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COOK ISLANDS

WESTERN AND CENTRAL PACIFIC FISHERIES COMMISSION
Sixth Regular Session of the Scientific Committee
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COOK ISLANDS
National Fisheries Report

Summary

The Cook Islands issued a total of forty four licenses last year to vessels authorized to fish within the WCPFC-CA. A total of 21 licenses were issued authorizing vessels to fish in areas beyond national jurisdiction, within the WCPFC-CA. Sixteen of these vessels also held licenses authorizing fishing activity within the Cook Islands EEZ, whilst the remaining five licenses were held by vessels based in foreign ports. A total of 23 licenses were issued to vessels authorizing fishing activity within the Cook Islands EEZ.

Total provisional catch by Cook Islands vessels within the WCPFC-CA for 2009 is 2142.9mt. Provisional total albacore catch estimates within the WCPFC-CA is 1,542mt, with 1,460mt attributed to in zone catch. Within the Cook Islands EEZ, effort and total catch trends continue to be driven by the albacore fishery in the northern Cooks. In recent years, increases in effort have been attributed to demise charter and foreign (since the late-2008) fishing vessels operating in the northern Cooks. On average albacore makes up 76% of total catches. In 2009, albacore catches taken in the southern fishery, made up 5.2% of total in-zone catches, whilst albacore catches from the northern fishery attributed to 73.6%. Although swordfish catches have diminished in recent years, vessels operating from Avatiu, Rarotonga, continue to actively target this species during the winter months. A total of 10.6mt was reported from within the Convention area; however, 9.9mt of this was taken within the zone.

Scientific data was provided to the Commission in accordance with the decision relating to the provision of scientific data to the Commission by 30 April 2010	NO
If no, please indicate the reason(s) and intended actions: Reduced human resource capacity, restructuring and recruitment of additional staff.	

Fishery Characteristics

The Cook Islands longline fleet is split into three distinct fisheries. Two of these fisheries are based primarily within the Cook Islands exclusive economic zone (CKEEZ). The two fisheries are defined by the target species, setting practices, vessel sizes and fishing operations. These fisheries, northern and southern, are separated at 15 degrees latitude south. This delineation was determined by the fishing activities and characteristics exhibited by the two fisheries.

The first fishery operating in the northern Cook Islands waters, north of 15°S latitude, target albacore tuna (*Thunnus alalunga*) destined for the cannery in Pago Pago, American Samoa. The northern fishery uses a minimum of 30 hpb¹, with trip lengths ranging between 3 to 14 weeks. Although vessels seldom venture south of 15°S latitude, some vessels that usually operate in the northern fishery unload bycatch to Rarotonga as part of the licensing incentive scheme. This incentive scheme requires a vessel to unload at least 20 tonnes of fish to Rarotonga, during a licensed period. This qualifies the vessel for a discount when it next applies for a fishing license.

Vessels operating in the southern fishery are based out of Rarotonga. These vessels generally target tuna and billfish species, however a wide range of bycatch species are valued on the local market. Exporting to USA, Japanese and New Zealand markets has diminished over the years mainly due to economic reasons, with higher returns gained on the local market.

The Cook Islands fleet operating in the WCPFC-CA solely consists of longliners. The last troll vessel in the fleet changed to longline fishing operations in 2008.

Note that all 2009 catch and effort estimates are provisional. All estimates are based on data from operational logsheets provided by the fleet as this is the most comprehensive data set.

Catch and effort estimates

The majority of Cook Islands registered longline fishing vessels catch is taken within the Cook Islands EEZ. The average take of primary species, outside the zone but within the WCPFC-CA, in recent years (2005-2009) is 300mt. This results in an average (2005-2009) of about 89% of total primary species catch taken from within the Cook Islands EEZ. Table 1a shows the annual (2005-2009) catch and effort estimates for Cook Islands catches of primary target species taken within the WCPFC-CA.

Table 1a. Annual catch and effort estimates for primary species by Cook Islands longline fishing vessels within the WCPFC-CA.

Year	Effort (hhks)	ALB (mt)	BET (mt)	YFT (mt)	SKJ (mt)	PBF (mt)	BUM (mt)	BLM (mt)	MLS (mt)	SWO (mt)
2005	48,555	1661.06	136.19	261.24	20.09	0.61	17.89	5.54	10.29	48.55
2006	56,787	2006.03	137.35	223.77	46.48	0.00	18.84	8.84	9.54	55.22
2007	62,423	2643.62	237.59	289.73	41.15	0.00	35.02	23.08	17.07	36.00
2008	65,135	2223.75	292.03	246.89	53.66	0.00	26.11	18.89	10.50	17.07
2009	41,224	1551.31	217.26	197.41	89.12	0.00	15.94	5.54	10.58	10.55

Total provisional catch by Cook Islands vessels within the WCPFC-CA for 2009 is 2142.9mt. Tables 1b and 1c show the annual catch and effort estimates, 2005-2009, for Cook Islands registered vessels and vessels authorized to fish within the Cook Islands EEZ. Catches within the Cook Islands EEZ have increased since 2001, when the development of the domestic fishery began.

¹ Hooks per basket

Table 1b. Annual catch and effort estimates for the Cook Islands longline fishing vessels within the Cook Islands EEZ.

Year	Sub area	Effort (hhks)	ALB (mt)	BET (mt)	YFT (mt)	OTH (mt)	Total (mt)
2005	North	41,179	1,570.6	111.1	234.0	118.9	2,034.7
2005	South	5,968	63.6	22.2	17.3	91.5	194.6
2006	North	44,593	1,712.1	114.5	167.3	160.5	2,154.4
2006	South	4,787	49.8	10.0	15.6	83.0	158.4
2007	North	41,301	2,185.2	169.4	166.0	124.3	2,645.0
2007	South	5,744	76.9	9.1	13.2	63.9	163.1
2008	North	43,808	1,834.6	235.0	136.9	137.6	2,344.1
2008	South	8,109	141.8	14.3	13.7	47.7	217.5
2009	North	33,164	1,380.3	187.2	146.0	142.4	1,855.9
2009	South	4,125	79.7	6.8	12.7	27.7	127.0

Table 1c. Annual catch and effort estimates for all longline vessels authorized to fish within the Cook Islands EEZ.

Year	subareaid	Effort (hhks)	ALB (mt)	BET (mt)	YFT (mt)	OTH (mt)	Total (mt)
2005	North	58,316	2,244.4	159.6	323.3	196.2	2,923.4
2005	South	18,660	129.9	49.2	72.0	295.8	547.0
2006	North	58,445	2,311.0	159.4	221.3	235.1	2,926.8
2006	South	6,473	69.0	12.4	20.7	113.6	215.7
2007	North	52,402	2,569.5	193.4	195.0	162.2	3,120.0
2007	South	6,777	85.5	10.5	15.4	76.8	188.2
2008	North	50,469	2,031.2	249.3	142.5	156.9	2,579.9
2008	South	9,397	156.8	15.0	14.9	58.4	245.1
2009	North	112,533	4,548.5	466.1	485.1	250.1	5,749.7
2009	South	11,360	319.6	15.8	34.3	61.1	430.8

Effort and total catch trends are driven by the albacore fishery in the northern Cooks. In recent years, increases in effort have been attributed to demise charter and foreign (since the late-2008) fishing vessels operating in the northern Cooks (see figure 1). On average albacore makes up 76% of total catches. In 2009, albacore catches taken in the southern fishery, made up 5.2% of total catches, whilst albacore catches from the northern fishery attributed to 73.6% of total catches.

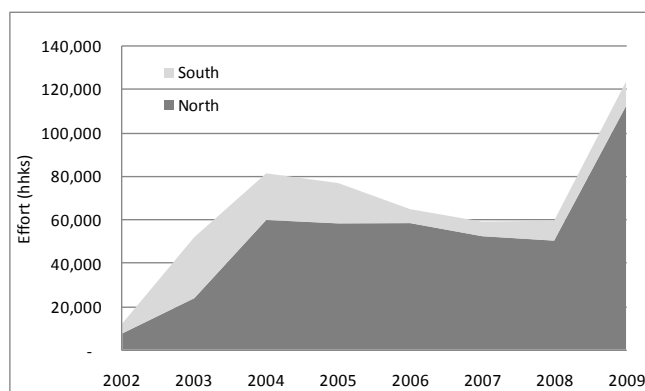


Figure 1. Northern vs. Southern fishery effort within the Cook Islands EEZ

Licensing and fleet structure

In order to develop the domestic fishery, a moratorium was imposed in the year 2000, on the licensing of all foreign fishing vessels within the Cook Islands EEZ. The practice of demise charters began in 2002 to encourage investment to stimulate both sector growth and the local economy. In 2008 however, the moratorium was reversed, and a period of no licensing was experienced whilst new licensing procedures and mechanisms were implemented. There is no set license issuing period during the year, with license applications processed as they are received.

In accordance with the *Marine Resources Longline Fishery Regulations 2008* (also referred to as the longline management plan), the effort limit for the fishery is forty fishing licenses. A total fishery catch of 6,000mt within any four quarter period triggers the formation of the licensing committee whose function is to review and determine further management action in relation to the licensing regime.

The Cook Islands issued a total of forty four licenses in 2009. Twenty three licenses were issued to longline vessels authorized to fish within national waters beyond territorial seas (12nm). Six of these made trips to Avatiu (Rarotonga) to unload bycatch as part of the licensing incentive scheme under the longline management plan. Seven of these licenses were issued to vessels operating in the southern fishery; however, only three of these vessels were active.

Twenty one licenses authorizing fishing activity on the high seas within the WCPFC-CA were issued, sixteen of which were held by vessels that also had licences to fish within the Cook Islands EEZ. These vessels seldom left the zone and if they did, fishing effort was restricted to the peripheral areas of high seas in the north and north-east of the Cook Islands EEZ. The remaining five licenses were held by vessels based in foreign ports, fishing both on the high seas and in other national jurisdictions. Table 2a shows the number of vessels in each GRT size class.

As previously mentioned, the Cook Islands no longer have a troll fleet, the last vessel changed to longline operations in 2008.

Table 2a. Number of active Cook Islands flagged LONGLINE vessels within the WCPFC-CA

GRT range	2004	2005	2006	2007	2008	2009
0-10	4	2	2	2	2	2
10-50	8	7	4	4	3	17
50-200	24	19	17	11	15	4
200-500	5	4	3	5	3	1
500+	Nil	Nil	Nil	Nil	Nil	Nil
TOTAL	41	32	26	22	23	24

Table 1b. Number of active Cook Islands flagged TROLL vessels within the WCPFC-CA.

GRT range	2004	2005	2006	2007	2008	2009
0-10	-	-	-	-	-	-
10-50	-	-	-	-	-	-
50-200	-	-	-	-	-	-
200-500	2	1	2	1	1	0
500+	-	-	-	-	-	-
TOTAL	2	1	2	1	1	0

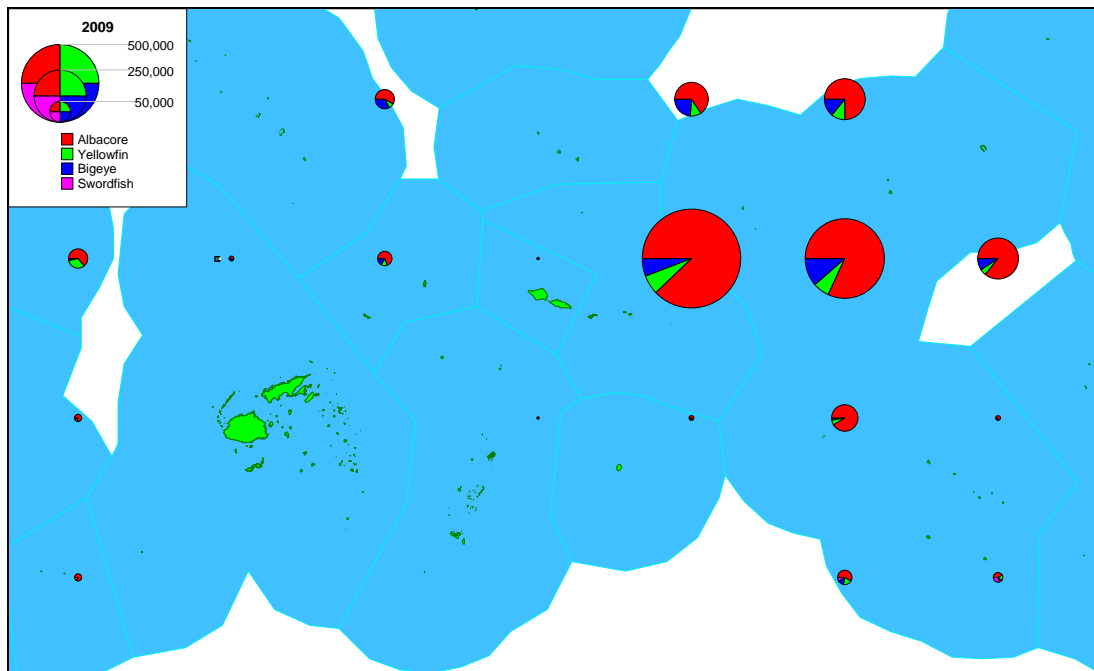


Figure 2. Catch distribution for Cook Islands longline vessels within the WCPFC-CA, 2009. Note catches are in kg.

Fishing effort is concentrated in the north-western quarter of the Cook Islands EEZ, see figure 2. Although fuel conservation plays a role in this behaviour, identifying whether this north-western quarter is more productive than the north-eastern quarter has not been determined, however has been theorized as a cause of this trend.

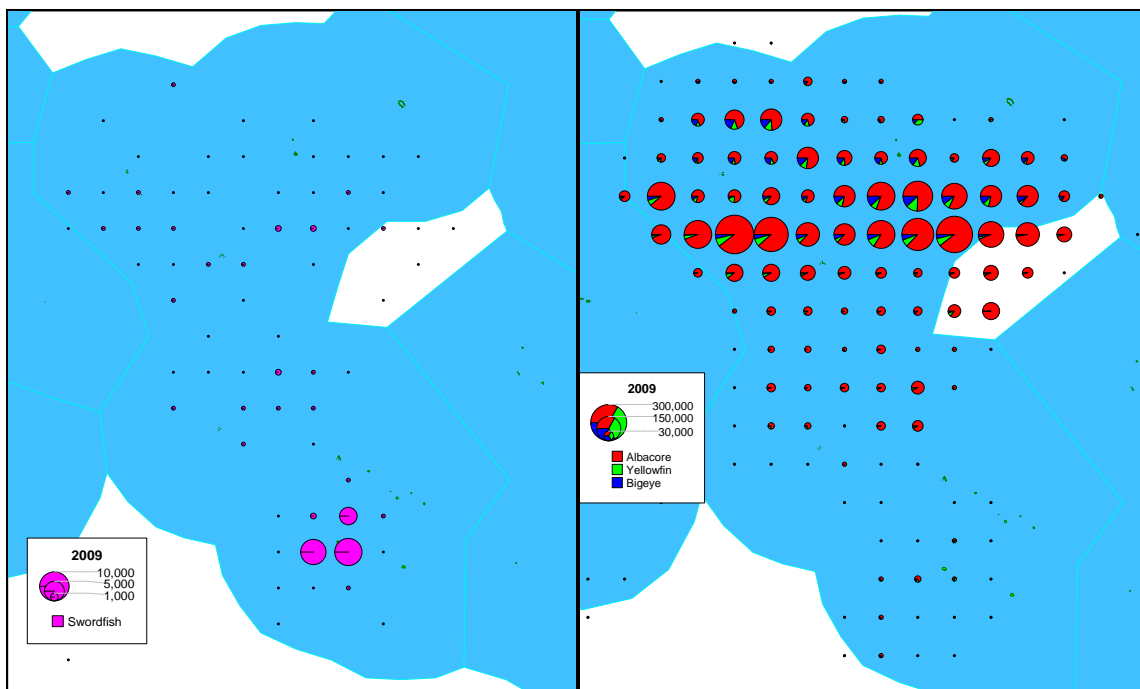


Figure 3. Distribution of primary target species catch by Cook Islands to fish within the Cook Islands EEZ, 2009.

The distribution of primary target species helps to demonstrate the difference between the northern and southern fisheries. Although swordfish catches have diminished in recent years, vessels operating from Avatiu, Rarotonga, continue to actively target this species during the winter months. A total of 10.6mt was reported from within the Convention area; however, 9.9mt of this was taken within the zone.

The pattern of catch distribution within the zone has remained consistent for the last four years. The first quarter experiences the lowest catch rates, whilst the highest are experienced in the third quarter of the year. Catches in the south were much higher from 2002-2005, when the domestic fishery first developed. The southern fishery is greatly influenced by seasonal and climatic changes, and although the northern fishery also experiences seasonal changes in catch rates, vessels continue to fish in the north year round.

Non-target catch estimates

Reporting of undesirable and discarded species continues to be problematic, as reporting is inaccurate and/or incomplete. Education and awareness efforts regarding reporting issues are ongoing.

Wahoo makes up the majority of reported non-target catch, being a highly desirable non-target species, as it is sold to canneries, as well as to the local markets in American Samoa, Samoa and the Cook Islands. On average, wahoo catches contribute to 54% of total reported non-target catches, with 106.3mt total catch for 2009. Mahi-mahi is found in both the northern and southern fisheries, attributing to an average of 10% of total non-target species. Reported shark catches made up 10.3% of reported catches in 2009.

Table 2. Estimated annual catches of non-target species and species of special interest.

	2005	2006	2007	2008	2009
Effort (hhk)	79,665	74,274	72,975	73,083	137,081
Barracudas	0.29	0.34	0.75	0.56	0.01
Pomfrets and ocean breams	0.14	0.13	0.06	0.56	0.02
Escolar	0.02	0.12	-	0.05	0.02
Mahi mahi	28.05	21.91	13.36	8.37	5.43
Ocean sunfish	*	*	0.30	*	0.05
Oilfish	1.62	1.91	1.46	0.92	0.86
Opah	8.05	7.47	5.94	6.57	2.60
Wahoo	90.46	110.42	67.12	57.63	106.27
Sailfish	1.68	0.88	1.41	1.28	0.68
Short-billed spearfish	2.69	3.01	1.77	2.53	2.01
Other fish	3.03	2.35	11.04	8.09	2.28
Blue shark	*	*	*	*	0.01
Oceanic white-tip shark	0.04	*	*	*	*
Sharks (unidentified)	81.12	41.552	18.89	52.41	13.725
Total (mt)	217.2	190.1	122.1	139.0	134.0

* No data

NB: Catches in mt

Exports and markets

Little fresh fish exporting was done in 2009, with a total of 9.38mt exported in the second quarter only. Of this 8.12mt went to Japan and 1.26mt sent to the US. Unless fish quality and catch volumes are high, and exchange rates favourable, better returns for the fishing companies can be made on the local market. The value of albacore alone unloaded to the canneries in Pago Pago is estimated at USD\$12.3 million dollars for 2009. This value was estimated using economic data supplied by fishing companies.

Table 3. Total 2009 exports from Rarotonga

Species	No	Kgs
ALB	204	4,766.8
BET	50	2,140.5
YFT	64	2,019.5
MLS	3	252.2
LAG	1	24.0
DOL	4	27.0
WAH	8	150.0
TOTAL	334	9,380.0

Fishery developments

The number of vessels operating from Rarotonga has diminished in the last few years. High fuel costs, the need to source fishing vessel crew from overseas, importation of all fishing gear and vessel supplies have all attributed to operational costs from Rarotonga remaining high. However, the industry has shown signs of recovery with former industry members reinvesting in to the development of small scale fish processing facilities, with capabilities to produce value-added goods for local and foreign markets.

With the licensing incentive in place, vessels normally based in the northern fishery and local agents in Rarotonga, are developing ways to value add and identify niche markets for bycatch that is unloaded to Rarotonga from these vessels.

Longline Plan Review

The Cook Islands Marine Resources Longline fishery Management Plan is up for review this year. Revisions will be made to licensing and fishery management regimes, with industry and stakeholder consultation scheduled for sometime in the third quarter.

National Observer Program

Observer data for 2009 has not been fully analysed, however coverage estimates have been calculated. Twelve observer trips were carried out last year on vessels operating out of Avatiu, Rarotonga. A total of 443 fishing days was estimated for vessels based out of Avatiu, with 66 observed days. Three vessels permanently based in Avatiu contributed to 328 days of fishing effort.

The Cook Islands National Observer Program had employed the services of a Solomon Islands observer however, this exercise proved too costly. New strategies are being exercised in an attempt to recruit more observers to the national program, including formalizing relations with neighbouring countries for the use of their observers.

In depth analysis of 2009 observer data has yet to be carried out. However, initial analysis has revealed that no reports of seabird interactions were made in 2009. Two observed reports of sea turtles were recorded in the southern fishery. One hawksbill turtle was hooked in the mouth, and one leatherback was entangled in the line. Both animals were released alive by a fisheries observer. Reports of whale depredation are common but more prominent in the northern fishery, and short finned pilot whales (*Globicephala macrorhynchus*) are the only species identified by the fishing fleet. Most reports do not identify any species in particular.

Swordfish archival tagging

The Cook Islands Swordfish Tagging and Training Program is on-going. A further five tags have been purchased this year, with the hopes of deploying all remaining tags this season.