

WP.4

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FISHERY DATA COLLECTION IN FRENCH POLYNESIA: AN OVERVIEW
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INTRODUCTION

Fishing activities account for a significant proportion of movements in the port of Papeete. Fishery-related traffic has been a daily feature of the port of Papeete for decades now. Much of the fish and other marine species caught in French Polynesia by both artisanal and modern fishing techniques passes through Papeete port, which is the Territory's main market centre for fish and seafood. The centralised nature of fishing-related activities has made it easier to set up a fishery information collection system which, although far from perfect, does yield a fairly accurate picture of the various fisheries.

Development of these activities to encompass new fisheries and new fishing methods, as well as a variety of new product types and new marketing methods has, however, increased the number of landing points, making fishery data collection programmes increasingly difficult to implement. At present, survey effort is focussed on the port of Papeete, with specific investigations being carried out near the urban area and in the few islands where the relevant administrations are present.

This paper will briefly describe the fishing activity of the various fleets landing their catches in the port of Papeete, the related unloading activities and the current and planned information collection programmes.

1. TYPES OF FISHING BOAT AND NATURE OF FISHERIES

Three main different fishing fleets land their catches in the port of Papeete:

- the artisanal fleet
- the foreign distant-water fleet
- the local modern fleet

1.1 The artisanal fleet

Consisting mainly of boats known as "*bonitiers*" ("skipjackers"), approximately 12 m in length, this fleet mainly targets surface tuna stocks. These pole and liners seek out surface tuna aggregations around schools of baitfish, using mother of pearl or synthetic lures. When weather and season are favourable, however, these vessels also use the trolling and vertical long-lining methods, at which times the target species are young skipjack (*Katwuwonus pelamis*) or young yellowfin (*Thunnus albacares*). They may also capture albacore when vertical long-lining. More than 100 such boats are operating throughout French Polynesia, 40 or so from Papeete.

There is also another artisanal fishing fleet consisting of small, 5-to-7 m long boats called "poti marara", powered either by petrol-driven outboard motors or, increasingly, by inboard diesels varying from 50 to over 100 HP in size, which usually land their catches outside the town. This fleet operates from a variety of locations scattered around the island, mainly using the vertical long-lining and trolling techniques but it also fishes for "mahi mahi" and goes after flying fish at night using the scoop net. The number of such boats fishing commercially is not known with accuracy, but can be estimated at more than 200 for the Territory as a whole.

It is worth noting, for information, that inter-island steamers carrying Tuamotu lagoon fish also discharge in the port of Papeete and are monitored statistically on a weekly basis.

1.2 The foreign fleet

A foreign fleet comprising Japanese and Korean boats has been operating in French Polynesian waters since the late 1970s. This fleet consists entirely of long-liners whose activities are governed by access agreements covering number of boats, fishing quotas and an obligation to land some of the catch in Papeete. The number of such boats holding a fishing licence varies from 100 to 200 per year.

Commercial albacore fisheries exploiting stocks in the sub-tropical convergence zone since 1987 have made of Papeete a surface albacore landing port. These landings come from American and Canadian long-liners, which were joined by local boats in 1989. This activity extends from December to April each year.

1.3 The local modern fleet

A local offshore fishing fleet using modern fishing techniques started operating in 1990. The boats vary in length from 12 to 25 m and mostly use the monofilament drifting longline method. These vessels are either 12m *bonitier* converted for long-lining or new vessels 14 to 25 m long specially designed for longlining.

Trip duration on these small vessels varies in length from 2 to approximately 10 days, for those wishing to supply fresh fish. The 23 to 25m boats undertake longer trips, up to 1 month in length, to disembark both frozen fish and fresh fish from the last few days of the trip. The 25 m vessels also troll in the southern 40's.

This fleet consisted of approximately 50 boats altogether as at the end of 1993.

II. FISH LANDINGS AND PORT SAMPLING ACTIVITIES

II.1 The artisanal fleet

The skipjack boats land their catches daily on the wharves of Papeete, usually in the afternoon. Large specimens are unloaded individually by hand and smaller fish in pairs. The catch is then transported to the place of sale using pick-ups or vans.

Two samplers, one on each wharf, are responsible for monitoring these activities on a daily basis. Their tasks are as follows:

- recording boat movements in order to appraise fishing effort. This work is done in the morning, after the time when the boats usually leave port and again in the evening.
- information gathering when boats return to port: the samplers ask fishermen when they sailed from and came back to the wharf and which area they fished, with reference to a map grid of half-degree squares. Enumeration of catches by species and commercial grade is performed by the sampler at the time of landing. Skipjack and yellowfin tuna are broken down into several commercial grades corresponding to size, on an approximate basis.
- fish measuring; specimens of yellowfin tuna, skipjack and mahi mahi chosen at random are measured in terms of "curved length"; using a flexible tape and starting from the end of the upper jaw to the fork following the outward curve of the body. Weight is then estimated using a weight-length formula.

II.2 The foreign fleet

II.2.1 The foreign long-lining fishery

Monitoring of the foreign long-lining fleet takes two forms:

- processing of fishing statistics, mostly originating in telex reports sent by boats and daily fishing logsheets of which there are unfortunately very few;
- monitoring of boat activities when catches are transshipped or unloaded in Papeete.

The fishing data contained in telex reports consist of the usual information relating to the vessel's daily position, number of days at sea, total catch and catch per species. The fishing logsheets are those recommended by the South Pacific Commission.

When transshipment takes place, the captains of the fishing and reefes vessels are under an obligation to pass on information on quantities of fish and bait transshipped in either direction through their agency to both the Customs and the Maritime Affairs Department. Quantities per species are not however stated. Distinction between species was considered about 3 years agom but unsuccessfully; since transshipment takes place at night between vessels and in batches it is almost impossible for a sampler to distinguish between the species concerned.

Landings take place at the premises of a fish-buying concern, from which quantities of landings for each species can be obtained.

II.2.2 Surface albacore fishery

Surface albacore are landed at the premises of a fish-buying concern, for delivery to the canneries.

Fish are unloaded into containers of approximately 1 tonne capacity. Each container is individually weighed before being put in the company's cold store or moved on into refrigerated containers.

Fish are normally frozen whole.

The fishery data collection programme has two main components:

- direct enquiries of the captain to obtain as much information as possible on fishing effort, fishing conditions and catches; such enquiries usually result in the daily fishing log being produced;
- measurements of size, and fork length, supplemented by weight measurements. Since the quantities of fish concerned are substantial, a sample of a number of fish per container is taken wherever possible in order to measure at least 100 fish per boatload.

II.2.3 The local modern fleet

Trip duration varies from 2 to 3 days for the smallest boats from 2 weeks to over a month for the largest vessels, with regular landings, although activity intensifies at the end of the week as the smaller boats return to port. Unloading points are scattered around Papeete's four wharves, with a further site outside the town.

Fish are either stored fresh on ice or frozen on board. They are gutted and sometimes also topped and tailed where billfish are concerned. The best equipped boats also land fish already cut into fillets.

Data collection is carried out at various levels:

- collection of fishing logsheets; logsheets are distributed to all the boats in this fleet which complete them accurately in some cases, while others are somewhat reluctant to communicate their fishing data;
- direct enquiries of boat captains when they have not completed their fishing log; data collected in this way relates to effort, fishing site and catch per species;
- daily record of boat departures and arrivals in order to calculate fishing effort;
- length and weight measurements where possible; the size measurement is fork length from the end of the upper jaw to the fork.

CONCLUSIONS AND OUTLOOK

All the above survey and fishing information collection work is carried out by a variety of administrations and research bodies in the Territory. There is no real central data collection system, as each body performs the surveys relevant to its needs. However, with the rapid expansion of the fisheries sector, it is becoming urgent to pool all these data within a special body responsible for collection, processing and distribution of fishing data. With this aim in view, the Territory will very shortly be acquiring a statistical processing system in keeping with its aspirations in the fishery resource exploitation field. The main data on fishing activity in French Polynesia is given in summary form in the annexes hereto.

Table 1 : Annual catch of tunas and related species by fleet from 1988 to 1992

Year	Fleet	No active boats	Total catch/species (MT)					Total
			Skj	Yf	Alb	Be	Others	
1988	"Bonitiers"	125	769	481			64	1 314
	"Poti marara"	47		80			230	310
	Japan longline	62	3	580	154	2 041	373	3 151
	Korea longline	71	4	265	731	815	276	2 091
			305	776	1 406	885	2 856	943
1989	"Bonitiers"	120	990	316			64	1 370
	"Poti marara"	73		91	77		169	337
	Japan longline	69		523	56	972	222	1 773
	Korea longline	41	1	188	633	171	206	1 199
	Polynesian troll (40°S)	2			90			90
		305	991	1 118	856	1 143	661	4 769
1990	"Bonitiers"	118	1 213	104			83	1 400
	"Poti marara"	65		63	45		169	277
	Japan longline	47		209	50	772	92	1 123
	Korea longline	63		873	826	996	345	3 040
	FP. troll (40°S)	3			299			299
		296	1 213	1 249	1 220	1 768	689	6 139
1991	"Bonitiers"		1 178	214			80	1 472
	"Poti marara"	54	18	66	70		71	225
	Japan longline	31		152	18	418	52	640
	Korea longline	79		1 091	515	2 802	446	4 854
	FP. troll (40°S)	4			326			326
		5		89	66	26	64	245
		173	1 196	1 612	995	3 246	713	7 762
1992	"Bonitiers"	111	1 096	233			77	1 406
	"Poti marara"							
	Japan longline (6 months)	8		52	4	34	18	108
	Korea longline	55		461	227	1 271	237	2 196
	FP. troll (40°S)	2			72			72
		19		137	174	51	178	540
		195	1 096	883	477	1 356	510	4 322

Table 3 : Albacore landings at Papeete from 1988 to 1992

Year	No vessels	Tonnage (mt)
1988	53	1 650
1989	28	597
1990	3	102
1991	27	848
1992	27	489

Table 4 : Activity of local longliners

WEEK No :

Code: P = At port
A = Not at port

DATE : FROM.....TO.....

Vessels	Id no	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Arue wharf															
Bougal 2															
Raumatea	1402														
Tatumu 1	1460														
Tau	1517														
Toheveri 1	1462														
Vaiata 4	1258														
Papeete wharf															
Annie 2	1325														
Iris 2	1227														
Miki Miki 6	1605														
Sylvana 4	1356														
Teaumaru 3	1210														
Teaumaru 4	1259														
Tuariki nui	1267														
Vini Vini 2	1283														
Evaam wharf															
Pihiti	1486														
Tatumu 2	1461														
Toheveri 2	1463														
Papeava wharf															
Arevamanu	1406														
Bougal 1															
Khaya	1516														
Miri	1515														
Miro	1514														
Tahiti Nui	1405														
Tehoro	1548														
Thalassa 1															
Thalassa 2															
Toerau Moana	1523														
Tuheiaava	1524														
Tahiti Tuna Wharf															
Sea Horse 1	1407														
Sea Horse 2	1476														
Vai vai	1298														
Punaaula															
Hinerava 4	1306														
Vahinerii 2	1277														
Faaa															
Sylvia 3	1412														

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Table 6 : Fish sampling form

Date:						
Vessel :						
Fish landed (mt) :			Fishing area :			
*Conservation:		Type of conservation (ice, freezing, refrigeration...)				
*Fish condition:		Round:	0	Head off:	3	
		Gutted:	1	Fins off:	4	
		Tail off:	2			
N	Species	Fork lgth (mm)	Weight (kg)	Conservation	Fish condition	Observation
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
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