

Institutional structures

Tokelau has recently been granted jurisdiction for management of the EEZ (previously managed by New Zealand). The management of the tuna fishery is the responsibility of the Department of Natural Resources and the Environment of the Office of the Council of Faipule. A management and development plan for the Tokelau tuna resource is currently being developed with assistance from FFA and SPC. This will assist in the formulation of policy for the licensing of vessels to fish in the Tokelau EEZ.

Fishery statistics

Logsheets: Logsheets have not been systematically provided to Tokelau in respect of foreign fishing. Data are available for the US purse seine fleet via FFA as Treaty Administrator. It is expected that logsheet provision will be required for future foreign access agreements.
Landings: Significant quantities of tuna are not currently landed on Tokelau.
Vessel activity log: N.A.
VMS: Purse seine vessels fishing in the Tokelau EEZ participate in the regional VMS programme administered by FFA.
Observers: US purse seine vessels fishing in Tokelau waters may be covered by observers as part of the US Treaty.
Port sampling: Sampling of purse seine vessels that have fished in Tokelau waters may occur in Pago Pago.
Export documentation: N.A.
Vessel characteristics: N.A.
In-port inspections: N.A.

Data management and reporting

There is currently no local data system nor a national infrastructure to monitor catch and effort in the EEZ. Tokelau is currently reliant on information received directly by OFP from fishing nations and regional licensing arrangements.

Measures/recommendations to strengthen capacity

1. There is considerable interest in the development of the tuna fishery in the Tokelau EEZ and the potential for the development of a domestic fleet is being assessed. There is also considerable interest from DWFNs and PICT domestic fleets to gain licences to fish in the Tokelau EEZ. These initiatives also need to address the requirements for reliable monitoring of catch and effort from the fishery in the future. This may require the establishment of new national agency to undertake this role or rely on existing organisations (e.g. OFP) to undertake elements of this function.

Tonga

Background

The Tonga EEZ currently accounts for approximately 0.1% of the total tuna catch from the WCPO. The fishery has developed considerably over the last five years and is principally comprised of domestic longline vessels, including some locally-based foreign vessels. The longline catch is dominated by albacore, while yellowfin and bigeye contribute significantly to the value of the catch. The longline fleet principally operates in the Tonga EEZ and in international waters south of the EEZ. Most of the longline catch is landed in Nuku'alofa, although some domestic vessels also discharge catch in Pago Pago. Tonga is a signatory to the US Treaty, although there is minimal fishing by the purse seine fleet in the Tonga EEZ.

Institutional structures

Management of the tuna fishery is the responsibility of the Ministry of Fisheries. The Resource Management Division is responsible for vessel licensing, vessel monitoring and data collection. Tonga has formulated a National Tuna Management Plan. The plan has yet to be enacted in regulation but represents the current policy for management of the fishery. The plan includes the establishment of a National Tuna Management Committee to advise the Minister of Fisheries on development and management issues. The committee includes representatives from the fishing industry and government agencies.

Fishery monitoring

Logsheets: All foreign and domestic licensed vessels are required to provide catch and effort information at the operational level on approved logsheets. The level of logsheet coverage of the longline fleet has been improving in recent years and current logsheet coverage is considered high (about 80%). Provision of logsheets is required for vessels to have access to duty-free fuel.

Landings: Landings data are collected via the port sampling programme, although coverage is less than 100%.

Vessel activity log: Not yet implemented.

VMS: Legislation is in place to require all vessels to have VMS, although the regulations are yet to be enforced. There is currently a trial of VMS equipment on four locally-based foreign longline vessels.

Observers: No observer data are currently collected from the longline fishery. Tonga is committed to establishing a national observer programme and has recently requested assistance from the OFP in this regard.

Port sampling: There is a high level of coverage (80-100%) of the longline fleet by the port sampling programme, which is supported by the EC-PROCFish project. A number of domestic vessels may discharge their catch (often accumulated from several trips) in Pago Pago. These landings are covered by NMFS port sampling staff.

Export documentation: Tuna export data (including packing list data) are collected by the Customs agency.

Vessel characteristics: The Ministry of Fisheries operates a licensing database that contains information on vessel characteristics.

In-port inspections: Not undertaken.

Data management and reporting

Vessel logsheets, landings and post sampling data are forwarded to the OFP for processing and incorporation into regional and the Tongan national database. The Ministry is equipped with the CES software for generating reports of catch and effort data. Summary data from the longline fishery are provided annually to SCTB.

Measures/recommendations to strengthen capacity

1. Develop further port sampling capacity in line with expansion in fishing activity.
2. Implement an observer programme for the longline fishery.
3. Introduce annual returns for vessel activity and vessel characteristics for all domestic and locally-based foreign vessels.
4. Systematically collect unloadings data for all landings in Tonga.
5. Develop the capacity for staff to analyse catch and effort data to enable routine monitoring of the fishery.

Tuvalu

Background
The Tuvalu EEZ currently accounts for approximately 2% of the total tuna catch from the WCPO. The tuna fishery is comprised of foreign licensed longline (principally Japanese, Korean, Taiwanese distant-water), purse seine (US, Japanese, FSM Arrangement and New Zealand), and Japanese distant-water pole-and-line vessels. There is a small domestic fishery currently supporting the local market. There is no significant transshipment activity in Tuvalu ports.

Institutional structures
Management of the tuna fishery is the responsibility of the Fisheries Department of the Ministry of Natural Resources Development (MNRD). The Department is responsible for vessel licensing, vessel monitoring and data collection. A tuna management and development plan for Tuvalu has been developed with assistance from FFA and SPC.

Fishery monitoring
Logsheets: All foreign and domestic licensed vessels are required to provide catch and effort information at the operational level on approved logsheets. Vessels are also required to provide entry and exit reports when operating in the Tuvalu EEZ, although the level of reporting is unknown. Logsheet coverage approaches 100% for purse seine vessels. Logsheet coverage of the longline fleet is unknown due mainly to uncertainty regarding the level of logsheet coverage for the Korean fleet.
Landings: There is no unloading (landing or transhipment) of tuna in Tuvalu.
Vessel activity log: N.A.
VMS: Foreign licensed vessels are required to participate in the regional VMS administered by FFA.
Observers: Observer coverage of US and FSM Arrangement purse seiners is likely to be comparable to that for adjacent EEZs. Observer coverage of the foreign longline fleet is negligible.
Port sampling: N.A.
Export documentation: N.A.
Vessel characteristics: MNRD operates a licensing database that contains information on vessel characteristics.
In-port inspections: N.A.

Data management and reporting
OFP has provided a national tuna fisheries database which incorporates logsheet catch and effort and licensing data. Licensing data are entered by MNRD staff, while logsheets are forwarded to the OFP for processing and incorporation into the regional and Tuvalu national databases. MNRD are equipped with the CES software for generating reports of catch and effort data.

Priority measures/recommendations to strengthen capacity
1. Develop the capacity for staff to analyse catch and effort data to enable routine monitoring of the fishery.
2. Observer coverage of distant-water longliners fishing in the Tuvalu EEZ is required.

Vanuatu

Background

The Vanuatu EEZ currently accounts for approximately 0.2% of the total tuna catch from the WCPO. The fishery is comprised of domestic and foreign longline vessels, principally Taiwan and Fiji flagged vessels. The longline catch is dominated by albacore, while yellowfin and bigeye contribute significantly to the value of the catch. There is limited fishing by the US purse seine fleet in Vanuatu. In recent years, there has been no domestic tuna fishery and the longline fleet operates from foreign ports, principally in Fiji and Pago Pago.

Institutional structures

Management of the tuna fishery is the responsibility of the Fisheries Department under a Ministry of Agriculture, Quarantine, Forestry, and Fisheries. The Compliance Section of the department is responsible for vessel licensing, vessel monitoring, and data collection from the fishery. A Tuna Management Plan has been formulated for Vanuatu and has been in place since 2000.

Fishery monitoring

Logsheets: All foreign and domestic licensed vessels are required to provide catch and effort information at the operational level on approved logsheets. However, limited logsheet and landings data are provided to the Vanuatu Fisheries Department. Vessels are also required to provide entry and exit reports when operating in the Vanuatu EEZ, although the level of reporting is unknown. Many of the Fiji-based vessels provide logsheets in respect of fishing activity in the Vanuatu EEZ to the Fiji Department of Fisheries.

Landings: There is no significant landing of tuna in Vanuatu.

Vessel activity log: Not yet implemented.

VMS: Vanuatu longliners participate in the regional VMS programme administered by FFA and are introducing a national VMS for all Vanuatu-flagged fishing vessels. These systems will provide a potential means of estimating vessel activity and logsheet coverage.

Observers: There is currently no observer coverage of Vanuatu longliners.

Port sampling: Port sampling of landed catch is occurring via the sampling programme implemented by the Fiji Department of Fisheries.

Export documentation: There is no significant export of tuna from Vanuatu.

Vessel characteristics: The Fisheries Department operates a licensing database that contains information on vessel characteristics.

In-port inspections: N.A.

Data management and reporting

All logsheet data received by the Fisheries Department are sent to OFP for processing and incorporation into the regional and Vanuatu national databases. The Fisheries Department are equipped with the CES software for generating reports of catch and effort data. Summary data from the longline fishery are provided annually to SCTB.

Priority measures/recommendations to strengthen capacity

1. Increased linkages between Fiji and Vanuatu fisheries agencies to improve collection of data from the Vanuatu EEZ, including logsheet, unloading, observer, and port sampling data.
2. Implement an observer programme to provide coverage of the longline fishery.
3. Introduce annual returns for vessel activity and vessel characteristics for Vanuatu-flag vessels.
4. Develop the capacity for staff to analyse catch and effort data to enable routine monitoring of the fishery.