FISHERY AND AQUACULTURE COUNTRY PROFILE	Food and Agriculture Organization of the United Nations	FID/CP/COK
PROFIL DE LA PÊCHE ET DE L'AQUACULTURE PAR PAYS	Organisation des Nations Unies pour l'alimentation et l'agriculture	
RESUMEN INFORMATIVO SOBRE LA PESCA Y LA ACUICULTURA POR PAÍSES	Organización de las Naciones Unidas para la Agricultura y la Alimentación	May 2010

NATIONAL FISHERY SECTOR OVERVIEW

COOK ISLANDS

1. GENERAL GEOGRAPHIC AND ECONOMIC DATA

Area:	237 km²
Water area:	1 830 000 km²
Shelf area:	[no continental shelf]
Length of continental coastline:	419 km (length of the coast of islands)
Population (2007)*:	20 000
GDP at purchaser's value (2008)	225 676 000 USD[1]
GDP per head (2008):	10 645 USD
Agricultural GDP (2008):	17 172 000 USD[2]
Fisheries GDP (2007):	3 318 000 USD[3]

* source: UN Population Division)

2. FISHERIES DATA

2007	Production	Imports	Exports	Total Supply	Per Caput Supply
	tonnes liveweight				kg/year
Fish for direct human consumption[4]	2 056	351	1 259	1 148	57.4

[1] 2007 average exchange rate: US$1 – New Zealand $1.36; GDP source: A summary of the national accounts of the Cook Islands is given in Statistics Office (2008). Economic Statistics. Available at www.stats.gov.ck/Statistics/Economic. Staff of the Statistics Office kindly provided a disaggregation of the "agriculture and fishing" component, from which the fishing contribution to GDP can be determined.
[2] This is the official contribution of agriculture to GDP and does not include fishing.
[3] This is the official fishing contribution to GDP. A recalculation shows the total fishing contribution to be USD$2.9 million: Gillett (2009). The Contribution of Fisheries to the Economies of Pacific Island Countries and Territories. Pacific Studies Series, Asian Development Bank, Manila
[4] Data from FAO food balance sheet of fish and fishery products.

Fish for animal feed and other purposes	1 144	---	0	---	

Estimated Employment (2001):	
(i) Primary sector (including aquaculture):	427[5]
(ii) Secondary sector:	Unavailable
Gross value of fisheries output (2007):	10.3 million USD[6]
Trade (2007):	
Value of fisheries imports(*):	1.1 million USD
Value of fisheries exports(*):	2.2 million USD

(*) This amount does not include pearl, pearl shells and ornamental fish.

Cook Islands are an archipelagic state comprising 15 widely scattered islands with a total land area of 237 sq. km., distributed in an EEZ of over 1.8 million sq. km. The EEZ of the Cook Islands adjoins the zones of Niue, American Samoa, Tokelau, Kiribati, and French Polynesia. The islands form two groups: the Northern Cooks, all of which are atolls, and the Southern Cooks, which are mostly high islands, although with one or two atolls or semi-atolls.

3. FISHERY SECTOR STRUCTURE

3.1 Overall fishery sector

The land area and coastline of the country is quite small, and consequently the inshore fishery resources are quite limited in comparison to other Pacific Island countries. This is, however, balanced by a relatively large EEZ- the fifth largest in the region.

With respect to the current situation fisheries in the waters of the Cook Islands can be placed into six categories. These categories and the associated production in 2007 are:

	Coastal Commercial	Coastal Subsistence	Offshore Locally-Based	Offshore Foreign-Based[7]	Fresh-water	Aquaculture	
						Fishes (Tonnes)	Pearls & giant clams Pieces[8]
Volume of Production (metric tonnes or pieces)	133	267	3 939	0	5	2	190 000

[5] The Cook Islands 2001 Census of Population and Dwellings has a limited amount of information specifically on fisheries employment: Of the employed population recorded in the census (5,928 people), 427 (7.2%) indicated they were employed in "agriculture and fishing".

[6] From Gillett (2009); includes the six fishery production categories: (1) coastal commercial fishing, (2) coastal subsistence fishing, (3) locally-based offshore fishing, (4) foreign-based offshore fishing, (5) freshwater fishing, and (6) aquaculture.

[7] This is the catch in the Cook Islands zone by vessels based outside the country.

[8] Pearls and giant clams are commonly measured in pieces, rather than kg.

Value of production (USD)	1 029 412	1 250 000	5 772 059	0	36 765	2 235 294

Source: Gillett (2009)

The main trends and important issues in the fisheries sector

The main trends in the sector include:

- Increasing exploitation of the coastal resources, especially those close to urban markets
- The total longline catch in the Cook Islands zone remaining steady in most of the 2000s, until 2008 when foreign license issuance was suspended and the catch dropped
- The Rarotonga-based longline fleet declining in numbers in recent years, with companies selling off boats and processing facilities.
- Increasing pearl production in the mid-2000s
- The industrial troll fleet declining over the years, with only one vessel remaining
- Increasing attention by the government and NGOs to the quality of the inshore marine environment of Rarotonga
- Increasing use of traditional protected areas (ra'ui) as a fisheries management tool

Some of the major issues in the fisheries sector are:

- Labour for industrial-scale tuna fishing is scarce and considering population trends in the country, the labour pool is not likely to grow in the foreseeable future.
- Operating longliners out of Rarotonga is very expensive, relative to other locations in the Pacific Islands region.
- The country has had a dynamic pearl culture industry but is now facing a situation of expanded supply in the international markets and increasing competition with other countries.
- The rising fuel prices are having an increasing impact on motorized small-scale fishing activities.

3.2 Marine sub-sector

The marine fisheries have two very distinct components, offshore and coastal:

- Offshore fisheries are undertaken on an industrial scale by locally-based longline vessels, and to a limited degree by purse seine vessels registered in the USA.
- Coastal fishing is primarily carried out for subsistence purposes and for sales for local markets. In addition, there are some coastal fisheries that are export oriented: aquarium fish and trochus.

The longline fisheries that operate the vicinity of the Cook Islands EEZ are characterized by two sub-fleets (Anon 2009)[9]:

- Vessels in the southern Cook Islands fishery, based out of Rarotonga are small scale vessels, carrying out fresh fish operations to cater for domestic and international markets (NZ, Japan, USA). These vessels target tuna and swordfish. Bycatch species are sold at local markets.

[9] Anon (2009). Cook Islands - National Fisheries Report. WCPFC-SC5-AR/CCM-04, Fifth Scientific Committee Meeting, Western and Central Pacific Fisheries Commission, Port Vila.

- Vessels operating in the northern fishery are based out of Pago Pago, American Samoa and concentrate fishing activities in the northern zone of the Cook Islands EEZ, targeting albacore for canning.

The oceanographic features of the Cook Islands have important implications for tuna fishing. Bigelow (1997)[10] reviewed the oceanography of the Cook Islands EEZ, with the major points given in the box:

Oceanography of Cook Islands EEZ

- **Currents in the vicinity of the Cook Islands are highly variable in direction and rate, but are generally weak (~25 cm sec-1 or 0.5 knots);**
- **The Cook Islands extend over a considerable north/south distance and the subsurface thermal structure indicates that longline catchability may vary across the area. In the northern area (5°-15°S) the 15°C isotherm is within 220m of the surface and the thermocline gradient is strong. In the southern area (15°-25°S), the 15°C isotherm is ~325m deep and the thermocline is diffuse;**
- **Dissolved oxygen concentrations are generally high in the southern Cook Islands and should not limit the distribution of tuna. Yellowfin and bigeye catchability will be greater in northern areas compared to southern areas, due mainly to a shallower and steeper thermocline and low oxygen concentrations at depth.**
- **Subsurface isotherms were ~50-100m shallower after the strong El Niño – Southern oscillation (ENSO) event in 1982. However, recent ENSO or La Niña events did not alter the subsurface thermal structure (or the data were possibly inadequate for the detection of such changes).**
- **The primary and secondary productivity within oceanic waters near the Cook Islands are relatively low compared to high islands within the south Pacific.**

Coastal fishing is carried out for mainly subsistence purposes – except in those places where there are markets (i.e. Rarotonga and to a lesser extent, Aitutaki) or relatively easy access to those markets (e.g. Palmerston). Fishing is mostly conducted from small outboard-powered craft and canoes in the lagoons and along the outer reef edge. There are also important small-scale fisheries that occur further offshore: fishing for tuna around fish aggregation devices (FADs) and fishing for flyingfish at night using lights and dip-nets.

3.2.1 Marine Catch profile

The catches made by Cook Island offshore vessels are(*):

	2004	2005	2006	2007	2008	2009
Longline catch (tonnes)	3 163	3 318	2 868	3 324	2 890	2 098
Troll catch (tonnes)	293	37	120	47	-	-

[10] Bigelow, K. (1997). Cook Islands National Fisheries Assessment. Oceanic Fisheries Programme, Secretariat of the Pacific Community, New Caledonia.

Total Catch (tonnes)	3 456	3 355	2 988	3 371	2 890	2 098

(*) Source: WCPFC Yearbook 2009

Using price information from a variety of sources, Gillett (2009) estimated the value of the 2007 tuna catch to be USD 5.8 million.

Unpublished US/NMFS public domain data shows the catches made by USA purse seine vessels in the waters of the Cook Islands averaged about 13 tonnes per year in the mid-2000s. The Cook Islands fall outside the normal fishing grounds of these seiners, but there are two features that tend to result in at least some US purse seine fishing in the Cook Islands: (1) During El Niño periods the purse seine fishery moves eastward from its focus in PNG and FSM, to Kiribati. Although Cook Islands is usually outside of even the area of El Niño fishing, some activity does occasionally occur within the Cook Islands EEZ; and (2) In the late 1990s the US began to make use of drifting fish aggregation devices (FADs). Many of the FADs were set in areas close to the US fleet base in Pago, even in non-El Niño periods. This tended to increase the effort and catch in the Cook Islands EEZ.

The two most significant recent sources of information on coastal fishery production in the country are:

- A study on the situation and outlook for Cook Islands Marine Resources 2007 (MMR 2008)[11]
- The Cook Islands household expenditure survey that was carried out in 2005-06 (Statistics Office 2007)[12]

Estimates of coastal fisheries production derived from these two sources are similar - about 133 mt for coastal commercial fishing and 267 mt for coastal subsistence fishing. Most of this commercial production is from the Southern Group, while the subsistence production comes mainly from islands other than Rarotonga and Aitutaki.

MMR (2008) contains some information on specific coastal fisheries in 2007:

- Fish Aggregating Device Fishery: In Rarotonga, the annual average catch around FADs is between 8 and 12 metric tonnes, which include catch from both subsistence and recreational fishing. For the Northern outer islands, an average of 3 to 7 metric tonnes is caught annually year around the FADs as compared to the Southern outer islands that catch an average of 13 to 30 metric tonnes. It is estimated that the total catch for the Cook Islands FAD fishery averages around 20 to 50 metric tonnes of fish caught annually by subsistence and semi-commercial fishers.
- Trochus Fishery: In 2007, there was no commercial harvest of trochus in the Cook Islands. Aitutaki, Rarotonga and Penrhyn are currently the only fisheries with a large trochus population available for a commercial harvest. A recent survey of the trochus on Aitutaki estimated that around 30 per cent of the current population (about 18 metric tonnes) in Aitutaki have reached the legal size for exploitation while around 6 − 8 metric tonnes is available for harvest in Rarotonga.

[11] MMR (2008). Situation and Outlook for Cook Islands Marine Resources 2007. Ministry of Marine Resource, Government of the Cook Islands, Rarotonga.
[12] Statistics Office (2007). Cook Islands Household Expenditure Survey (HES) 2005-06.

- Parrotfish Fishery: For parrotfish, about 24 metric tonnes (whole fish weight) was caught in 2006, which is the equivalent of around 16 metric tonnes of fish fillets. Total catch (whole fish) in 2007 fell to 18 metric tonnes, with supply restricted by the breakdown of the blast freezer and irregular shipping service to Palmerston Island.
- Aquarium Fish Fishery: Although data on aquarium fish in 2007 and over the last four years are not available, it is estimated that a minimum of 1,500 to 1,600 fish are caught annually.

3.2.2 Marine landing sites

In the Cook Islands the only developed port is a small harbour on Rarotonga. Penrhyn Island in the north has a rudimentary port with few facilities. Chapman (2001)[13] indicates that the existing port facility on Rarotonga, Avatiu Harbour, is very limited and becomes easily congested with shipping, visiting yachts and local fishing vessels.

All landing of catch by the Cook Islands tuna longliners occurs either at Avatiu Harbour or (for the longliners fishing in the north of the zone) at Pago Pago, in neighbouring American Samoa. The small amount of tuna that are purse seined are also offloaded at Pago Pago.

Many small-scale commercial vessels also offload at Avatiu Harbour, as well as other locations in the Southern Group where there are small passages through the reef and blasted channels. Outside of Rarotonga, subsistence fishery landings occur at villages throughout the country, roughly in proportion to the distribution of the population.

3.2.3. Marine fishing production means

All domestic offshore tuna fishing in the Cook Islands involves longline gear:

- Longline vessels in the southern Cook Islands fishery, based out of Rarotonga are generally below 20 meters in length and use ice.
- Vessels fishing in the northern Cook Islands fishery are generally larger and have mechanical refrigeration for storing the catch.

The small amount of tuna purse seining that occurs in the Cook Islands zone is carried out by vessels from the USA. Those vessels are mainly 55 to 75 metres in length.

Coastal fishing is often carried out by modern methods such as trolling off the reef, and closer inshore, gillnetting, cast netting, and underwater spear fishing. Reef gleaning is very important. MMR (2000)[14] contains some interesting information on some of the important traditional small-scale fishing techniques of the Cook Islands:

- Hook-and-line fishing is one of the oldest methods for catching fish. In the Pacific, traditional hook-and-line gear was made from natural materials: vines, coconut fibre or strong bark from trees were woven into thin fishing lines; hooks were made from strong wood (e.g. the roots of trees), bone, or shell; stones were used for weights. Over time, hook-and-line gear has changed to take advantage of modern materials. Examples include the use of monofilament for

[13] Chapman, L. (2001). Tuna Fishery Development Strategy for the Cook Islands. Secretariat of the Pacific Community, Noumea.
[14] MMR (2000). Basic Information on the Marine Resources of the Cook Islands. Ministry of Marine Resources, Rarotonga, Cook Islands.

fishing line, stainless steel for hooks, and wood or plastic spools or mechanized fishing reels for storing the line.

- Titomo is carried out while diving. The fisherman has a small baited hook attached to a short length of line (15 to 30 centimeters) on a rod of about one metre. Fishermen using this method target koperu (mackerel scad) at dawn or dusk, or small patuki (groupers). To catch mackerel scad a piece of coconut flesh is attached to a barbless hook. The fisherman uses chum (ground coconut flesh) to attract the fish and then offers the bait to the fish. Once the fish is hooked it is quickly flicked into a canoe.
- Matira fishing method uses a two to five metre rod and is done either from boats or from the shore. Fishermen cast the line and keep the baited hook stationary or move it about. The lure is made of shell, feather, metal or plastic. Matira is carried out at any time of the day to catch small groupers, paoa, titiara (trevally) or at night to catch ku (squirrelfish)
- Tiritiri targets predatory fish such as titiara, urua (trevally), angamea (snapper), mu (emperors) and groupers. The method uses only a handline and a baited hook.
- Matau tamoe is generally used for catching large trevallies. Fishermen tie a thick line to a tree, then walk the line out over the reef. A hook is baited with live eel, to prevent other fish (such as small groupers and triggerfish) from eating the bait. The hook is placed somewhere soft (such as in a patch of soft coral) to stop it from shifting about with the swell and currents. The fisherman either waits or leaves the baited hook over night and checks it in the morning.
- Drop stone fishing uses a baited hook which is dropped to great depths to target deep-sea fish species such as groupers and snappers, and pelagic fish such as tuna, wahoo and marlin. Bait is usually mackerel scad, big eye scad or flying fish. Ground-up bait and a weight (usually a rock) is wrapped inside a leaf with a baited hook and tied with a slip-knot. The package is dropped over the side of the boat and lowered to the required depth and then the line is jerked upwards. The movement slips the knot and freeing the packet of leaves and ground bait.
- Tavere is done on dark nights, generally when the seas are very calm. Fishers go out in canoes and troll (10 to 15 metres in length) rigged with three to five hooks attached directly to the main line. Uru tavake (bird feathers) or shiny white-strand rope (preferably nylon) are attached to the hooks. This type of fishing is similar to modern-day trolling but is done from canoes. The boat is paddled along the reef areas or as closed to reef as possible to catch squirrelfish.

Much of the small-scale tuna fishing around Rarotonga, and to a lesser extent the other islands, is in conjunction with fish aggregation devices (FADs). Chapman (2001) stated that FADs form a large part of the small-scale tuna fishery in Rarotonga, especially in the tuna season. Fishermen rely on the FADs to hold tuna schools in set locations, allowing them to troll around the FADs to maximise their catch. In addition, mid-water fishing techniques are being used to further increase the catch of larger tunas from around the FADs. These mid-water fishing techniques allow fishermen to minimise their running costs while increasing their potential catch. The Cook Islands fishermen have become very reliant on the FADs as part of their regular fishing practice.

Flyingfish fishing is important in the Cook Islands – and the technique used is quite interesting. Gillett and Ianelli (1993)[15] contains an account of the fishery (box).

The catching of flyingfish at night is significant in the Cook Islands, especially Rarotonga. This commercial fishery developed from a traditional Polynesian technique in which palm frond torches and dip nets were used from outrigger canoes. Over the years the technique evolved, including the introduction of kerosene

[15] Gillett, R. and J. Ianelli (1993). Flyingfish. Chapter 7 In: A. Wright and L. Hill (ed.) Nearshore Marine Resources of the South Pacific: Information for Fisheries Development and Management. Forum Fisheries Agency, Institute of Pacific Studies, and International Centre for Ocean Development, pages 177-201.

lanterns in the late 1940s to replace palm frond torches, the use of skiffs powered by outboard motors to replace paddled canoes, and the use of halogen lamps to replace kerosene lanterns.

Currently, small generators are used to power the fishing lights. A high-powered light is affixed to a helmet worn by the fisherman. This allows the fishermen to direct the light while still having use of both hands to manoeuvre the boat and manipulate the dipnet. The boats are specially designed so that the fisherman can stand in the bow section of the boat to facilitate scooping. Steering is accomplished by the use of an aviation-type "joystick" which may have an integrated throttle. The shape of the hulls is such that they turn easily yet have enough "V" shape to be comfortable in moderate seas. An important characteristic of these boats is that they can easily be used for other types of fishing.

Conditions for catching are better during hours of maximum darkness. That is, the fisherman's light is most effective at spotting and immobilizing fish if the moon is below the horizon and there is no twilight. Calm conditions are often better because it is easier to spot fish; if there is wind it is usually best to fish downwind or in the lee of an island. Scooping requires practice to become proficient and is done while the fish is in the water, usually not when fish take flight.

3.2.4 Main resources

WCPFC Yearbook 2009 indicates that in the 2009 longline fishery in the waters of the Cook Islands, the catch composition consisted of:

- Albacore 74.6 %
- Bigeye 10.4 %
- Yellowfin 8.6 %
- Others 6.3 %

Anon (2009) states that wahoo makes up almost 46% of reported non-target species catches, while mahi-mahi contributes to 11.5% of this catch. The shark group contributes to 30.7% and moonfish contributes 5.4% of total non-target species catches.

With respect to the coastal resources, many species of finfish and invertebrates are found in the inshore marine areas of the Cook Islands. According to Passfield (1999)[16], there are an estimated 200 species of algae, 600 species of fish, 390 species of molluscs, 200 species of crustacean, 70 species of echinoderms, and 120 corals. The most commonly exploited fish species in Rarotonga are surgeonfish, parrotfish, goatfish, squirrel fish, bulls-eyes, and small groupers.

FFA (1993)[17] gives the names of important "Lagoon and Reef" fin-fish as listed on the poster, "Seafoods of the Cook Islands". The English, scientific, and Cook Islands names are:

Milkfish	Chanos chanos	Ava
Bonefish	Albula neoguinaica	Kiokio
Queenfish	Scomberoides lysan	Rai
Garfish	Hyporhamphus dussumieri	I'e, tikoroto
Bigeye scad	Selar crumenophthalmus	Ature

[16] Passfield, K. (1999). Review of Living Marine Resources and Related Issues in the Cook Islands. Worldwide Fund for Nature.

[17] FFA (1993). Cook Islands Fisheries Resources Profiles. FFA Report No.93/25, Forum Fisheries Agency, Honiara.

Warty-lipped mullet	Crenimugil crenilabis	Kanae
Mackerel scad	Decapterus macarellus	Koperu
Yellow-finned goatfish	Mulloidichthys vanicolensis	Vete
Silver rabbitfish	Siganus argenteus	Morava
Unicornfish	Naso unicornis	Ume
Yellowfin surgeonfish	Acanthurus xanthopterus	Parangi
Black surgeonfish	Ctenochaetes striatus	Maito
Five-banded parrotfish	Scarus ghobban	U'u, pakati, pa'o
Napoleon wrasse	Cheilinus undulatus	Maratea
Topsail drummer	Kyphosus cinerascens	Pipi, nanue
Bigeye bream	Monotaxis grandoculis	Mu
Orange-spotted emperor	Lethrinus kallopterus	Tamure
Red snapper	Lutjanus bohar	Anga-mea
Black-tipped cod	Epinephelus fasciatus	Atea
Marbled cod	E. microdon	Apuku
Brown cod	E. tauvina	Patuki
Peacock cod	Cephalopholis argus	Roi, patuki roi
Lunar-tailed cod	Variola louti	Oka
Squirrel fish	Myripristes berndti	Ku
Brown moray	Gymnothorax javanicus	A'a pata
Bullseye	Priacanthus sp.	Ku pa
Green triggerfish	Pseudobalistes flavimarginatus	Kokiri

FFA (1993) indicates that about 20 species of fish are important in the aquarium fish fishery. The flame angel (Centropyge loriculus) and red hawk (Neocirrhites armatus), are especially important due to their high value.

The trochus fishery is based on a single species, Trochus niloticus. The shell is not native to the Cook Islands, but was transplanted from Fiji in 1957.

3.2.5 Management applied to main marine fisheries

General

According to the website of the Ministry of Marine Resources (MMR), living marine resources are regarded as common property in the Cook Islands. No individual has exclusive rights over them, and anyone in the community has a right to harvest these resources.

Management of the marine environment has been practised in the Cook Islands since the ancestors of the present Polynesian populations inhabited these islands. It has been important because of the small areas and limited resources available. Today, although the large majority of islands have plentiful supplies of most of their marine resources, there are some species that need to be managed to prevent population declines. Management is becoming even more important because of the economic, technological and environmental changes occurring as well as changes in the traditional use of marine resources. Income from fisheries is becoming increasingly important, as people have come to rely on cash for purchasing imported foods and goods. More efficient fishing gear (such as gill nets) means that more fish can be caught in less time; and with storing facilities such as freezers, a surplus of fish can be had.

Offshore fisheries management

The offshore longline fishery of the Cook Islands is managed according to "The Longline Fishery Plan 2008". It only has 12 pages of text in 6 parts: preliminary information, consultative process, licensing committee, ecosystem considerations, conservation and management measures, and miscellaneous. Some of the important features of the Plan are:

- The stated objectives of the plan are: (a) to provide for the sustainable use of large pelagic fish resources for the benefit of the people of the Cook Islands; (b) to ensure the long-term sustainability of the large pelagic longline fishery, (c) to mitigate the impact of fishing on non-target species; (d) to develop and maintain the economic viability of the large pelagic longline fishery and associated fishing industry, including the development of the Cook Islands domestic fleet and onshore processing in the Cook Islands; (e) to ensure that Cook Islands meets its international environmental and fisheries obligations, and position Cook Islands for equitable participation in the regional tuna fisheries; (f) to protect traditional and small scale commercial inshore fishers; (g) to protect the integrity of government revenue, and (h) to fulfill the purposes and principles in the Act.
- Eight ways are given to achieve the objectives, including the licensing arrangements that encourage the landing, value adding and processing of fish in Cook Islands. The plan states that the measures involve a shift away from the dependence on demise charter[18] vessels that have characterised the tuna longline fishery since its rejuvenation in 2001. The plan proposes a "Domestic Tuna Fishery Development Facility" - from which grants or loans can be made available.
- The plan includes requirements for consultations with key stakeholders in the pelagic longline fishery at least once in each calendar year, the establishment of a Licensing Committee (after the number of applications reaches 40) to provide transparent advice on the granting of licences, and a review of the conservation and management measures each two years.
- The section on ecosystem considerations covers limits on effort, conservation of target species, protection of non-target species, and marine pollution.
- The conservation and management measures include vessel licensing requirements, licensing criteria, terms of licensing, and conditions of fishing.
- The plan was approved by cabinet in mid-2008. The "Marine Resources (Long Line Fishery) Regulations 2008" was signed by the Queen's Representative on 27 August 2008.

In addition to national management of offshore fishery resources, the Cook Islands is involved with management across the Pacific Island region through membership in the Forum Fisheries Agency. Recently, a Polynesian fisheries subgroup within the FFA, Te Vaka Moana Arrangement, has been formed to strengthen fisheries cooperation in the eastern sub-region.

The Cook Islands is a member of the Western and Central Pacific Fisheries Commission that was established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. The convention entered into force in June 2004.

[18] Ship leasing arrangement in which the use of the entire vessel and all associated expenses pass on from the ship owner to the lessee (charterer).

In February 2010 the Cook Islands signed the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean. The treaty covers the Pacific Ocean south of the equator from West Australia to the West, and to the edge of the Exclusive Economic Zone (EEZ) of Chile and Peru to the East. Its objective is to protect non-tuna species from over-fishing.

Coastal fisheries management

In accordance with the Marine Resource Act 2005, a fishery can be declared a designated fishery if it is important to the national interest and requires management measures for ensuring sustainable use of the fishery resource. Formal management plans have been prepared for such important coastal fisheries, including those for parrotfish on Palmerston and for trochus on Aitutaki.

With respect to trochus, there is general recognition among fishery specialists in the Pacific Islands region that the Aitutaki trochus fishery in the Cook Islands is one of the best, if not the very best, managed of any coastal fishery in the Pacific Islands. In fact, a detailed case study to document the success of that fishery was undertaken by the Secretariat of the Pacific Community in the 1990s. Friedman and Pakoa (2007)[19] provide some details of that management system**:**

> On Aitutaki, trochus are harvested only when there are sufficient numbers on reefs to ensure the quota can be reached sustainably, and harvests are valuable enough to warrant fishing. To ensure that harvesting is sustainable, the quota is set at 30 per cent of the estimated number of trochus in the size range 80−110 millimetres. This ensures that trochus are able to reproduce before they reach harvestable sizes, and very large trochus (with lower quality shell) remain as broodstock. Harvests began in 1981 and typically harvests have occurred once every one to two years.

Traditional pre-contact societies of the Cook Islands had a complex system of marine and land tenure that allowed delineated and enforceable control over the use of land and sea. The customary prohibition known as a ra'ui was one example of such control. The elimination of customary ownership of the lagoon and sea under the Cook Islands Act 1915 took away the right of landowning units to impose enforceable controls, weakening management regimes in these areas, particularly on Rarotonga. Tiraa (2006)[20] discusses a revival of the ra'ui system (box).

The last marine ra'ui decreed by a traditional chief on Rarotonga was in the 1950s The state of Rarotonga's marine environment — in particular the depletion of seafood resources found in the lagoon and on the reef slope — became a matter of considerable concern to the Koutu Nui (formalised group of traditional leaders) in the late 1980s and early 1990s. After a number of public meetings in 1997 relating to the development of a Tourism Master Plan, at which the public expressed concern about Rarotonga's marine resources, the Koutu Nui decided to attempt to reestablish the ra'ui system in some areas of the lagoon and reef slope.

A total of five areas were initially selected in which to implement the ra'ui. A series of consultations with stakeholders in these areas showed that there appeared to be sufficient support to give at least some chance of success and the ra'ui were declared in 1998.

There is no legal basis for the ra'ui. Rather they rely on respect for traditional

[19] Kim Friedman and Kalo Pakoa (2007). Aitutaki and Palmerston Atoll, Cook Islands. Secretariat of the Pacific Community, Noumea.

[20] Tiraa, A. (2006). *Ra'ui* in the Cook Islands – today's context in Rarotonga. Traditional Marine Resource Management and Knowledge Information Bulletin #19, Secretariat of the Pacific Community, Noumea.

authority. Any poaching is assumed to be dealt with by rebuke and community pressure. The main purpose of the ra'ui is to help protect the marine environment, and to contribute towards an increase in marine life for present and future generations.

The ra'ui appeared to meet with obvious success within a comparatively short time of 12 months. Surveys conducted at the beginning of the ra'ui and later by the Ministry of Marine Resources indicated an increase in abundance of marine life. Education and awareness activities were used to promote the ra'ui extensively during its early stages and support for it grew. This resulted in the number of ra'ui increasing to a maximum of 12.

Management measures and institutional arrangements

In the Cook Islands the main institution involved with fishery management is the Ministry of Marine Resources. The role of this agency is covered in more detail in a section below.

3.2.6 Fishermen Communities

The concept of "fishermen communities" has limited applicability to the Cook Islands. Nearly all households, especially those away from Rarotonga, are involved in fishing activities. It could therefore be stated that most villages in the Cook Islands are "fishing communities".

3.3 Inland sub-sector

The lack of large freshwater bodies in the Cook Islands results in the freshwater catches being extremely small. Catches are limited to:

- Eels on Mitiaro
- Six species of freshwater prawns where there are streams
- Tilapia on a few islands

The annual freshwater fishery production in the mid-2000s was estimated to be 5 tonnes, worth USD 36 765.

3.4 Recreational sub-sector

Chapman (2004)[21] gives information on commercial sport fishing vessels in the Cook Islands. Charter sport fishing commenced in Rarotonga in the early 1980s with one operator, expanding to three by the mid-1980s. The number of charter operators remained constant at three on Rarotonga until 1998– 99, when another 6 operators entered the charter fishing sector. On Aitutaki, there have been a constant number of charter operators from the early 1980s to the present, with these operators upgrading their boats from time to time.

3.5 Aquaculture sub-sector

The culture of black pearls is by far the most important aquaculture activity in the Cook Islands. Starting in the 1980s blacklip pearl oysters (Pinctada margaritifera) were cultured and seeded on Manihiki Islands to produce black pearls. By 1988 more than 40 pearl farms had been established there, and were successfully producing both half and whole pearls. In 2000 there were about 100 pearl farms on Manihiki (about 1.5 million adult oysters being cultured) and on Penrhyn about 100 farms (200,000 oysters cultured). There were 32 active farms in the Cook Islands in October 2008.

[21] Chapman, L. (2004). Nearshore Domestic Fisheries Development in Pacific Island Countries and Territories. Secretariat of the Pacific Community, Noumea.

MMR (2008) summarizes recent pearl harvests. In 2005 just above 100,000 pearls were harvested and in 2006 the harvest was about 190,000 pearls. An estimated total of 186,725 pearl pieces were harvested in 2007, weighing around 280 kilograms, with 89 per cent of the harvest from Manihiki and 11 per cent from Rakahanga. The gross value of pearl harvest at the farm gate in 2007 was estimated to be USD 2.2 million.

Apart from pearl culture, aquaculture production in the Cook Islands is relatively small and limited to subsistence and semi-commercial production of tilapia, milkfish and clams. MMR (2008) provides a summary of the production in 2007:

- In 2007 a total of 36,000 tilapia fry were imported by the Ministry of Marine Resources for a trial with a fish farmer in Rarotonga. After eight months of grow-out period, the first harvest yielded an estimated total of around 8,400 tilapia with an average weight of about 160 - 250 grams per fish.
- A total of 3,058 live giant clams were produced by the hatchery in 2007. Around 1,858 live juvenile clams were supplied for export to the aquarium trade, up from 320 juvenile clams in 2006. An additional 1,200 clams were also transferred to Rarotonga for the construction of coral gardens for tourists.
- A small amount of milkfish was harvested in 2007 from a research growth trial on Rarotonga.

The 2007 aquaculture production of the Cook Islands can be summarised as:

Product	Production	Value (USD)
Pearl and pearl shell	186,725 pearls plus shell	2 200 000
Tilapia	1,680 kg	12 265
Giant clam	3,058 clams	7 645
Milkfish	not available	not available

4. POST-HARVEST USE

4.1 Fish utilization

The marketing and processing of the production of the small-scale fisheries in the Cook Islands is not well-developed. Although some of the production from small-scale fishers on Rarotonga, especially the tuna and flyingfish, is sold through commercial channels, the majority of fish are consumed fresh or frozen by fishers and immediate families. Selling fish on the roadside is common, but an increasing amount is sold through trade stores. Very little fish and other seafoods taken in small-scale fisheries are exported.

A number of attempts have been made to provide access to the Rarotonga market for outer island fishers. Fish collection and transportation schemes have been sponsored both by government and by private entrepreneurs, but have met with only very limited success. These projects have generally been constrained by unsuitable or erratic shipping services, and by inadequate catch handling facilities and procedures at the fishing sites. Nevertheless, refrigeration facilities exist on all the outer islands and frozen fish is sporadically sent to Rarotonga as gifts for family

members, or for sale. Palmerston atoll in particular supplies substantial quantities of fish to the Rarotonga market on an opportunistic basis.

The above is applicable to the edible fishery products. Pearl oyster culture and trochus collecting is associated with elaborate marketing arrangements. The black pearls are sold both in Rarotonga and overseas. Trochus shells are sold to factories in Asia and Europe for the manufacture of mother-of-pearl buttons.

There are three types of marketing arrangements for tuna caught in the Cook Islands. The longliners fishing in the north of the country deliver their albacore and other tuna directly (all frozen) to the canneries in Pago Pago, American Samoa, for canning. Most of the production is for the US market. As there is no market for bycatch in Pago Pago, most is discarded at sea. Any tuna caught by seiners (mostly skipjack) in Cook Islands waters is delivered to the canneries in Pago Pago.

The distribution channels for the tuna fishery in the south are more complex. The fresh tuna and other fish to be exported pass through processing facilities on Rarotonga. It is graded, packaged, chilled, and stored for export. The market destinations of longline fish are:[22]

Country	Percentage of Retained Catch
USA	60
Japan	30
Australia	2
New Zealand	1
Local Rarotonga market	7

The catch bound for the USA is mainly the second-grade tuna, swordfish, and dolphinfish. The fish for Japan is the top-grade tuna and swordfish. Species and quality grades not suitable for export market are sold in Rarotonga. Most of them are consumed by the booming tourism industry.

4.2 Fish Markets

On Rarotonga where the cash economy is well-developed there are both roadside sales of fish and sections of supermarkets and trade stores where local fish is sold. Some of the longliners sell tuna and bycatch directly to restaurants and hotels.

In the outer islands where subsistence fishing prevails, there are no formal markets for fish − but informal sales often occur.

5. FISHERY SECTOR PERFORMANCE

5.1 Economic role of fisheries in the national economy

A recent study by the Asian Development Bank attempted to quantify the fishery-related benefits received by the Cook Islands. The study gave the available information on the contribution of fishing/fisheries to GDP, exports, government revenue, and employment. The results can be summarized as:

[22] Source: Marurai, J. (2004). Cook Islands Tuna Fishery Report. 17th Meeting of the Standing Committee on Tuna and Billfish, Majuro Marshall Islands.

- Official estimates show that fishing in 2007 was responsible for 6.3% of the GDP of the Cook Islands. A recalculation using a different methodology shows it was less that one-quarter of that amount.
- Exports of fishery products are about 79.4% of all export in 2007.
- Access fees paid by foreign fishing vessels represent 0.4% of all government revenue.
- The Cook Islands 2001 Census of Population and Dwellings indicated that 7.2% of the employed population indicated were employed in "agriculture and fishing".

From the above it can bee seen that fisheries make a relatively important contribution to GDP and exports.

5.2 Demand

The per capita consumption of fish in the Cook Islands, based on the 2007 FAO Food Balance Sheet, is 57.4 kg. Various other studies have made estimates ranging between 47.0 and 71.0 kg. Considering the Cook Islands population, 60 kg of fish consumption per capita translates into a 2010 demand for 940 tonnes of fish.

Factors influencing the future demand for fish are emigration, remittances from overseas, increase price of fish (over-exploitation of inshore areas, fuel cost increases), relative cost of fish substitutes, changes in dietary preferences, and outbreaks of ciguatera fish poisoning.

5.3 Supply

The government has several strategies to increase the national fish supply. These involve supporting the marketing of fishery products in Rarotonga from other parts of the country, deploying offshore fish aggregation devices, and promoting aquaculture.

Major factors affecting the local supply of fish are over-fishing, transport links to the outer islands, cost of fuel, and the offloading of fish by the offshore fleet.

5.4 Trade

The fishery exports of the Cook Islands in 2006 and 2007 in thousands of USD were:

	2006	2007
Live fish	92	46
Fish fresh, chilled or frozen	692	2 301
Pearls	1 327	1 565
Pearl shells	2	204
Total fishery products	2 113	4 116
Total exports of Cook Islands	3 519	5 185
Percentage fishery product exports of total exports	60.0%	79.4%

Source: Statistics Office (2008); Units USD thousands

5.5 Food security

Fish is an important element of food security in the Cook Islands. The FAO Food Balance Sheets show that in 2007 fish contributed an average of 21.6% of all protein to the diet and 29.3% of animal protein. In rural areas of the country the contributions are much higher.

The outer islands are highly dependent of fish. As an example, Passfield (1997)[23] calculated the annual per capita consumption of fish in Tongareva Island as being 219.0 kg.

Animal protein substitutes for fish consist mainly of various types of imported meat, much of which are extremely fatty and have negative health implications.

5.6 Employment

Good data on employment related to fisheries are not ready available. The Cook Islands 2001 Census of Population and Dwellings has a limited amount of information specifically on fisheries employment. Of the employed population recorded in the census (5,928 people), 427 (7.2%) indicated they were employed in "agriculture and fishing". Of those people, 183 were on Rarotonga (Statistics Office 2003).

A study by the Forum Fisheries Agency[24] tracked the number of Cook Island citizens employed in tuna fishing and processing in the country over a seven-year period:

	2002	2006	2008
Local Jobs on Vessels	50	15	12
Local Jobs in Shore Facilities	15	15	10
Total	**65**	**30**	**22**

From a broad perspective, the number of Cook Islanders working on the longliners is quite small, but a significant number of locals are now employed onshore. As the population of Cook Islanders is now in a decline and individuals can freely and cheaply move to what is perceived by many as greater opportunities in New Zealand, labour (especially skilled workers) is likely to more scarce in the future, resulting in a higher proportion of foreign workers in the fishing industry.

5.7 Rural development

According to the recent annual reports of the Ministry, the government believes that marine resources offer the best opportunity to increase employment and income in the Outer Islands. The Ministry's efforts are focused on:

- Assisting island councils in formulating and implementing fisheries management plans;
- Sponsoring a national network of FADs to enhance food security and income by (a) maintaining FADS on a monthly basis, (b) maintaining FADS on Islands without fisheries offices on a six monthly basis, and (c) completing catch statistics and making catch reports available for the general public;
- Providing support to pearl farming in the northern islands;

[23] Passfield, K. (1997). Valuing Coastal Marine Resources in the Pacific Islands: Case Studies of Verata, Fiji and Tongareva, Cook Islands. Thesis. University of the South Pacific, Suva

[24] Gillett, R. (2008). A Study of Tuna Industry Development Aspirations of FFA Member Countries. Forum Fisheries Agency, Honiara, 70 pages.

- Carrying out resource assessments in support of commercial harvests and ra'ui areas; and,
- Developing new commercial fisheries, such as that for deep-water snappers.

In additional to staff based in relatively developed Rarotonga and Aitutaki, the Ministry of Marine Resources has people on Pukapuka, Manihiki, Aitutaki, Rakahanga, Penrhyn and Mitiaro.

6. FISHERY SECTOR DEVELOPMENT

6.1 Constraints and opportunities

Some of the major constraints of the fisheries sector are:

- Many of the inshore fishery resources, especially those close to the urban markets, are fully or over-exploited.
- Small-scale fishers have difficulty in economically accessing the relatively abundant offshore fishery resources without the use of FADs - which are quite expensive.
- There are considerable difficulties associated with marketing fishery products from the remote areas where abundance is greatest to Rarotonga where the marketing opportunities are greatest.
- The high-cost of Cook Islands labour makes it difficult to compete internationally.
- The port facilities are extremely limited.

The opportunities in the fisheries sector include:

- Expansion of the longline fleet to take advantage of the diversity of fishing conditions provided by the large north/south expanse of the Cook Islands EEZ;
- The availability of swordfish in commercial quantities in the south of the national EEZ;
- Making use of the under-utilized fresh fish processing capacity; and,
- A very efficient government fisheries agency with highly qualified/motivated staff.

A report by the Forum Fisheries Agency[25] summarized the opinions of the public and private sectors on opportunities in the Cook Island domestic tuna industry development as follows:

- The government fisheries agency aspires to raise the tuna longline catch from the present 2,000 to 3,000 tonnes to 6,000 tonnes within 10 years. In addition aspirations included a fully domesticated longline fleet owned by Cook Islands nationals, capability in on-board processing, a high degree of offloading in Rarotonga for subsequent overseas shipment, and access to EU markets.
- A major operator of longline vessels aspires to have a cautious expansion of the longline fleet in the future. He does not envision an expansion of processing capability.

[25] Gillett, R. (2008). A Study of Tuna Industry Development Aspirations of FFA Member Countries. Forum Fisheries Agency, Honiara, 70 pages.

6.2 Government and private sector policies and development strategies

The clearest indications of government strategies (and by inference, policies) in the fisheries sector are in the annual reports of the Ministry of Marine Resources. The 2007/2008 report indicates the following development strategies:

- Offshore Fisheries – Annual reviews of the tuna management plan, formulation of industry development strategies (e.g. establishment of new markets), economic feasibility studies, monitoring/surveillance systems, and development research on swordfish.
- Pearl Industry Support - Assistance to implement the Pearl Industry Development & Recovery Plan, implementation of revised grading standards, lagoon management plans monitored in terms of both farmer compliance and health of oysters, establishment of long term research programs to improve pearl quality, encouraging new farms on Pukapuka/Palmerston, and a training program to develop local seeding technicians
- Aquaculture – Promotion of giant clam farming for commercial aquarium trade, milkfish farming for food or bait, coral gardens for tourism, and private sector initiatives.
- Inshore Fisheries – Implementation of a parrotfish management plan on Palmerston Island, conducting marine resource surveys for commercial species and for resource conservation, implementing monitoring and evaluation systems to assess the nutrient and disease status of the lagoons, producing reports on occurrences of ciguatera poisoning, maintaining a national network of FADs to relieve inshore fishing pressure, and enhancing food security and income.

6.3 Research

The Ministry of Marine Resources undertakes fisheries and aquaculture research in the Cook Islands. According to the Ministry's website, this research has recently involved:

- Lagoon monitoring: This includes environmental monitoring of the pearl culture industry, including water quality, pearl oyster health and growth, pearl farm mapping and census. It also involves baseline surveys and monitoring of the fish, corals and invertebrates of various Islands.
- Ciguatera programme: The Ministry of Marine Resources monitors the lagoon around Rarotonga for outbreaks of ciguatera several times a year and informs the public about areas that should not be fished. There is also research into ciguatera monitoring methodology and progress reports on occurrences of ciguatera poisoning.
- Marine reserves: The Research Section monitors the results of the Rarotonga marine reserves that have been put in place by the community elders.

Conceptually, tuna research in Cook Islands can be thought of as occurring on three levels:

- The collection of data by MMR, mainly through the requirement that all licensed vessels maintain and submit logbooks
- Relatively simple compiling, processing, analyzing, interpreting, and presenting of Cook Islands tuna data by MMR
- More complex sophisticated data analysis by the Oceanic Fisheries Programme (OFP) at SPC. This category is further divided into two sub-components: (a) Analysis of the Cook Islands data for presentation to MMR for national use, and (b) Combining the Cook Islands data with those of other Pacific Island countries to enable regional assessments by the Oceanic Fisheries Programme of the Secretariat of the Pacific Community. An example

of the end product of this process is the overview and status of stocks of tuna in the Pacific Islands region produced annually by OFP staff.

The Ministry of Marine Resources encourages students who are interested in conducting research in the Cook Islands. The Ministry's website gives some details (box).

If you look at the outline of the Ministry of Marine Resources, you can get an idea of what we are involved in. We have several masters and PhD students working in the Cook Islands. One PhD student is conducting research into sea cucumbers, a masters student is looking into coral recruitment, several students have been to Aitutaki to work on clams, both physiological and ecological aspects.

Researchers are welcome and will be provided with technical advice (although limited involvement), and in many situations accommodation and research equipment. The Ministry of Marine Resources are unable to provide funding, it is up to the individual to organize this independently.

6.4 Education

Education related to fisheries in the Cook Islands is undertaken in a variety of institutions:

- Academic training in biological, economic and other aspects of fisheries is given at the University of the South Pacific in Suva, and to a lesser extent at universities in New Zealand, Australia, and the United Kingdom.
- Training courses, workshops and attachments are frequently organized by the regional organizations: the Secretariat of the Pacific Community in New Caledonia and by the Forum Fisheries Agency in the Solomon Islands. The subject matter has included such diverse topics as fish quality grading, stock assessment, seaweed culture, fisheries surveillance, and on-vessel observing.
- Courses and workshop are also given by NGOs and by bilateral donors.

6.5 Foreign aid

New Zealand is by far the largest donor of development assistance to the Cook Islands, the amount being reviewed annually by the New Zealand government. Direct assistance to development of the fisheries sector has flowed from a range of sources, including FAO, UNDP, UNCDF, EU, USAID, JICA, NZODA, AUSAID, ACIAR, FFA, SPC, ICOD and CIDA. Projects have variously been concerned with the provision of shore-based plant and equipment (buildings, ice plant, aquaculture and mariculture research and training centres, fisheries stations), fishing vessel construction, research, fisheries harbours, marketing, training, and fish aggregation devices (FADs). In recent years much fisheries aid has been directed towards supporting the development of the pearl culture industry.

The largest donor project relating to fisheries is the Cook Islands Marine Resources Institutional Strengthening Project (CIMRIS). This New Zealand-funded activity aims to build capacity to achieve sustainable management of marine resources.

7. FISHERY SECTOR INSTITUTIONS

Successive Cook Islands Governments have long considered the marine resources of the Cook Islands a priority for development. This was demonstrated by the formation of a Ministry of Marine Resources (MMR) in 1984. It was the first government ministry in the Pacific Islands region dedicated to the fisheries sector, with most other countries' fisheries coming under the control of the Ministry

responsible for agriculture. The formation of MMR was in part a response to the Law of the Sea Convention 1982, from which the Cook Islands anticipated substantial development opportunities (Passfield 1999).[26]

The MMR is organized into five sections:

- Offshore Fisheries
- Pearl Industry Support
- Aquaculture and Inshore Fisheries
- Policy and Legal Services
- Corporate Services

These sections also correspond to the work programme and Ministry's budget. In the financial year 2007/2008 the Ministry's budget was USD 1 147 036.

The Minister currently responsible for the MMR is the Deputy Prime Minister. The newly-appointed Secretary of Marine Resources (April 2010) served for several years as the aquaculture adviser for the Secretariat of the Pacific Community in Noumea.

MMR has a total of 35 staff, about half of whom are based in at MMR headquarters in Avarua, Rarotonga. Other staff are based on Pukapuka, Manihiki, Aitutaki, Rakahanga, Penrhyn and Mitiaro.

Ministry staff have acquired in the last decade considerable knowledge of tuna development and management, and they have long had considerable expertise in many inshore fisheries, with trochus and pearl oysters being prime examples. The Ministry has provided pearl oyster expertise to other Pacific Island countries and many fisheries specialist feel that Aitutaki trochus fishery is the best-managed fishery in the region.

The Asian Development Bank reviewed the developments in all sectors of the Cook Island economy in the mid-2000s, including that of fisheries[27]. They indicated the main accomplishments of the Ministry of Fisheries in the past decade were its promotion of:

- The expansion of pearl farming on Manihiki and its establishment on Penrhyn and (in a small way) on Rakahanga;
- Reduction in the licensing of distant water fishing vessels, with only 4 Korean longliners licensed in 1999 and none in 2000;
- Ongoing development of a new Marine Resources Act;
- Moves towards rights based fisheries management and localization of the longline fishery; and
- Increasing use of ra'ui – traditional fishing bans over areas of lagoon and reef, as a measure to improve habitat and conserve fish.

Some of the important internet links related to fisheries in the Cook Islands are:

[26] Passfield, K. (1999). Review of Living Marine Resources and Related Issues in the Cook Islands. Worldwide Fund for Nature.
[27] ADB (2003). Cook Islands Economic report. Office of Pacific Operations, Asian Development Bank, Manila.

www.spc.int/coastfish/countries/cookislands/MMR/mmr.htm The site contains a basic outline of the Ministry of Marine Resources and information on the marine resources of the Cook Islands:

- The marine environment and fisheries resources
- Common fishing methods
- Marine ecosystem and fisheries management
- Marine based careers
- A brief overview of the marine environment for each of individual island
- The future of Cook Islands marine resources
- Subjects and marine species of particular interest
- Research and business opportunities

www.spc.int/coastfish/countries/cookislands/cooks.htm The site contains information on Cook Islands fisheries, links to other sites concerning Cook Islands, and some SPC reports on fisheries in the Cook Islands

nla.gov.au/nla.cat-vn193778 The site contains the Cook Island Fisheries Bibliography

8. GENERAL LEGAL FRAMEWORK

The main fisheries law of the Cook Islands is the Marine Resources Act 2005. This is a 56-page document containing ten parts:

Part 1: fisheries conservation, management and development
Part 2: fishing and related activities
Part 3: conservation measures
Part 4: licensing
Part 5: monitoring, control and surveillance
Part 6: jurisdiction and evidence
Part 7: sale, release and forfeiture of retained property
Part 8: miscellaneous
Part 9: regulations
Part 10: general

Some of the important and distinguishing features of the Act include the following provisions:

Authority: The Ministry of Marine Resources has the principal function of, and authority for the conservation, management, development of the living and non-living resources.

Designated fisheries and management plans: The Executive Council can declare a fishery as a designated fishery where, having regard to scientific, social, economic, environmental and other relevant considerations, it is determined that such fishery: (a) is important to the national interest; and (b) requires management measures for ensuring sustainable use of the fishery resource. A fishery plan for the management of each designated fishery in the fishery waters is to be prepared by the Secretary, and kept under review. (3) Each fishery plan shall:

- identify the fishery;
- describe the status of the fishery;
- specify management measures to be applied to the fishery;
- specify the process for the allocation of any fishing rights provided for in the fishery plan;

- make provision in relation to any other matter necessary for sustainable use of fishery resources.

The management measures in such plans have the full force and effect of regulations promulgated under the Act.

Aquaculture Management Areas: The Executive Council can designate an area as an aquaculture management area where, having regard to scientific, social, economic, environmental and other relevant considerations, it is determined that aquaculture activities in the area - (a) are important to the national interest; and (b) require management measures for ensuring sustainability. The Secretary, or where appropriate, a local authority, shall prepare an aquaculture management plan for such aquaculture management area. Each aquaculture management plan shall:

- identify the area to which the plan shall apply
- describe the status of aquaculture activities in the area;
- specify management measures to be applied to ensure sustainable aquaculture in the area;
- specify the process for allocating and authorising participation in aquaculture activity in the area; and
- make provision in relation to any other matter necessary for sustainable aquaculture.

Conservation, management and development of fisheries of local interest by Local authorities: A local authority may take measures for the conservation, management and development of any fishery of local interest or aquaculture within its area of authority in accordance with the principles and provisions of the Act including preparation of (a) a fishery plan in cooperation with the Ministry; and (b) where no fishery plan exists, by-laws for promulgation by the Queen's Representative.

Fishing rights: - Any fishery plan may provide for the allocation by the Secretary of fishing rights within the following class of rights:

- A right to take a particular quantity of fish, or to take a particular quantity of fish of a particular species or type, or a proportion of fishing capacity, from, or from a particular area in, a designated fishery;
- A right to engage in fishing in a designated fishery at a particular time or times, on a particular number of days, during a particular number of weeks or months, or in accordance with any combination of the above, during a particular period or periods;
- A right to use a boat or particular type of vessel, or a particular size of vessel, or a boat having a particular engine power, in a designated fishery;
- A right to use a particular fishing method or equipment in a designated fishery;
- any other right in respect of fishing in a designated fishery

One of the first regulations made under the Act were the "Marine Resources (Long Line Fishery) Regulations 2008". This was signed by the Queen's Representative on 27 August 2008. It contained the "Longline Fishery Plan 2008" made up of 12 pages of text in 6 parts: preliminary information, consultative process, licensing committee, ecosystem considerations, conservation and management measures, and miscellaneous.

Other legislation relevant to fisheries includes:

- Continental Shelf Act (NZ) 1964
- Continental Shelf (Amendment) Act 1977

- Territorial Sea and Exclusive Economic Zone Act 1977
- Marine Farming Act 1971
- Fisheries Protection Act 1976
- Ministry of Agriculture and Fisheries Act 1978
- Ministry of Marine Resources Act 1984
- Outer Islands Local Government Act 1987
- EEZ (Foreign Fishing Craft) Regulations 1979
- Aitutaki Fisheries Protection By-Laws 1990
- Manihiki Pearl and Pearl Shell By-Laws 1991
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