Ministry of Fisheries
Te Tautiaki i nga tini a Tangaroa

Appendix A: Supporting information (Highly Migratory Species)

New Zealand Government

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SUPPORTING INFORMATION (HIGHLY MIGRATORY SPECIES)

Scope of this information brief

1 This information brief provides information on fisheries for highly migratory species, under the following headings:

- **Ecosystem information**: information on the biology of highly migratory species, and the ecosystems in which they are found;
- **Use and value information**: how these fisheries are used and the values achieved from them; and
- **Management information**: how these fisheries are managed, including research and other services currently provided.

2 These topics are aligned to the outcomes Government wishes to achieve for fisheries:

- The health of the aquatic environment is protected;
- People are able to realise the best value from the sustainable and efficient use of fisheries;
- Credible fisheries management

3 This document contains supporting information for fisheries plans for the following highly migratory species:

- Large pelagic species (including large tunas, billfish, and pelagic sharks);
- Skipjack tuna; and
- Albacore tuna

4 Highly migratory species are specifically defined in Annex 1 of the United Nations Convention on the Law of the Sea of 10 December 1982 (the Convention) (see annex 1a). To enable New Zealand to meet its obligations under the Convention and its associated agreements[1] to ensure the conservation and optimum utilisation of such species, HMS are further specified in Schedule 4B of the Fisheries Act 1996 (the Act) (see annex 1b). The HMS fisheries plan deals with these species as set out in Table 1.

5 Table 1 summarises the HMS species covered by this plan, and the chapter in which they are covered. Information that is common across the HMS fisheries is covered in this document. Additional fishery-specific information is contained in additional appendices.

[1] In particular the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.

Table 1: Fisheries covered by the HMS plan*

Fishery	Common Name	Species code	Scientific Name	Chapter	Level of non commercial interest
COMMERCIAL TARGET	Southern bluefin tuna	STN	*Thunnus maccoyii*	1	√√
	Bigeye tuna	BIG	*Thunnus obesus*	1	√
	Pacific bluefin tuna	TOR	*Thunnus orientalis*	1	√√
	Yellowfin tuna	YFN	*Thunnus albacares*	1	√√
	Swordfish	SWO	*Xiphias gladius*	1	√√
	Albacore	ALB	*Thunnus alalunga*	1	√√
	Skipjack	SKJ	*Katsuwonus pelamis*	2	√
	Albacore	ALB	*Thunnus alalunga*	3	√√
COMMERCIAL BYCATCH	Moonfish*	MOO	*Lampris guttatus*	1	-
	Mako shark	MAK	*Isurus oxyrinchus*	1	√√
	Porbeagle shark	POS	*Lamna nasus*	1	√
	Blue shark	BWS	*Prionace glauca*	1	√√
	Ray's Bream	RBM	*Brama brama*	1[2]	-
OTHER	Striped marlin	STM	*Tetrapturus audax*	1	√√
	Blue marlin	BEM	*Makaira indica*	1	√√
	Black marlin	BKM	*Makaira nigricans*	1	√√
	Shortbilled spearfish	SSF	*Tetrapturus angustirostris*	1	√

√√ recreational target species √ recreational bycatch species (see Table 4)
* Refer to annex 1 for a full list of HMS. While the main focus of the HMS plan will be the species listed above, management of other HMS will be considered as required.

International context and influences on New Zealand HMS fisheries

6 International law attributes sovereign rights (but not 'sovereignty') to coastal states over marine living resources within their exclusive economic zones (EEZs). These rights include the right to manage, explore and exploit those resources to the exclusion of other states.[3] However, a coastal state does not have complete freedom to do as it chooses with respect to those marine resources. A wide range of obligations seek to safeguard the interests of the international community. Depending on the type of species, coastal states must provide for optimum utilisation of stocks within their jurisdiction, and must cooperate with other states in the management of trans-boundary and highly migratory fish stocks.[4]

7 The right to fish both on the high seas and within EEZs for highly migratory and trans-boundary fish stocks is increasingly subject to obligations in respect of utilisation of those stocks, and cooperation with other countries in the management of those stocks

[2] Ray's Bream are predominantly taken in midwater trawls, but are also an important bycatch in the tuna surface longline fishery. As an HMS, they will be considered in this fisheries plan.
[3] United Nation Convention on the Law of the Sea 1982. Articles 61, 62.
[4] United Nation Convention on the Law of the Sea 1982 Articles 61 to 64. Agreement for the implementation of the provisions of the United Nation Convention on the Law of the Sea of 10 December 1982 relating to the conservation and management of straddling fish stocks and highly migratory fish stocks. Article 8.

throughout their range. Regional fisheries management organisations (RFMOs) are the primary vehicle for cooperation between interested countries in the management of HMS.

8 While the majority of RFMOs were established prior to its finalisation, the 1995 United Nations Fish Stocks Agreement outlines the respective roles of coastal states and flag states in the management of highly migratory fish stocks, and sets out the framework for cooperation and management within RFMOs.

9 Two RFMOs are of direct relevance to the management of NZ fisheries for HMS:

i. The Commission for the Conservation of Southern Bluefin Tuna (CCSBT)

ii. The Western and Central Pacific Fisheries Commission (WCPFC)

10 The establishment of CCSBT in 1994 formalised a previously voluntary arrangement that had existed since 1986, following concerns about the status of southern bluefin tuna stocks in the 1980s. The mandate of the Commission is to ensure, through appropriate management, the conservation and optimum utilisation of southern bluefin tuna. New Zealand is a foundation member of the CCSBT, and a signatory to the convention. The CCSBT does not encompass any specific convention area, but measures apply throughout the range where southern bluefin tuna is caught.

11 Management of all other HMS species throughout the WCPO is the responsibility of the Western and Central Pacific Fisheries Commission. WCPFC is one of the few RFMOs to have been established following the finalisation of the United Nations Fish Stocks Agreement. The WCPFC Convention was finalised in 2000 and the Commission established in 2004. The WCFPFC convention area is shown below.

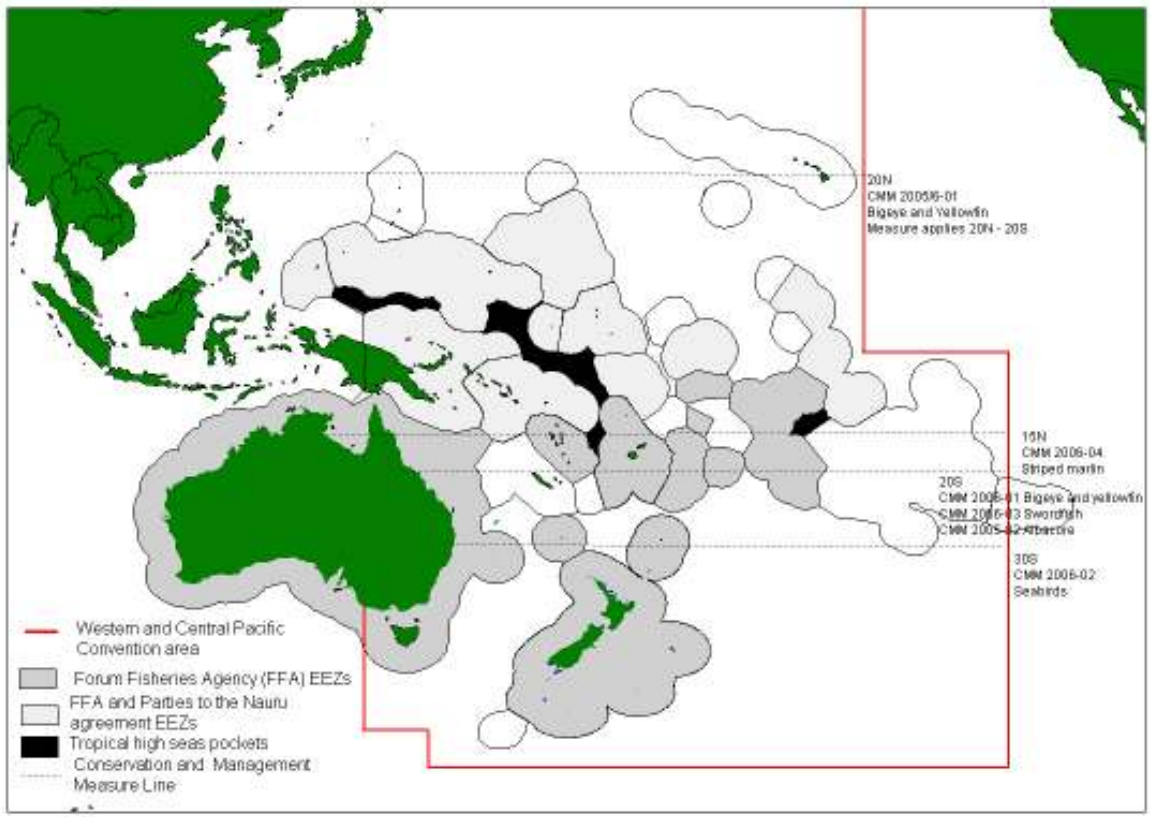


Figure 1: Western and Central Pacific Fisheries Convention Area

12 The management interface for New Zealand with respect to these RFMOs is both reactive and proactive in nature. As a member of these conventions, New Zealand is responsible for ensuring management measures applied within New Zealand fisheries waters are compatible with those of the two RFMOs, and fishing by New Zealand flagged vessels both within and beyond the New Zealand EEZ is carried out in accordance with any measures put in place by the relevant RFMO. From a proactive point of view, as an active participant in both organisations New Zealand is able to have its say and influence the manner in which HMS are managed by both RFMOs.

13 In addition, where New Zealand takes proactive measures to manage HMS within the New Zealand EEZ that are consistent with broader international obligations, there is arguably an onus on the RFMO to ensure any specific measures it applies are compatible with those national measures. For example, in choosing to manage our domestic fisheries for a number of HMS within the QMS, New Zealand would have a strong justification for resisting any measures within WCPFC that might negatively impact on the operation of the QMS within the New Zealand EEZ – at least to the extent that we can demonstrate the ability to achieve the management objectives sought by the RFMO.

ECOSYSTEM INFORMATION

14 HMS covered by this plan live in tropical and temperate waters throughout the Pacific Ocean. They are capable of long migrations that reflect complex relationships to oceanic environmental conditions. These relationships are different for larval, juvenile and adult stages of life. The larvae and juveniles of HMS tuna species are more abundant in tropical waters, whereas the adults are more widely distributed.

15 Variations in the distribution and abundance of these species are related to differences between their life history profiles, migration patterns and habits, which are affected by ever-changing environmental influences, such as water temperatures, current patterns and the availability of food. In general, there is a seasonal movement of tunas and related species as far south as New Zealand waters in the warmer seasons and a return north to equatorial waters in the colder seasons.

Harvest strategies

16 A variety of information is used to help determine the appropriate level at which fisheries can be harvested. For HMS, the international context to these discussions is particularly important. Relevant information includes:

- Current status of the stock;
- Productivity of the stock; and
- The quality of information and research available

Productivity

17 The productivity of different fish species is an important characteristic for helping to determine the appropriate harvest strategy. Numerous factors influence productivity, including:

- the natural mortality rate (what portion of the population dies through natural causes such as old age or predation in a given year). The higher the natural mortality rate of a stock, the more its biomass may fluctuate from year to year.
- how many young the species produces (this can vary from only a few, live young in shark species, to millions of eggs in many other species);
- how frequently the species reproduces (annually, or more or less frequently than that);
- the age at maturity;
- growth rate; and
- how long the species lives.

18 Natural mortality can be a good proxy for indicating how vulnerable a species will be to fishing. In general, species with high natural mortality are less vulnerable to fishing. Such species are often short-lived, and even in the absence of fishing there is high population turn-over from year to year. Longer-lived species tend to have more stable populations, but tend to be more vulnerable to overfishing.

19 Tuna species tend to have relatively high productivity. Some of the HMS bycatch species including pelagic sharks are less productive, and have life history characteristics that make them more vulnerable to overfishing.

Information status and research

20 Stock assessments for the major western and central Pacific Ocean tuna species are undertaken by the Oceanic Fisheries Program of the Secretariat of the Pacific Community (SPC). The Scientific Committee of the WCPFC now reviews assessment of tuna species (except southern bluefin). CCSBT assesses stock status for southern bluefin tuna.

21 In New Zealand, research activities to date have largely been to determine catch and effort statistics for target tuna species, and develop standardised catch rate indices. The information, analyses, and reports New Zealand provides form an important technical input for maintaining New Zealand access to the international tuna fisheries. New Zealand is at the extreme southern range for most of these species, so changes in fisheries in New Zealand fisheries waters may be important indicators for overall stock status.

22 The distribution and abundance of these species within New Zealand fisheries waters is inferred from information from the fishery. Most research currently focuses on obtaining basic biological information (e.g. growth and natural mortality), catch information, non-target catch information, and time series of abundance indices for most species. This information is needed in order to estimate biomass and sustainable yield, and assess the effects of fishing on non-target species.

Further information:

- New Zealand Pelagic Fisheries. Medium Term Research Plan 2007/08 to 2009/10. August 2006. Prepared by the Ministry of Fisheries Science Group, the Pelagic Fisheries Managers & the Pelagic Fisheries Research Planning Group

Biodiversity

Legislative framework

23 The New Zealand Government has obligations under the Fisheries Act 1996 to avoid, remedy or mitigate any adverse effects of fishing on the aquatic environment. Sections 8, 9, and 11 of the Fisheries Act apply to most aquatic environment issues, along with some additional legislation or specific clauses relevant to particular topics (Table 2). For instance, the Marine Mammals Protection Act 1978 and the Wildlife Act 1953 apply to protected species. New Zealand is also signatory to a number of international agreements that create additional requirements for monitoring of the effects of fishing on the aquatic environment and on associated or dependent species (Table 3).

National policy framework

24 Various policy statements guide government and resource management decision making, including New Zealand's Biodiversity Strategy, the Ministry's annual Statements of Intent (SOI), and the Strategy for Managing the Environmental Effects of Fishing (SMEEF). Other policy statements have a more specific focus, for example the National Plans of Action (NPOA) for seabirds and sharks, and the Marine Protected Area Policy Statement and Implementation Plan (MPA Policy).

Table 2: Sections of the Fisheries Act 1996 that relate specifically to managing the effects of fishing on the aquatic environment.

Fisheries Act 1996
s8 Purpose – (1) The purpose of this Act is to provide for the utilisation of fisheries resources while ensuring sustainability, where (2) "Ensuring sustainability" means – (a) Maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations: and (b) Avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment: "Utilisation" means conserving, using, enhancing, and developing fisheries resources to enable people to provide for their social, economic, and cultural well-being. **s9 Environmental Principles.** - associated or dependent species should be maintained above a level that ensures their long-term viability; - biological diversity of the aquatic environment should be maintained: - habitat of particular significance for fisheries management should be protected. **s11 Sustainability Measures.** The Minister may take into account, in setting any sustainability measure, (a) any effects of fishing on any stock and the aquatic environment; **s15 Fishing-related mortality of marine mammals or other wildlife**. A range of management considerations are set out in the Fisheries Act 1996, which empower the Minister to take measures to avoid, remedy or mitigate the adverse effects of fishing on associated and dependent species. These include setting of catch limits or the prohibition of fishing methods or all fishing in an area, to ensure that such catch limits are not exceeded.

Table 3: International agreements and regional agreements to which New Zealand is a signatory that influence the Ministry of Fisheries' management of the effects of fishing on the aquatic environment.

International Instruments	Regional Fisheries Agreements
Convention on the Conservation of Migratory Species of Wild Animals (CMS). Aims to conserve terrestrial, marine and avian migratory species throughout their range.	**Convention for the Conservation of Southern Bluefin Tuna (CCSBT)** Aims to ensure, through appropriate management, the conservation and optimum utilisation of the global Southern Bluefin Tuna fishery. The Convention provides for exchange of data on ecologically related species to aid in the conservation of these species when fishing for southern bluefin tuna.
Agreement on the Conservation of Albatrosses and Petrels (ACAP). Aims to introduce conservation measures to reduce the threat of extinction to the Albatross and Petrel species.	
Convention on Biological Diversity Provides for conservation of biological diversity and sustainable use of components. States accorded the right to exploit resources pursuant to environmental policies.	**Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR).** Aims to conserve, including rational use of Antarctic marine living resources. This includes supporting research to understand the effects of CCAMLR fishing on associated and dependent species, and monitoring levels of incidental take of these species on New Zealand vessels fishing in CCAMLR waters.
United Nations Convention on the Law of the Sea (UNCLOS) Acknowledges the right to explore and exploit, conserve and manage natural resources in the State's EEZ, with regard to the protection and preservation of the marine environment including associated and dependent species, pursuant to the State's environmental policies.	**Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC).** The objective is to ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in accordance with UNCLOS.
Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES). Aims to ensure international trade in wild animals and plants does not threaten their survival.	**Environmental Performance Indicators EPI (MfE)** Purpose is to "develop and use indicators to measure and report how well we are looking after our environment". Seamount communities have been identified within the EPI project as key habitats for which extent and condition should be measured as indicators.
United Nations Fishstocks Agreements. Aims to lay down a comprehensive regime for the conservation and management of straddling and highly migratory fish stocks.	
Wellington Convention Aims to prohibit drift net fishing activity in the convention area.	
Food and Agriculture Organisation – International Plan of Action for Seabirds (FAO-IPOA Seabirds) Voluntary framework for reducing the incidental catch of seabirds in longline fisheries.	
Food and Agriculture Organisation – International Plan of Action for Sharks (FAO –IPOA Sharks) Voluntary framework for the conservation and management of sharks.	
Noumea Convention. Promotes protection and management of natural resources. Parties to regulate or prohibit activity likely to have adverse effects on species, ecosystems and biological processes.	
Food and Agriculture Organisation - Code of Conduct for Responsible Fisheries Provides principles and standards applicable to the conservation, management and development of all fisheries, to be interpreted and applied to conform to the rights, jurisdiction and duties of Sates contained in UNCLOS.	

Habitats of particular significance to fisheries management

25 One of the environmental principles for those exercising powers under the Fisheries Act is that habitat of particular significance for fisheries management should be protected. Such habitats may include spawning or nursery grounds, which form an essential feature of the life history of the stock.

26 Habitats of significance for fisheries have not been specifically defined within the existing New Zealand statutes. An equivalent piece of international legislation defines essential fisheries habitats as: "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity."[5] The definition has been further interpreted as follows: "Waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle."[6]

27 Habitats of significance can also be thought of as including habitats which are or may be affected by fisheries activity e.g. in relation to non target species biodiversity, rarity and/or species composition. There are therefore overlaps between the relevant sections of this plan addressing biodiversity, benthic impacts, and trophic considerations.

28 For HMS in this plan, it is generally considered that habitats of particular significance to fisheries management do not occur within New Zealand fisheries waters, but within parts of the equatorial Pacific. It is in those areas where spawning generally occurs for HMS.

USE AND VALUES INFORMATION

Commercial

29 Since 2002, skipjack, nearly all taken by purse seine, has comprised the greatest part of New Zealand's catch of all tuna species, both inside and outside New Zealand fisheries waters. Outside New Zealand fisheries waters, yellowfin makes up most of the balance. Inside New Zealand fisheries waters, albacore is the second most important component of the tuna catch. Albacore is taken mostly by troll gear, but also by longline. Troll gear also takes small amounts of skipjack, with occasional catches of other HMS.

30 While skipjack and albacore make up the bulk of catches by volume, other species including Pacific and southern bluefin tuna have a much higher value per kilo, and contribute substantially to the value of HMS fisheries despite lower catch volumes.

[5] The American statute (16 U.S.C. sec. 1802 (10)) on essential fisheries habitats (EFH). 16 USC Chapter 38 – Fishery conservation and management – subchapter 1 – general definitions 1802, US government printing office, Pittsburgh. (also available from: http://uscode.house.gov/download/pls/16C38.txt).
[6] EFH guidelines (50 CFR 600.10). [3] Magnuson-Stevens Act Provisions: Essential Fish Habitat (EFH) (2002) in Federal Register, 67(12): 2343-2383, US Government bookstore, Washington (also available from: http://www.fakr.noaa.gov/frules/EFHFR.PDF).

31 The main large pelagic targets are bigeye and southern bluefin tunas, which are largely caught in longline fisheries. The greatest part of the catch in pelagic longline fisheries consists of albacore and swordfish. Pacific bluefin and yellowfin tunas are taken in small numbers in longline sets. Landings of species caught by longline and troll have declined since 2002, consistent with the decline in number of vessels operating in these fisheries.

32 The main large pelagic target stocks, and those caught as bycatch in those fisheries, have been managed under the quota management system (QMS) since October 2004. Two significant tuna fisheries – albacore and skipjack tuna – are still managed as open access fisheries, outside of the QMS.

33 In setting or varying any total allowable commercial catch (TACC), the Minister of Fisheries shall have regard to the TAC for that stock and shall allow for:

- Maori customary non-commercial fishing interests;
- recreational interests; and
- all other mortality to the stock caused by fishing.

34 Where they have been set, allowances for these stocks were based on historical use of the fishery (e.g. commercial landings data, estimates of recreational take from national diary surveys).

35 Only southern bluefin tuna has national catch allocations set by an RFMO. The New Zealand allocation is in turn allocated as individual transferable quotas which apply to the catch of southern bluefin by New Zealand nationals throughout the range of the stock (including both within and outside of New Zealand's zone).

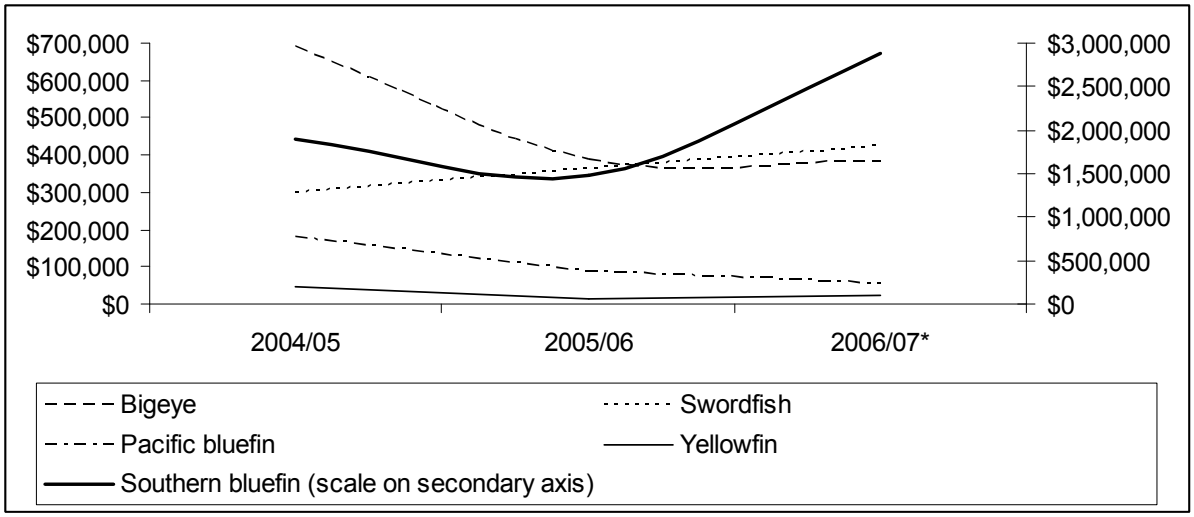
36 Conservation and management measures established by WCPFC place various effort controls on fishing for other HMS stocks in the Pacific.

Commercial value indicators

37 The QMS allocates property rights to fishers through Individual Transferable Quotas (ITQ), which provide an asset in perpetuity in terms of a right to a portion of an overall catch limit. Quota owners are allocated 'annual catch entitlements' (ACE) that give them the right to harvest a portion of the TACC. Quota owners may either fish their entitlement themselves, or sell that harvesting right. The potential annual return (based on TACC and 2007 ACE price) and the trend of actual annual returns (based on reported catch and average ACE price for the relevant fishing year) for important HMS species between 2004-07 are provided below.

Species	Average ACE ($ / tonne) 2007*	TACC (tonnes)	Potential annual return
Southern bluefin	$7,621	413	$3,147,473
Bigeye	$2,450	714	$1,749,300
Swordfish	$1,058	885	$935,888
Pacific bluefin	$4,385	116	$508,706
Yellowfin	$1,218	263	$320,387

* Based on average ACE price as at August 2007



38 Southern bluefin tuna has the best potential for annual return, followed in descending order by bigeye, swordfish, Pacific bluefin and yellowfin. Actual annual return for the fishing years between 2004-07 shows a variable but increasing trend for southern bluefin, an increasing trend for swordfish, and decreases since 2004/05 for bigeye, Pacific bluefin and yellowfin.

39 Additional commercial information is contained in the relevant chapters of the plan.

Recreational

40 Significant gamefisheries target various HMS stocks. The main HMS target and bycatch species are listed in table 4. The main gamefish season runs from late December to April and focuses, in the North Island, on striped marlin, yellowfin tuna and mako shark. Fishing for broadbill (swordfish) can extend the gamefish season beyond the warmest months.

41 Some gamefish species are not commonly caught using gamefish methods in New Zealand. While these fish may be highly regarded they are not specifically targeted and can be considered as recognised bycatch when targeting main gamefish species.

42 A number of areas in New Zealand have an international reputation for world class fisheries. Probably the longest established is the Bay of Islands area, for striped marlin. More recently, vessels have increased their fishing range. The King Bank and Middlesex Bank north of the Three Kings Islands have drawn fishers from around the country and the world targeting striped marlin and swordfish. Marlin, tuna and sharks are highly mobile and their abundance in specific areas changes from year to year. Gamefishers are also mobile, and tend to congregate in areas where there has been recent fishing success.

43 The increased strength and reliability of trailer boats and improved electronics (communication, sounders and GPS) has led to an increase in the number of people involved in deep sea fishing over the last 20 years.

Table 4: The main New Zealand HMS gamefish species and recognised bycatch species

MAIN SPECIES		RECOGNISED BYCATCH	
Billfish			
Striped marlin	*Tetrapturus audax*	Shortbilled spearfish	*Tetrapturus angustirostris*
Blue marlin	*Makaira nigricans*		
Black marlin	*Makaira indica*		
Swordfish	*Xiphias gladius*		
Tuna			
Yellowfin	*Thunnus albacares*	Bigeye tuna	*Thunnus obesus*
Albacore	*Thunnus alalunga*	Skipjack	*Katsuwonus pelamis*
Pacific bluefin	*Thunnus orientalis*		
Southern bluefin tuna	*Thunnus maccoyii*		
Sharks			
Mako	*Isurus oxyrinchus*	Thresher (spp)	*Alopias* spp
Blue shark	*Prionace glauca*	Porbeagle	*Lamna nasus*
Hammerhead	(*Sphyrna zygaena*)	Tiger shark	*Galeocerdo cuvier*
Bronze whaler	*Carcharhinus brachyurus*		

Methods and fishing patterns

44 The main methods used for gamefishing include trolling lures or baits, and/or drifting live or dead baits. The fishing line used is classified by breaking strain (e.g. 15, 24, 37 kg). Gamefish are not caught while the boat is at anchor. High capacity reels and rods that can be used in a game chair, or fast tapered stand up rods that may be used with a gimble belt, are used.

45 Improved technology is generally considered to have increased the ability of fishers to find fish, and have increased the range and capacity of the recreational charter fleet. Relevant factors include increased reliability of engines, coverage of radio telephones, weather forecasting, and the development of such equipment as GPS and colour sounders. Improvements have also occurred in fishing vessel design. Knowledge of gamefish species distribution and how to catch gamefish in New Zealand has also improved. This knowledge has led to identification of new fishing areas and techniques (e.g. fishing for broadbill).

46 Tag and release is common within the recreational gamefishery, for reasons which include:

- Perceptions the gamefish resource is declining, so releasing the fish allows them to be available for others to catch, as well as allowing them to spawn again.
- Since the introduction of the Billfish Moratorium in the 1980s it has been illegal for commercial fishers to land marlin caught in New Zealand's EEZ or Territorial Sea. In introducing the moratorium, the Minister of Fisheries asked the recreational sector to set a target of tag and releasing 50% of the marlin caught. There has been strong peer pressure amongst recreational fishers to achieve or better the target.
- Tag and release provides one of the few databases of gamefish catches, and therefore releasing tagged fish is seen as a conservation and management measure.
- Gamefish are usually prepared for eating by smoking. Given that gamefish are large,

one fish will provide a lot of food. Fishers will often land their first gamefish, or the first fish of the season, then release others. On trips lasting several days, fish caught early in the trip would spoil and become inedible before the vessel returns to port.

47 The Gamefish Tagging Programme is a cooperative programme started by the Ministry of Agriculture and Fisheries in 1975. New Zealand Big Game Fishing Council and anglers buy tags to tag fish. On tagging the fish, the angler or skipper completes a tag return that gives information on the species, size of the fish, the location and date of release. This information is recorded in a Ministry of Fisheries database.

48 More recently, a number of electronic tags have been attached to gamefish. These projects have been funded by NZBGFC, gamefish clubs, and charitable trusts. The tags have provided detailed information on the temperature and depth preferences of striped marlin. Estimates of location can be made every few days.

49 Competitions and fishing tournaments are an important aspect of gamefishing, as well as contributing to the financial viability of many clubs.

Recreational catches

50 Gamefish clubs in New Zealand keep good records of the fish that cross their weigh station or are tagged and released. These club records provide a useful starting point for describing the quantum and trends in the catch of gamefish species, although not all fish are covered by these records. Club and IGFA rules determine which fish qualify for inclusion in the records. These include minimum weights or lengths, and gear and handling restrictions. The total catch of smaller tuna, kingfish and sharks are probably under- represented in club records. Almost all billfish are recorded.

51 The annual tallies of clubs affiliated to the New Zealand Big Game Fishing Council (NZBGFC) are listed by species and club in the Council's yearbook. Fish landed are separated from fish tagged and released.

Recreational value indicators

Values associated with gamefishing

52 A recent characterisation of New Zealand gamefisheries identified differences between gamefishing and other types of non-commercial fishing. These factors also contribute to an understanding of the value of gamefisheries to recreational fishers:

1. The technical nature of the sport
Gamefishing often involves more sophisticated techniques than other types of fishing.

"With snapper fishing you steam to the spot, drop the anchor, put down a line and wait. With gamefishing you are constantly on the move and constantly watching the sounder, the GPS, looking at the horizon and the water behind the boat and the water colour and conditions, if you say it is boring then you are doing the wrong things."

2. The challenge of catching gamefish
The likelihood of catching a gamefish is much less than for other fisheries and therefore there is a greater level of planning, skill, and organisation required. Gamefishers at a number of meetings talked about the 'adrenaline rush' that occurs in the fisher when the gamefish

strikes.

"It's an unknown factor, when you go snapper fishing you can be reasonably sure you will catch something – that is not so with marlin fishing. Gamefishing is a skill; it takes time to become a good fisherman – that's part of its uniqueness."

"The challenge of landing a gamefish requires much more gear, planning, organization and luck than for say catching snapper. It is a life long learning experience."

3. Aesthetic/visual enjoyment of the experience

Fishers often described their interest in gamefishing using visual images such as seeing gamefish 'jumping and tailing on the water', looking for 'tails' on the surface, seeing marlin 'light up', describing the opportunity to observe birds, fish and mammals at sea as one of the highlights of fishing.

4. The camaraderie of the experience

Gamefishing is a team activity requiring the people on board the vessel to undertake a number of roles separate from the angler who is landing the fish. A number of fishers talked about the importance of choosing the right crew, particularly for fishing tournaments. There is also support and information flow between vessels.

5. Tag and release methods

Although line fishing (such as snapper or blue cod) is focused on taking the catch for food, gamefishers have a strong ethic of releasing fish.

53 In addition, international recognition of the quality of gamefishing in New Zealand appears to be something that New Zealand fishers value. New Zealand is seen to have world class fisheries for some high profile gamefish species, notably striped marlin. Fish caught in New Zealand hold International Game Fishing Association world records for broadbill swordfish, shortbill spearfish, thresher shark, blue shark, and southern bluefin tuna.

Further information:

Characterisation of the New Zealand Recreational Gamefish Fishery

Final Research Report. REC2004/02. J. Holdsworth K. Walshe, T. Sippel. 2005.

Economic value of the recreational fishery

54 The recent characterisation of gamefishing also noted some recreational gamefishers identified a need for better information on the economic value of the recreational fishery. The relative values of the recreational and commercial sectors were of interest to recreational gamefishers.

55 A 2001 study of the recreational billfishery indicated it generated significant economic benefits for New Zealand, both regionally and nationally. Total expenditure by bilfishers in 2000-01 was $65 million, of which $13 million was by overseas fishers. The billfish fishery has its greatest economic impact in Northland and the Bay of Plenty. Expenditure by billfishers in Northland was calculated to be $34 million, and in the Bay of Plenty $27 million. Total expenditure was $3 million in the billfishery in other regions.

56 The additional economic activity generated by the billfishery is also significant. Taking into account indirect production effects and induced consumption effects, the economic contribution of the billfishery was estimated to generate $17 million in gross output, 151 full time equivalent jobs, and a further $8.4 million in value added.

Further information:

Boyd, R.; Holdsworth, J.; Saul, P. (2002). The economic contribution of the New Zealand recreational billfish fishery in 2000–2001. Unpublished report held by NZ Marine Research Foundation. 57 p.

Customary

57 There is limited information on traditional customary use of HMS stocks, but submissions to the Waitangi Tribunal on the Muriwhenua claim indicate that fishing parties would sometimes travel great distances off-shore, and that at least some HMS stocks were traditional target species. A description of the pre-Treaty fishing area of Muriwhenua tribes notes: "Throughout the balance of the continental shelf, to about 12 miles from the shore, fishing was intensive and regular but mainly seasonal. Expeditions coincided with the offshore migrations of such species as hapuku, bass and snapper. Also fished were species more typical of off-shore areas such as tuna, pelagic sharks, tarakihi, piper, mackerel and squid." (pg 188).

58 The principal claimant, Hon M. Rata, advised that Muriwhenua fishermen freely pursued fish up to and beyond 25 miles from shore. In particular, he recalled accounts of tuna and whales being pursued along the coast from Rangaunu, without restriction as to the distance from shore the boats might travel. Another submitter referred to navigation beyond the sight of land using the seagull and penguin as guides.

59 Early visitors to New Zealand noted the excellent quality and construction of Maori nets, lines, hooks and lures. The nets and lines were made of flax which one commentator, Savage, noted were of great strength and durability. He described their quality as being ". . . so excellent that it is desirable to obtain some of them for the purpose of taking bonitas (marine tuna), albacore (marine tuna) or dolphin (dolphinfish, marine, pelagic), on the passage to Europe." (pg 46).

60 More generally, 'customary' Maori fishing traditionally encompassed a range of activities, including for hui, tangi, papakāinga and marae needs, and obligations to provide food for others. The framework in which customary fishing occurs today is outlined further in annex 2.

Further information:

Report of the Waitangi Tribunal on the Muriwhenua Fishing Claim. WAI 262. 1988.

www.waitangi-tribunal.govt.nz

Customary value indicators

61 Very little quantitative data is currently collected on customary take. There are reporting requirements under the customary regulations, but the framework for collecting and storing this information is incomplete. Customary allowances are generally set based on estimates of recreational take. The customary allowance is not intended to constrain customary take, but to reflect the likely level of that take.

62 Factors that customary fishers value from the fishery need to be discussed with the customary sector. Some of the following values may be important:

- Ability to provide for the range of traditional customary uses (i.e. for hui, tangi, papakāinga and marae needs, and obligations to provide food for others);
- Sustaining a healthy marine environment, including a spiritual component (sometimes expressed as sustaining the *mauri* of the fishery);
- Providing for future generations;
- Upholding the mana of coastal marae, through the ability to provide favoured species of kaimoana (seafood);
- The principle of manaakitanga (hospitality);
- The principle of kaitiakitanga (both the practice of environmental stewardship, and also the role of specific species as kaitiaki or guardians);
- Whanaungatanga (kinship and the rights, responsibilities and expected modes of behaviour that accompany it);
- Specific finfish species may be of particular importance to individual iwi and hapu, as 'taonga species' (treasured species).

MANAGEMENT INFORMATION

Tāngata whenua input and participation

63 The Deed of Settlement Implementation Programme is a strategy that aims to increase the Ministry's ability to work effectively with iwi and hapu at a regional level. Regional forums aim to provide an opportunity for hapu and iwi representatives to meet to discuss fisheries issues. Forums can provide assistance to iwi and hapu to establish their own local customary management strategies and improve iwi participation in fisheries management by further facilitating the implementation of customary regulations.

64 The forums, which are in varying development stages, are:

- Te Hiku o Te Ika (Far North)
- Nga Puhi, Ngati Whatua, Te Uri o Hau, Te Roroa, Ngati Wai (Northland)
- Gulf Harbour
- Ngā Hapu O Te Uru (Hamilton/Waikato)
- Tai Rawhiti (East Coast)
- Mai i Ngā Kuri a Wharei Ki Tihirau (Bay of Plenty)
- Te Kupenga Whiturauroa A Maui (Hawke Bay/Wairarapa)
- Te Tai Hauāuru (Taranaki/Whanganui)
- Te Tau Ihu Fisheries Forum (Nelson-Marlborough), and
- Ngāi Tahu – Customary Fisheries Regional Forums:
    - Kaikoura

- Canterbury
- Araiteura (Otago)
- Murihiku (Southland)
- Westland

65 In addition to working with tangata whenua at regional fisheries forums, Pou Hononga (relationship managers) and Pou Takawaenga (extension service officers) liaise with tangata whenua; build their capacity to engage with the Ministry on fisheries management issues; and help to work towards local customary management goals.

Stakeholder engagement

66 Effective engagement with tangata whenua, other government departments, and the public in management of fisheries is a component of credible fisheries management. The Statement of Intent foresees stakeholders playing an increasingly important role in areas of management, such as providing input into decision-making frameworks and into standard setting.

67 The Ministry currently consults with representative groups (including iwi, recreational groups, commercial stakeholder organisations, and environmental groups) on annual changes to catch limits and other management measures. Engagement with stakeholders also occurs at working groups that consider research priorities and review research findings for QMS stocks. Various forums have been created as an additional means of engaging with stakeholders, in particular customary and recreational fishers.

68 Existing networks of contacts with stakeholders have been used to establish advisory groups that have worked with the Ministry of Fisheries on HMS plans. Other stakeholders have been kept informed about progress on the plan, and will have opportunities to comment, including informal and formal consultation processes. Information is also available on the Ministry of Fisheries website.

69 The advisory groups include members from the following groups:

- Customary
- Recreational
- Commercial (fishers and representative bodies)
- Environmental

International obligations

70 A summary of New Zealand's implementation of WCPFC conservation and management measures is provided in annex 3.

Further information:

The full text of WCPFC conservation and management measures and resolutions is available at: http://www.wcpfc.int/decisions.htm

Regulatory framework for HMS

HMS provisions – Fisheries Act 1996

71 International obligations underpin and circumscribe New Zealand's management of HMS. The Fisheries Act 1996 (the Act) has been drafted to be consistent with New Zealand's international obligations. Section 5(a) of the Act implements these obligations by specifying that all functions, duties or powers under the Act must be exercised in a manner consistent with New Zealand's international obligations relating to fishing.

72 Provisions relevant to the management of HMS in the EEZ and the high seas include:

- Foreign Licensed Access provisions – s 81-83;
- Domestic permit regime / foreign charter access provisions – s 89-91 / s 103(4);
- High seas provisions – s 113.

Part V – foreign licensed access

73 Part V of the Act establishes a legislative framework for implementing New Zealand's obligations to provide foreign licensed access. Part V provides for a foreign allowable catch to be determined for each stock in New Zealand's EEZ. Any foreign allowable catch is apportioned among interested parties.

74 HMS are exempt from the sections of the Act (s 81 and s 82) that require the Minister to determine and apportion a foreign allowable catch for quota management system (QMS) stocks. Instead, provisions for foreign licensed access for HMS are outlined in section 83 (in conjunction with the Fisheries (Foreign Fishing Vessel) Regulations 2001).

75 Under s 83(2A), the Minister has discretion to grant foreign licensed access to HMS fish stocks within the EEZ, if the Minister considers it would be consistent with 'optimal utilisation' of available fish in accordance with article 62(3)[7] of the 1982 UN Convention. The meaning of the UN definition of "optimal utilisation" is that where New Zealand does not have sufficient capacity to harvest the entire allowable catch in the EEZ, there is an obligation to make the surplus available to interested states.

Issue: The granting of foreign licensed access for a HMS species when there is the likelihood of bycatch of other QMS species is problematic. There are currently no legislative provisions for managing the bycatch of QMS species when targeting HMS.

[7] 62(3) - In giving access to other States to its exclusive economic zone under this article, the coastal state shall take into account all relevant factors, including, inter alia, the significance of the living resources of the area to the economy of the coastal state concerned and its other national interests, the provisions of articles 69 (rights of landlocked states) and 70 (geographically disadvantaged states), the requirements of developing States in the subregion or region in harvesting part of the surplus and the need to minimize economic dislocation in States whose nationals have habitually fished in the zone or which have made substantial efforts in research and identification of stocks.

Permit and vessel regime / charter access arrangements

Permit and vessel regime

76 In addition to domestic requirements to hold a fishing permit and to register fishing vessels, CCSBT and WCPFC place some additional requirements on fishers for HMS.

77 A requirement of CCSBT is that all vessels authorised to fish for southern bluefin tuna are identified and listed on a central authorised vessel list. In early 2007, FishServe introduced a CCSBT tick box on the vessel registration form. This requires fishers to identify if they are likely to catch SBT (either as target or bycatch) at the vessel registration stage, and enables MFish to have a more detailed and up-to-date list of authorised New Zealand vessels to send to the CCSBT secretariat. There are no corresponding tick boxes for the other HMS.

78 The requirement to maintain a register for WCPFC is only for vessels operating outside of waters under national jurisdiction of the flag state. Vessels must apply to MFish to be listed on the WCPFC register.

Issue: The rolling registration regime that is currently in place has the effect that several years will be needed before a southern bluefin tuna fleet can be identified.

Foreign charter vessel provisions

79 The use of foreign charter vessels is common in the New Zealand EEZ. Foreign charter vessels are foreign-owned vessels that are chartered by New Zealand operators for use in the New Zealand EEZ. Charter vessels reduce the operational investment in vessels required to commercially fish. This is particularly important for commercial operators who operate in seasonal fisheries.

80 Registration of a foreign owned or operated fishing vessel as a New Zealand fishing vessel is processed under section 103(4) of the Act. MFish has devolved the registration of vessels to the New Zealand Seafood Industry Council (SeaFIC), which contracted Commercial Fisheries Services Ltd (FishServe) to deliver these services. FishServe also administers the registration of foreign owned or operated fishing vessels.

81 Under FishServe standards and specifications, New Zealand nationals can charter a foreign-owned vessel for up to one year. The registration process includes a risk assessment, and vessels considered to be high risk may be registered for a shorter time period. Foreign charter vessels must meet the requirements under s 103(4) prior to registration. The requirements include: a charter agreement in the prescribed format; minimum wage requirements; a New Zealand operator (permit holder) linked to the vessel; an approved Automatic Location Communicator (ALC) on the vessel. An approved standard has also been set for accommodation, food and amenities for MFish observers onboard vessels greater than 46m in length.

82 Under s 103(6) of the Act, in making his or her decision the Chief Executive shall have regard to:

a) The previous offending history (if any), in relation to fishing or transportation of the vessels, owner, operator, foreign charter party, notified user, master or crew;

b) The nature of the charter or other agreement with the operator (if any); and

c) Such other matters as the chief executive considers relevant.

Foreign charter vessels targeting HMS

83 In addition to the background checks and recommendation from MFish, foreign charter vessels that intend to target HMS must also be issued with a certificate of consent. MFish issues the certificate of consent with appropriate conditions (for example conditions on spatial boundaries, HMS target species) to be attached to the vessel certificate of registration. This process is intended to ensure that:

- Vessels not authorised by their flag state to take southern bluefin tuna are not granted access to this fishery in New Zealand waters (in accordance with a CCSBT approved vessel conservation measure).
- Vessels that are not party to the WCPFC are not authorised to fish for HMS in New Zealand waters

High seas provisions

84 Part 6A of the Act governs management of vessels that fish on the high seas. New Zealand registered fishing vessels cannot fish outside of the EEZ unless under the authority of a high seas permit (s 113D of Part 6A). The Chief Executive of MFish can place a number of conditions on high seas permits (e.g. area restrictions, method restrictions, marking of fishing vessels, operation of an approved ALC), including to ensure fishers adhere to relevant international conservation and management measures (Section 113(k)(r)).

85 The Fisheries (Western and Central Pacific Ocean Highly Migratory Fish Stocks) Regulations 2003 are specific to HMS in the WCFPC Convention area. The regulations establish a register for vessels fishing in the Convention area outside of New Zealand fisheries waters. No vessel may fish for HMS outside of New Zealand fisheries waters unless authorised by a high seas fisheries permit or an authorisation from a relevant state for fishing in areas under their national jurisdiction.

86 Various conservation measures arising from the WCPFC will be implemented through high seas permit conditions in the short term. New Zealand's international responsibilities on the high seas are also met through domestic fisheries management and the QMS.

87 High seas catches of HMS are recorded on high seas landing returns. For southern bluefin tuna the quota management area includes not just New Zealand fisheries waters but also the high seas and other jurisdictions where New Zealand fishers take southern bluefin tuna. Where required, information is periodically submitted to the RFMO secretariats (e.g. authorised vessels, STN landings to CCSBT).

Issue: Work is currently underway to establish a process for aligning High Seas permit conditions and/or the regulatory framework with New Zealand's implementation of existing conventions to which New Zealand is a signatory, and the adoption of new international conventions.

Relevant regulations

88 The main regulations that apply to HMS fisheries are:

- Fisheries (Commercial Fishing) Regulations 2001 and regional commercial fishing regulations;
- Fisheries (Foreign Fishing Vessel) Regulations 2001;
- Fisheries (Western and Central Pacific Ocean Highly Migratory Fish Stocks) Regulations 2003;
- Fisheries (Reporting Amendment) Regulations 2005;
- Fisheries (Amateur Fishing) Regulations 1986 and regional amateur fishing regulations;
- Fisheries (Seabird Sustainability Measures) Notice 2007

89 Various other regulations apply, particularly for QMS species (e.g. reporting regulations), but they are not specific to HMS.

Table 5: Fisheries regulations relevant to HMS fisheries. Regulations specific to individual fisheries are covered in the relevant chapter of the plan.

Regulation	Who does it apply to	Date introduced	Purpose of regulation when introduced
Fisheries (Foreign Fishing Vessel) Regulations 2001 Various requirements for foreign licensed vessels while in New Zealand waters. For example: - Vessel markings - Notification of arrival/departure - Records - Interpreters - Communication - Observer, fishery officer access - Conditions of license (for HMS) - Closed areas to vessels with HMS license (Schedule 4)	Commercial	2001	To ensure foreign licensed vessels are managed effectively and risks are minimised while the vessels fish in the New Zealand EEZ.
Fisheries (Western and Central Pacific Ocean Highly Migratory Fish Stocks) Regulations 2003 No vessel may fish for highly migratory fish stocks in the WCFPC Convention area unless it is— (a) a registered vessel; and (b) authorised to fish for highly migratory fish stocks in the Convention area under— (i) a New Zealand High Seas Fishing Permit; or (ii) an authorisation from the relevant State for fishing in areas under the national jurisdiction of that State in the Convention area.	Commercial	2003	To ensure consistent and credible fisheries management within the WCFPC convention area is maintained.
Fisheries (Western and Central Pacific Ocean Highly Migratory Fish Stocks) Regulations 2003 Master or operator of a registered vessel fishing in WCFPC area must complete and present catch, effort, and landing returns, in the form approved by the chief executive, to the Ministry of Fisheries no later than 7 days after the last day of the registered vessel's trip. Exemptions apply if returns are made to another WCFPC member country.	Commercial	2003	Information on catch in the WCFPC convention area is available to the WCFPC to ensure credible management of fish in convention area.

Regulation	Who does it apply to	Date introduced	Purpose of regulation when introduced
Fisheries (Western and Central Pacific Ocean Highly Migratory Fish Stocks) Regulations 2003, r 6 NZ must keep a register of called the New Zealand Western Central Pacific Vessel Register with details about registered vessels (i.e. registration number, name and address of owner, length of vessel).	Commercial	2003	So that the WCFPC has information on New Zealand registered vessels authorised to fish in convention area.
Fisheries (Reporting) Regulations 2001, r 11E Requirements for reporting bycatch of non-fish and protected fish species	Commercial	2008	To collect information on catches of non-fish species or protected fish species (for example seabirds, marine mammals, and marine turtles)

Compliance framework

90 Utilisation of HMS fisheries is subject to rules of sustainability, access, and allocation. Achieving New Zealand's fisheries management objectives depends upon high levels of compliance with these rules and with other conservation and sustainable management measures adopted by RFMOs and other international arrangements to which New Zealand is a party.

91 The MFish strategic compliance goals are to maximise voluntary compliance and to maintain an effective deterrent. These goals are also the basis for New Zealand's input into international and regional compliance regimes.

Operational compliance strategies

92 MFish operational compliance strategies are based on achieving high levels of compliance across fishing sectors in New Zealand. While different strategies may be applied to the different sectors, there is some overlap in the monitoring, compliance and enforcement activities that support these strategies. The specific activities depend on the type of legislative requirement.

93 In the international context, New Zealand operates within compliance committees with the aim of developing and implementing a consistent and harmonised package of compliance measures across international arrangements.

Commercial

94 The control of fishing activities for HMS in New Zealand includes harvesting and transactions through to the final point sale. The cost of an effective compliance approach is shared between the government and the commercial fishing industry.

95 In New Zealand, the commercial fisheries management regime for all fisheries, including HMS, is founded on defined entities which are permitted and registered to allow access to the fisheries and, for those targeting quota species, to operate within the QMS.

96 For species in the New Zealand QMS, quota management and balancing catch against ACE are based on comprehensive reporting of the fishing activity. These records and returns are required to verify authorised fishing and fishing-related activity and transactions. This ensures a focus on all aspects of the supply chain from harvesting to on-board processing and

storage, marine farming, transhipments, vessel discharges, fish receiving, transportation, onshore processing, export, wholesale and retail sale.

97 Additional, and in some cases slightly different, requirements apply to those operating on the high seas. In order to fish or transport fish on the high seas (outside the EEZ), the operators of New Zealand registered fishing vessels or chartered foreign fishing vessels are required to hold a New Zealand high seas fishing permit. Fishing and transporting fish under a high seas fishing permit is subject to various conditions, including:

- notification of entry and exit into New Zealand waters and ports;
- inspection and monitoring (ie. operation of an automatic location communicator (ALC) and requirement to carry observers);
- vessel and gear markings;
- landing and disposal of fish (including transhipment);
- reporting requirements;
- transit limitations;
- gear restrictions.

98 Likewise, New Zealand nationals using foreign vessels on the high seas must have an authorisation (equivalent to a New Zealand high seas fishing permit) from the government to which that vessel is flagged. New Zealand nationals are forbidden from using a foreign vessel to fish on the high seas, unless they hold a permit from a relevant state[8] or if that vessel is also registered in New Zealand. This prohibition is in place to prevent New Zealand nationals from operating vessels flying 'flags of convenience' from states that are unable to monitor or enforce regulations relating to fishing activities on the high seas.

99 Area or stock specific authorisations may also be necessary in order to gain access to some fisheries for highly migratory stocks on the high seas. For instance, vessels that catch southern bluefin tuna must be on the list of authorised vessels maintained by the CCSBT.

100 Commercial operators are also subject to conservation and management measures adopted by RFMOs or international arrangements. International requirements are in place to track the catch and trade of major HMS such as tuna and swordfish, regardless of where in the region these are fished or landed. For instance, statistical documents are to accompany exports of bigeye and swordfish, and exports of southern bluefin tuna require CCSBT Trade Information Scheme (TIS) documents. From 1 January 2010, the trade information scheme will be expanded to a catch documentation scheme, covering all commercial catches of southern bluefin tuna, whether sold domestically or exported.

Recreational

101 Access to New Zealand recreational fisheries for HMS is open and unlicensed, subject to certain regulatory restrictions which are in place to ensure sustainability or to reduce potential conflict between sectors. Recreational fishers are expected to be aware of these regulations. MFish compliance activities include raising awareness about the relevant rules

[8] A state that is a party to the UNFSA, or the FAO Compliance Agreement, or a global, regional or sub-regional fisheries organisation or arrangement notified in the New Zealand Gazette.

among recreational users. In addition, operational compliance activities include land and sea patrols, inspections and prosecution of offences. The focus of these activities for HMS is on billfish species, which are highly valued by gamefishers, and on the operators of recreational charter boats, as opposed to 'traditional' recreational fishers who usually target inshore stocks.

Customary

102 Allowances are made for customary use of HMS within total allowable catches. Existing rohe moana overlap areas where HMS can be fished. Access to fisheries for customary purposes is subject to authorisations. Where Kaimoana or South Island Customary Fishing Regulations have been implemented, Tangata Tiaki/Kaitiaki authorise customary fishing. A nominated tangata whenua representative can authorise customary fishing where these regulations have not been implemented and Regulation 27A applies instead. The current level of customary use of these species is not known with certainty but is likely to be low.

103 For customary fishing, MFish compliance activities include checking the validity of authorisations and ensuring fishers are acting in accordance with the conditions outlined in the authorisation. An authorisation form must be carried while fishing and transporting fish and must be shown to a Fishery Officer on request. Over time authorisations will be issued in accord with iwi based management plans for areas over which they hold mana moana.

Offence types

104 The main drivers for fishing offences involving HMS include the high value of many of the species, the high demand in international markets, and the extensive and remote areas where these stocks can be found.

Commercial offences

Illegal fishing

105 Illegal fishing occurs when unlicensed, unregistered or unauthorised vessels (New Zealand or foreign flagged) fish within the EEZ or in areas of the high seas governed by relevant international arrangements. Illegal fishing is not reported, and offenders usually operate in a manner that is not consistent with conservation and sustainable management. Vessels involved in these activities may be 'stateless' or flying flags of states which are not members of relevant RFMOs.

106 Opportunities for illegal fishing arise because of the difficulty of monitoring extensive and remote areas where fishing may occur, both inside the EEZ, and on the high seas in particular. Limited surveillance resources, the high mobility of fishing vessels and their ability to land illegal catch in numerous 'ports of convenience' around the region allow offenders to elude authorities. A 'port of convenience' is one where the necessary monitoring and control measures are not in place. Offenders are able to easily land and trade illegal catch at these ports. Support vessels (such as fuel tankers, some of which are not governed by IMO or other international arrangements) can further increase the mobility and reach of illegal fishers, increasing their opportunities to offend.

107 Several incidents have been detected as a result of routine surveillance operations.

Most of these incidents have involved incursions of foreign fishing vessels into the EEZ.

Misreporting

108 Misreporting occurs when incorrect areas, landed states, weights, species or quantities are reported. Offenders have various incentives to misreport information. An additional opportunity for species misreporting is the difficulty in identifying some species, particularly once some form of processing, such as shark fining, has taken place.

109 For operators targeting stocks managed under the QMS in New Zealand, the primary motive behind this type of offence comes from minimising the use of ACE and related deemed value charges. The incentives for this behaviour become greater as ACE availability decreases. ACE shortages can result where catches are close to or exceed the catch limit, or when the ACE market is not functioning efficiently. None of the stocks covered in this plan have TACCs that are close to being fully or over caught. Therefore there currently are no significant incentives to offend. Nonetheless, deemed values are sometimes paid even though ACE was available, which may suggest some inefficiency in the ACE market, and thus a potential incentive to offend.

Non-reporting: dumping and high-grading

110 In New Zealand, dumping of fish from QMS stocks is prohibited under Section 72 of the Fisheries Act 1996. Schedule 6 of the Act lists stocks that are excluded, given certain conditions, from this prohibition. Blue shark, mako shark, porbeagle shark, southern bluefin tuna and swordfish are included in this list. Fish from these stocks can be returned to sea legally, as long as the return is consistent with conditions outlined in legislation (e.g. if they are likely to survive on return). Tuna longlining catch effort forms include a section for reporting on such discards.

111 Discarding allows fishers to avoid QMS-related expenses and/or maximise the value of their landed catch through 'high-grading'. Small, damaged or low quality fish may be discarded as they could attract a lower market value than larger undamaged fish. The incentive to dump increases when the ratio of target to bycatch captures, and ACE available, is less than optimal.

112 With the possible exception of southern bluefin tuna, there is no major incentive to high-grade at present, given that there is low pressure on the catch limits of the stocks covered in this plan. Nonetheless, some high-grading of damaged and low-quality fish is understood to occur, particularly with tunas. There could also potentially be some dumping of relatively low value by-catch stocks such as rays bream, moonfish, sharks, and skipjack caught in the longline fishery (although there have been no recently documented incidents). Observers have reported some minor dumping of fish damaged by sharks while hooked on to longlines, particularly involving southern bluefin, bigeye, Pacific bluefin, yellowfin, and albacore tunas and swordfish. Unreported shark finning (carcasses discarded) is also a form of dumping.

Recreational offences

113 These stocks are the focus of gamefisheries, and individuals would be unlikely to catch large numbers during a single fishing trip. Many of these species lack specific daily catch limits or minimum size restrictions (see Table 23, Appendix B (supporting information

for large pelagic species) for the relevant regulations).

114 Recreational offences relating to HMS are believed to be rare. The fishing grounds of HMS are relatively less accessible for traditional recreational fishers, although recreational charter boat operators do have access to and operate in these areas.

115 A possible recreational offence is the sale of recreationally caught billfish or tuna by gamefishers at the point of processing. Although no offences have been confirmed, there have been reports of recreational catch being sold to processors; it is a potential risk given the nature and cost of the recreational fishery for these species.

Customary offences

116 Customary offences occur when the authorisation is not legal or when the taking contravenes the conditions of the authorisation. Opportunities for customary offences involving HMS are limited.

Information and education

117 MFish undertakes a number of activities aimed at improving the knowledge of fishing legislation, the rationale for this legislation in the context of New Zealand's international obligations, and the consequences of breaching it.

118 The key way of maximising compliance is to ensure stakeholders are aware of the purpose of the specific legislative requirements, and how the legislation supports the stocks' sustainability, their access to the fisheries and New Zealand's commitment to the conservation and management of HMS.

119 Management measures arising from RFMOs are communicated to stakeholders in a number of ways, including the following:

- Consultation meetings are held to brief stakeholders on upcoming RFMO meetings, and to report back on recent meetings;
- RFMO meeting reports are widely distributed;
- Industry members may participate in New Zealand delegations;
- Workshops may be held to address specific topics, e.g. seabird mitigation.

120 MFish carries out monitoring and surveillance across the fishing sectors to ensure people operate in accord with the legislative requirements. Compliance with these requirements ultimately allows New Zealand to meet its international obligations for the management and conservation of HMS. Regular monitoring and surveillance also provide a form of passive deterrence for potential offenders.

121 Enforcement of regulations is another means to maximise compliance. The Ministry analyses information and undertakes investigations where monitoring, surveillance and intelligence identify potential offending. MFish carries out more specific and focused monitoring and surveillance to support investigations of potential or detected offending. These investigations, along with other enforcement activities, can lead to the prosecution of alleged offenders and feed back into targeted monitoring.

122 Minor breaches will often result in an infringement notice or a verbal warning associated with an emphasis on improving fisher knowledge. Convictions for major breaches of fishing legislation can result in substantial penalties that reflect the difficulties associated with the detection of offences.

Annex 1: Highly Migratory Species

1a). As listed in Annex 1 of the United Nations Convention on the Law of the Sea

The WCPF Convention applies to all species of highly migratory fish stocks (defined as all fish stocks of the species listed in Annex I of the 1982 Convention occurring in the Convention Area and such other species of fish as the Commission may determine) within the Convention Area, except sauries.

Albacore tuna: *Thunnus alalunga*.
Bluefin tuna: *Thunnus thynnus*.
Bigeye tuna: *Thunnus obesus*.
Skipjack tuna: *Katsuwonus pelamis*.
Yellowfin tuna: *Thunnus albacares*.
Blackfin tuna: *Thunnus atlanticus*.
Little tuna: *Euthynnus alletteratus*; *Euthynnus affinis*.
Southern bluefin tuna: *Thunnus maccoyii*.
Frigate mackerel: *Auxis thazard*; *Auxis rochei*.
Pomfrets: Family Bramidae.
Marlins: *Tetrapturus angustirostris*; *Tetrapturus belone*; *Tetrapturus pfluegeri*; *Tetrapturus albidus*; *Tetrapturus audax*; *Tetrapturus georgei*; *Makaira mazara*; *Makaira indica*; *Makaira nigricans*.
Sail-fishes: *Istiophorus platypterus*; *Istiophorus albicans*.
Swordfish: *Xiphias gladius*.
Sauries: *Scomberesox saurus*; *Cololabis saira*; *Cololabis adocetus*; *Scomberesox saurus scombroides*.
Dolphin: *Coryphaena hippurus*; *Coryphaena equiselis*.
Oceanic sharks: *Hexanchus griseus*; *Cetorhinus maximus*; Family Alopiidae; *Rhincodon typus*; Family Carcharhinidae; Family Sphyrnidae; Family Isurida.
Cetaceans: Family Physeteridae; Family Balaenopteridae; Family Balaenidae; Family Eschrichtiidae; Family Monodontidae; Family Ziphiidae; Family Delphinidae.

1b). As listed on Schedule 4B of the Fisheries Act 1996

Frigate mackerel (*Auxis thazard*)
Mahi mahi (*Coryphaena hippurus, Coryphaena equiselis*)
Marlin, sailfish, and spearfish:
- Atlantic sailfish (*Istiophorus albicans*)
- black marlin (*Makaira indica*)
- blue marlin (*Makaira nigricans*)
- Indo-Pacific sailfish (*Istiophorus platypterus*)
- striped marlin (*Tetrapturus audax*)
- white marlin (*Tetrapturus albidus*)
- longbill spearfish (*Tetrapturus pfluegeri*)
- Mediterranean spearfish (*Tetrapturus belone*)
- roundscale spearfish (*Tetrapturus georgei*)
- short billed spearfish (*Tetrapturus angustirostris*)

Ray's bream (*Brama brama*)
Sharks:
- bigeye thresher (*Alopias superciliosus*)
- blue shark (*Prionace glauca*)
- bronze whaler (*Carcharhinus brachyurus*)
- Galapagos shark (*Carcharhinus galapagensis*)
- longfin mako (*Isurus paucus*)
- oceanic white tip (*Carcharhinus longimanus*)
- Porbeagle shark (*Lamna nasus*)
- shortfin mako (*Isurus oxyrinchus*)

silky shark (*Carcharhinus falciformis*)
smooth hammerhead (*Sphyrna zygaena*)
tiger shark (*Galeocerdo cuvier*)
Family Alopiidae
Family Carcharhinidae
Swordfish (*Xiphias gladius*)
Tuna:
albacore tuna (*Thunnus alalunga*)
Atlantic bluefin tuna (*Thunnus thynnus*)
bigeye tuna (*Thunnus obesus*)
blackfin tuna (*Thunnus atlanticus*)
kawakawa (*Euthynnus affinis*)
little tuna (*Euthynnus alletteratus*)
Pacific bluefin tuna (*Thunnus orientalis*)
skipjack tuna (*Katsuwonus pelamis*)
southern bluefin tuna (*Thunnus maccoyii*)
yellowfin tuna (*Thunnus albacares*)

Annex 2: Customary fishing framework

Customary Regulations

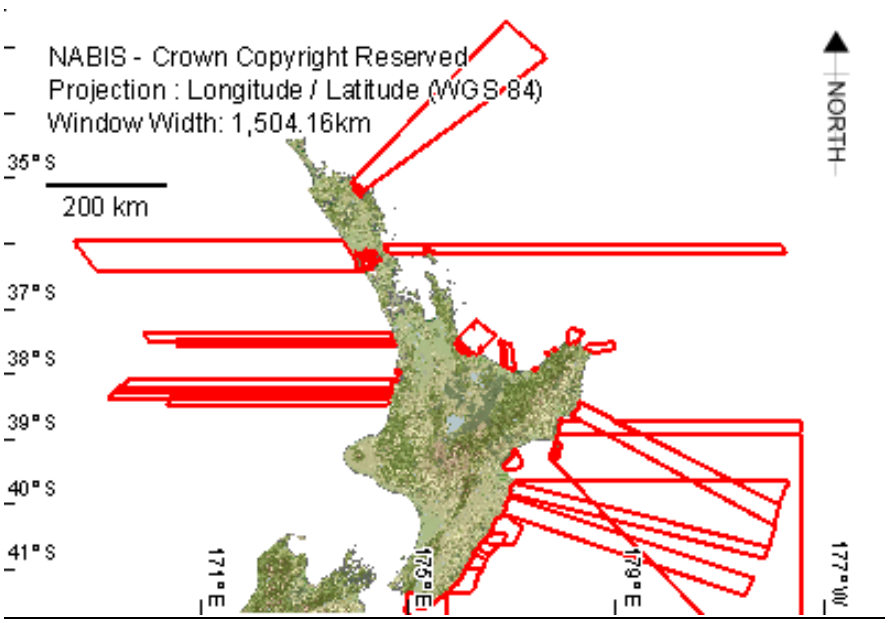
123 The Government has an ongoing obligation under s 10 of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 to develop policies to help recognise use and management practices of Maori in the exercise of non-commercial fishing rights.

124 One of the ways in which this obligation has been provided for is the creation of the Fisheries (Kaimoana Customary Fishing) Regulations 1998 (commonly referred to as the 'customary regulations'); and the Fisheries (South Island Customary Fishing) Regulations 1999. These regulations enable take of fisheries resources for customary food gathering purposes from North Island and South Island waters respectively. Tāngata whenua can nominate Tāngata Tiaki to authorise customary Maori fishing outside of restrictions of the amateur fishing regulations (e.g. applying different bag or size limits).

125 To date, Tāngata Kaitiaki/Tiaki have been appointed in 33 areas/rohe moana in the North Island (see figure 2). Some of the gazetted areas extend up to 200 nautical miles offshore. Tāngata Kaitiaki/Tiaki have also been appointed in the South Island, but no map of rohe moana is available at present.

126 For those iwi and hapu groups who have not yet gazetted their rohe moana or appointed Tāngata Tiaki under the customary regulations, the customary right is exercised primarily through provisions available under the amateur fishing regulations and the Fisheries Act. Regulation 27 and 27A of the Fisheries (Amateur Fishing) Regulations 1986 provide for customary take outside the general provisions for amateur take. The situations in which such take can occur are quite prescribed (for hui and tangi only). In addition, Part 9 of the Fisheries Act outlines provisions for taiapure-local fisheries and other customary fishing provisions (e.g. temporary closures or method controls under section 186A).

Figure 2: Gazetted rohe moana in the North Island (as at November 2008). South Island rohe moana will be added when available.



Mandated Iwi Organisations

127 The Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 includes both commercial and non-commercial elements of redress. As part of the commercial redress, settlement assets including quota for inshore fisheries are being allocated to Mandated Iwi Authorities (MIOs), as outlined in the Māori Fisheries Act 2004. There are currently 48 mandated iwi organisations, and other iwi are progressing towards that status (table 6).

Table 6: Mandated iwi organisations as at November 2008

Iwi	MIO Date
Taitokerau	
Ngai Takoto	Nov-05
Ngapuhi/Ngati Kahu ki Whaingaroa	Sep-05
Ngati Kahu	Jun-07
Ngati Kuri	
Ngati Wai	Nov-06
Ngati Whatua	Mar-06
Te Aupouri	Mar-08
Te Rarawa	Aug-06
Ngapuhi	
Ngapuhi	Sep-05
Tainui	
Iwi of Hauraki	Aug-06
Ngati Maniapoto	Mar-07
Ngati Raukawa (ki Waikato)	Sep-06
Waikato	May-06
Te Arawa Waka	
Ngati Tuwharetoa	Feb-07
Te Arawa	Sep-06

Iwi	MIO Date
Takitimu	
Ngai Tamanuhiri	Feb-06
Ngati Kahungunu	Aug-06
Rongowhakaata	May-06
Te Aitanga a Mahaki	Sep-05
Hauauru	
Muaupoko	
Nga Rauru	Aug-07
Nga Ruahine	Dec-07
Ngati Apa (North Island)	Mar-06
Ngati Hauiti	Mar-06
Ngati Maru (Taranaki)	
Ngati Mutunga (Taranaki)	Sep-06
Ngati Ruanui	Mar-06
Ngati Tama (Taranaki)	
Rangitane (North Island)	Jun-07
Taranaki	Sep-06
Te Atiawa (Taranaki)	Sep-06
Te Atihaunui a Paparangi	Aug-06
Te Moana o Raukawa	
Atiawa ki Whakarongotai	Nov-05

Mataatua	
Ngai Tai	Sep-06
Ngaiterangi	Sep-07
Ngati Awa	Nov-05
Ngati Manawa	
Ngati Pukenga	Sep-06
Ngati Ranginui	Sep-07
Ngati Whare	
Tuhoe	Sep-06
Whakatohea	Nov-06
Porourangi	
Ngati Porou	Mar-06
Te Whanau a Apanui	

Ngati Apa ki te Waipounamu	Feb-06
Ngati Koata	Mar-06
Ngati Kuia	Feb-06
Ngati Rarua	Sep-05
Ngati Raukawa (ki te Tonga)	
Ngati Tama (Te Tau Ihu)	Sep-06
Ngati Toa Rangatira	
Rangitane (Te Tau Ihu)	Feb-07
Te Atiawa (Te Tau Ihu)	Feb-07
Te Atiawa (Wellington)	Mar-06
Waipounamu / Rekohu	
Moriori	Sep-05
Ngai Tahu	May-06
Ngati Mutunga (Chathams)	Sep-05

Deeds of Settlement

128 In addition to the general obligations to all iwi and hapu outlined in the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992, individual iwi Settlement Acts settle the historical grievances of an iwi relating to breaches of their rights under the Treaty of Waitangi. Individual iwi settlements may include fisheries related matters, often as part of a cultural redress component.

129 Various iwi/large natural groupings have reached treaty settlements with a fisheries component nationally. Individual deeds of settlement frequently include protocols that set out how the Ministry of Fisheries will interact with the iwi governance entity. In particular, the protocols are designed to enable iwi input into the Ministry processes such as: the development of sustainability measures; research planning; contracting for services; and the employment of staff with customary non-commercial fisheries responsibilities.

130 Additional components of the fisheries redress might include:

- Appointment of advisory committee to the Minister of Fisheries;
- Acknowledgement of customary non-commercial interest in certain species – requirement to consult with the iwi in respect of the management of those species and ensure that their non-commercial needs are recognised and provided for;
- The development of regulations recognising the relationship of iwi with particular fisheries;
- Recognition of the interests of these iwi in all species of fish, aquatic life or seaweed that exist within their Fisheries Protocol Area.

131 Fisheries Protocols have been agreed under Deeds of Settlement with:

- Ngati Awa
- Ngati Ruanui
- Ngati Tama
- Ngaa Rauru Kiitahi
- Te Uri o Hau
- Ngati Tuwharetoa ki Bay of Plenty

- Te Arawa Lakes
- Ngati Mutunga

Annex 3: New Zealand's implementation of WCPFC conservation and management measures

As supplied to the Technical and Compliance Committee of WCPFC at its third meeting in September 2007.

Conservation and management measure	**Implementation**
CMM-2004-01: Record of Fishing Vessels and Authorization to Fish	New Zealand has provided the Secretariat with a record of New Zealand flagged vessels authorized to fish. Since then, updates to this record have been provided to the Secretariat.
CMM-2004-02: Cooperating Non-Members	N/A
CMM-2004-03: Specifications for the Marking and Identification of Fishing Vessels	All New Zealand vessels are marked as specified.
CMM-2005-01: Conservation and Management Measures for Bigeye and Yellowfin Tuna in the Western and Central Pacific Ocean	A TAC applies to bigeye tuna taken within New Zealand fisheries waters. High seas catches are also monitored to ensure New Zealand's overall longline catch of bigeye tuna within the WCPFC Convention Area does not exceed 2,000 tonnes.
CMM-2005-02: Conservation and Management Measure for South Pacific Albacore	New Zealand monitors the number of vessels fishing for Albacore south of 20S; regulations to control vessel numbers will be implemented if necessary.
CMM-2005-03: Conservation and Management Measure for North Pacific Albacore	No New Zealand flagged fishing vessels operate in this fishery.
CMM-2006-01: Conservation and Management Measures for Bigeye and Yellowfin Tuna in the Western and Central Pacific Ocean (to be read as part of CMM-2005-01)	New Zealand monitors the number of purse seine vessels fishing on the high seas between 20N and 20S; regulations to control vessel numbers will be implemented if necessary. Catch data from New Zealand flagged vessels is supplied to the Commission as part of New Zealand's report. FAD management and catch retention plans are being developed in conjunction with industry. Port controls are established under the Fisheries Act 1996. New Zealand has a comprehensive suite of Port State Measures that ensure compliance with this measure.
CMM-2006-02: Conservation and Management Measure to Mitigate the Impact of Fishing for Highly Migratory Fish Stocks on Seabirds	New Zealand implemented its NPOA for seabirds in April 2004 and is currently reviewing this plan. As of February 2007, New Zealand surface longliners are required to set at night and use tori lines that meet the interim standards specified in Attachment 1 of CMM-2006-02. Regulatory measures are consistent with CMM 2006-02.
CMM-2006-03: Conservation and Management Measure for Swordfish in the South West Pacific	New Zealand monitors the number of vessels fishing for swordfish to ensure compliance with this measure; regulations to control the number of vessels can be implemented if necessary. A TAC applies to swordfish catches within New Zealand fisheries waters. The number of New Zealand flagged vessels fishing for swordfish, including a maximum number, was reported to the Commission in May 2007.
CMM-2006-04: Conservation and	New Zealand has a commercial moratorium on the landing of striped

Management Measure for Striped Marlin in the South West Pacific	marlin taken in New Zealand's fisheries waters, and is therefore exempt from this measure. Striped marlin is taken in limited numbers as bycatch by New Zealand vessels fishing on the high seas.
CMM-2006-05: Conservation and Management Measure for Sharks in the Western and Central Pacific Ocean	New Zealand is currently consulting with stakeholders on its draft NPOA for Sharks. The main HMS shark species (blue, porbeagle and mako) are managed within the New Zealand Quota Management System (QMS). TACs apply to catches of these species within New Zealand fisheries waters, TACs are set at a level to allow for bycatch only, and to encourage full utilisation of shark catches. The release of live small sharks is provided for under the QMS. Permit conditions will be put in place in relation to catches of sharks outside of the zone, to meet the timeframes outlined in the CMM. NZ Animal Welfare legislation prohibits NZ nationals from removing fins from sharks and returning them to the sea in a live state.
CMM-2006-06: Commission Vessel Monitoring System	Awaiting the implementation of this measure.
CMM-2006-07: Conservation and Management Measure for the Regional Observer Programme	Awaiting further development and implementation of this measure.
CMM-2006-08: Western and Central Pacific Boarding and Inspection Procedures	Awaiting the implementation of this measure.
CMM-2006-09: Conservation and Management Measure to Establish a List of Vessels Presumed to have carried out Illegal, Unreported and Unregulated Fishing Activities in the Western and Central Pacific Ocean	No vessels met the criteria for listing in this reporting period.

Report on CCM measures adopted for conservation and management of HMS in areas under national jurisdiction (Art. 23(3))	**Implementation**
Quota Management System	In October 2004 key highly migratory species were introduced into the New Zealand QMS. The species are southern bluefin tuna, Pacific bluefin tuna, bigeye tuna, yellowfin tuna, swordfish, moonfish, Ray's bream, mako shark, porbeagle shark and blue shark. A total allowable catch (TAC) is set for each species and within the TAC allowances are made for recreational, customary, other forms of mortality and commercial catch. The total allowable commercial catch (TACC) is allocated as individual transferable quota which in turn generates an annual catch entitlement. The QMS is reliant on a comprehensive reporting and monitoring regime and commercial fishers are required to furnish catch and landing returns. The reporting regime allows for close monitoring of an individual fisher's actual catch against their catch entitlement for the year. Deterrent penalties exist for exceeding this entitlement. Albacore and skipjack tuna fisheries are not managed under the QMS. These fisheries are subject to ongoing review to determine if they should be introduced into the QMS. Triggers for this occurring would include: an assessment showing that current management was not ensuring sustainability or providing for utilisation of the stock, or if there was a demonstrable need to rationalize fishing effort in these fisheries

Report on measures adopted for regulating the activity of vessels that fish in the Convention Area. (Art. 23(4))	Implementation
New Zealand High Seas Fishing Permit (HSFP)	New Zealand flagged vessels fishing on the high seas are required to hold a New Zealand High Seas Fishing Permit issued under Part 6A of the Fisheries Act 1996. Each permit contains a number of conditions that regulate the activity of the vessels including catch reporting and notification of movement requirements.
WCPFC Regulations	In 2004 New Zealand implemented specific regulations to give effect to WCPFC obligations. The regulations have the following components: All New Zealand flagged vessels fishing within the Convention Area must be properly authorized either by a New Zealand HSFP for fishing on the high seas or with the proper authorization from the coastal state for fishing in areas under national jurisdiction. All New Zealand flagged vessels authorized and intending to fish within the Convention Area beyond the New Zealand EEZ for species managed under the Convention must be registered on the 'New Zealand Western and Central Pacific Fisheries Convention Vessel Register'. The New Zealand Western and Central Pacific Fisheries Convention Vessel Register records all New Zealand flagged vessels authorized by New Zealand (or by another coastal state in the region for fishing within their EEZ) to fish within the Convention Area for species covered by the Convention. New Zealand flagged vessels fishing for relevant stocks in areas under the national jurisdiction of another state within the Convention Area are required to report catch and effort information to the New Zealand Ministry of Fisheries. Exemptions can be granted if the vessel is reporting to the coastal state and that state is also a member of the Commission.
Port access and inspections (such as FAO Port Measures where applicable)	New Zealand has a comprehensive port state regime that meets or exceeds the provisions of the 'FAO Model Scheme on Port State Measures to Combat Illegal, Unreported and Unregulated Fishing'. The regime includes provisions under the Fisheries Act 1996 to: Prohibit vessels entering New Zealand ports where the New Zealand Ministry of Fisheries is satisfied that a vessel has undermined international conservation and management measures. Require 72 hours prior notification of entry into a New Zealand port. Require prior approval to possess and land fish in New Zealand; the conditions of which require monitored unloading, verification that the fish on board was taken in accordance with the appropriate authorization, and mandatory inspection by fishery officers.