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ANNUAL REPORT TO THE COMMISSION
PART 1: INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS

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NIUE

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Annual Report Part 1

Information on Fisheries, Statistics & Research

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Scientific data was provided to the Commission in accordance with the decisions relating to the provisions of scientific data to the Commission by 30 April 2010	**YES**
If no, please indicate the reason(s) and intended actions:	

ABSTRACT

The development of a large-scale commercial fishery has long been an aspiration of Niue. Despite resource limitations Niue continues to work progressively over the years researching and implementing viable operations while factoring in some of the constraints in pursuing such as venture.

Fishing activity in Niue is undertaken within a relatively small EEZ and consists of three components, an artisanal boat and canoe fishery, a tourism related sport fishery and the developing commercial domestic longline fishery.

Niue's commercial domestic longline fishery operations within the Niue EEZ targeting albacore tuna and associated bycatch. Since the commencement of the fishery in 2005 albacore has comprised the greatest part of catches for all tuna species within Niue's longline fishery. In mid 2009 Niue resumed operation under its joint fishing venture arrangement and issued 9 licenses for longline vessels.

The total longline catch from the Niue EEZ over a four month period was estimated to be approximately 202.5 mt dominated by albacore (~147.2 mt) with lesser amounts of yellowfin (~19.5 mt) and bigeye (~10.0 mt). Catches of albacore and other pelagic species vary seasonally, impacting local abundances and therefore catch rates.

Longline vessels of Pacific Island Countries and Territories have operated in the Niue EEZ including vessels from Samoa, American Samoa, Cook Islands, French Polynesia and Taiwan/Vanuatu under charter arrangements with Niue. Taiwanese, Korean and USA flagged longline vessels have been licensed under access agreements to fish within Niue's EEZ in the past.

Niue aims to undertake a Wahoo tagging project in late 2010 as Wahoo is a significantly high value fish of importance to food security for Niue. Catch rates have displayed relatively minor seasonal fluctuations however a longer time series of data is required to better determine temporal and spatial patterns of catch rates in the Niue EEZ supported by biological data.

1.1 ANNUAL FISHERIES INFORMATION

1.1.1 Annual Catch by Species, Gear in the WCPFC Convention Area

A long line fishery primarily targeting albacore tuna and associated by catch operates within the Niue EEZ. Niue does not currently have vessels authorised to fish anywhere else within the WCPFC Convention Area.
The catches by major species taken within the Niue EEZ is summarised in Table 1 and Figure 2. Since 2005, albacore has comprised the greatest part of catches for all tuna species within Niue's long line fishery. The highest catch rates of albacore from the Niue EEZ have generally been reported during the middle of the year (May-September) with a smaller peak at the end of the year (November-December). This is similar to the seasonal pattern in catch rates for albacore reported in adjacent sub-equatorial EEZs. Since 2005, albacore catch rates from the Niue EEZ have been relatively high from a regional average perspective, reflective of a lightly-exploited area.

Inferences can be made of catch rates of yellowfin tuna which have appeared slightly higher in some years than others suggestive of the targeting of yellowfin. Catch rates of yellowfin and bigeye are reported as highest during the first and last quarters of each year.

In 2009 the total long line catch from the Niue EEZ was estimated at approximately 202.5 mt dominated by albacore (~147.2 mt) with lesser amounts of yellowfin (~19.5 mt) and bigeye (~10.0 mt)

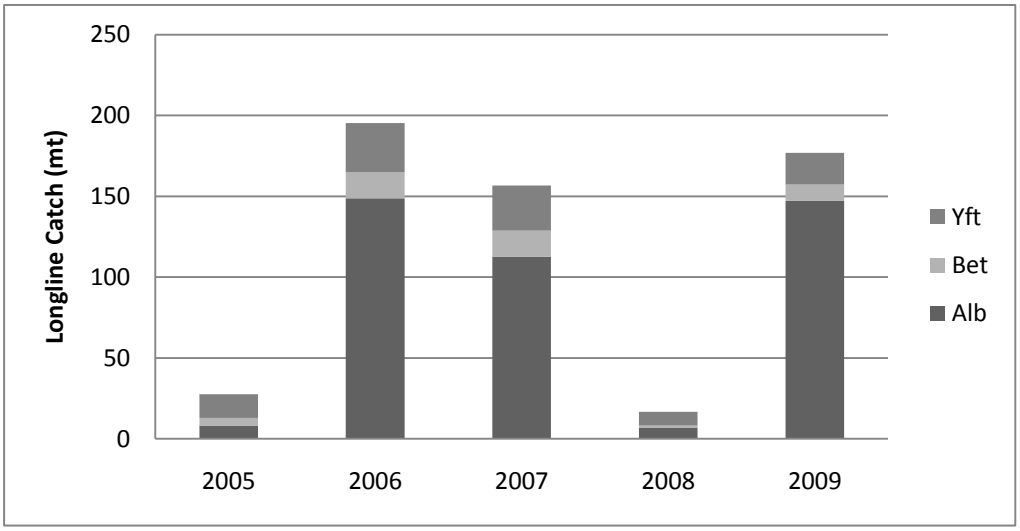
Table 1 Catch Composition of Major Species within the Niue EEZ from 2005-2009

Year	ALB	BET	YFT	BLM	BUM	MLS	SWO	WAH	DOL
2005	8.11	4.81	14.7	-	-	0.41	0.55	1.00	-
2006	148.66	16.21	30.32	2.80	2.44	2.33	1.16	5.18	4.69
2007	112.56	16.23	27.78	3.36	6.66	5.69	1.66	7.78	6.36
2008	6.98	1.30	8.48	0.4	0.12	0.43	-	0.72	0.19
2009	**147.19**	**10.10**	**19.54**	**1.35**	**1.70**	**6.14**	**1.00**	**6.14**	**2.23**

Source: Operational Logsheets

Unloading of catches was undertaken through in-port transhipment. 18 mt was landed in Niue while the remaining catches were unloaded in American Samoa directly to the canneries.

Figure 1: Historical catch (mt) of Niue's long line fishery in the Niue EEZ by main tuna species



1.1.2 Number of Vessels by Gear Type and Size

Fishing activity in Niue is undertaken within a relatively small EEZ (~ 450,00km²) and consists of three components, an artisanal boat and canoe fishery, a tourism related sport fishery and the developing commercial domestic long line fishery.

Niue's artisanal fleet comprises of traditional outrigger canoes (~100) and small (3.7m to 8.0m) aluminium boats (~40-50). Fishing activity by gear undertaken by the artisanal fleet has been mainly troll or vertical longlining with a few other methods of hooked gear. Fishing effort is predominantly focused around anchored FADs which are located within 3 nautical miles of the island with most of the fish caught being used to supply local demand and the remainder for subsistent consumption. Detailed catch records have been kept by SPC since 2001 with the inception of SPC's FAD program which has provided valuable catch and effort data for Niue's artisanal fishery.

Long line vessels of Pacific Island Countries and Territories have operated in the Niue EEZ including vessels from Samoa, American Samoa, Cook Islands, French Polynesia and Taiwan/Vanuatu under charter arrangements with Niue. Taiwanese, Korean and USA flagged longline vessels have been licensed under access agreements to fishing within Niue's EEZ in the past.

The only foreign licenses that have been available for purse seine fishing in the Niue EEZ are for vessels operating under the Multilateral Treaty between the Government of the United States of America and the Governments of certain Pacific Island Countries.

Niue's fleet structure since 2005 is summarised in Table 2. In 2008 Niue only had one domestic vessel under 0-10 GRT fishing in the Niue EEZ. Since mid-2009 Niue had resumed operation under its joint fishing venture arrangement, issuing 9 licenses for long line vessels.

In 2009 Niue issued a fishing license for one vessel under the 50-200GRT category to allow for the in-port transhipment of Niue's catches due to the closure of the fish processing factory.

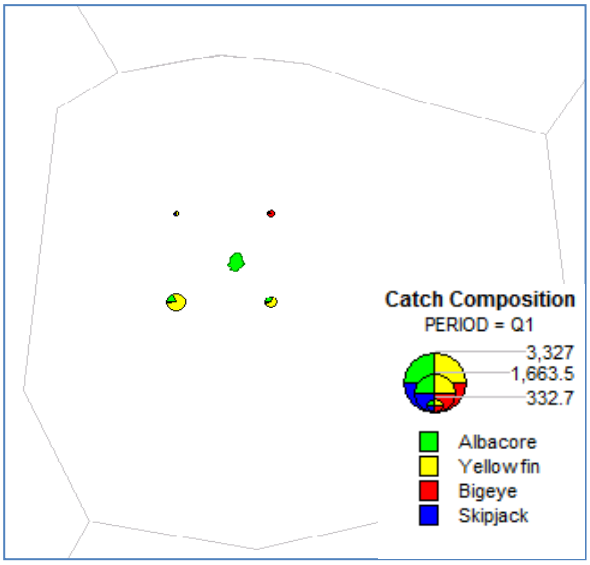
Table 2: Number of vessels within the Niue EEZ

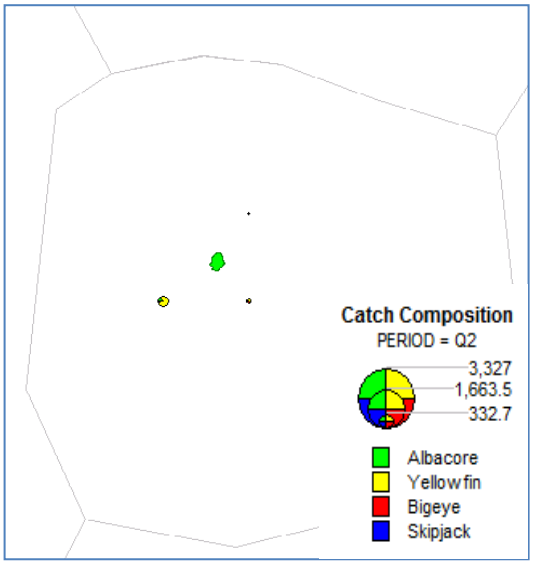
Size class (GRT)	2005	2006	2007	2008	2009
0–10				1	1
10–50	7	10	7		8
50–200					1
200–500					
500+					
Total	**7**	**10**	**7**	**1**	**10**

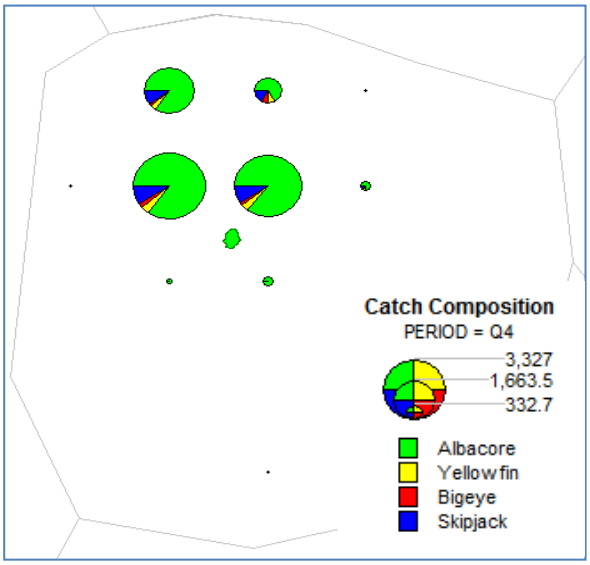
1.1.3 Fishing Patterns

Fishing effort since 2005 has been largely focussed in the north-west and central areas of the Niue EEZ. Resumption of the long line industry in 2009 experienced a similar concentration in fishing pattern (Fig 2).

Figure 2: Catch Composition and Distribution



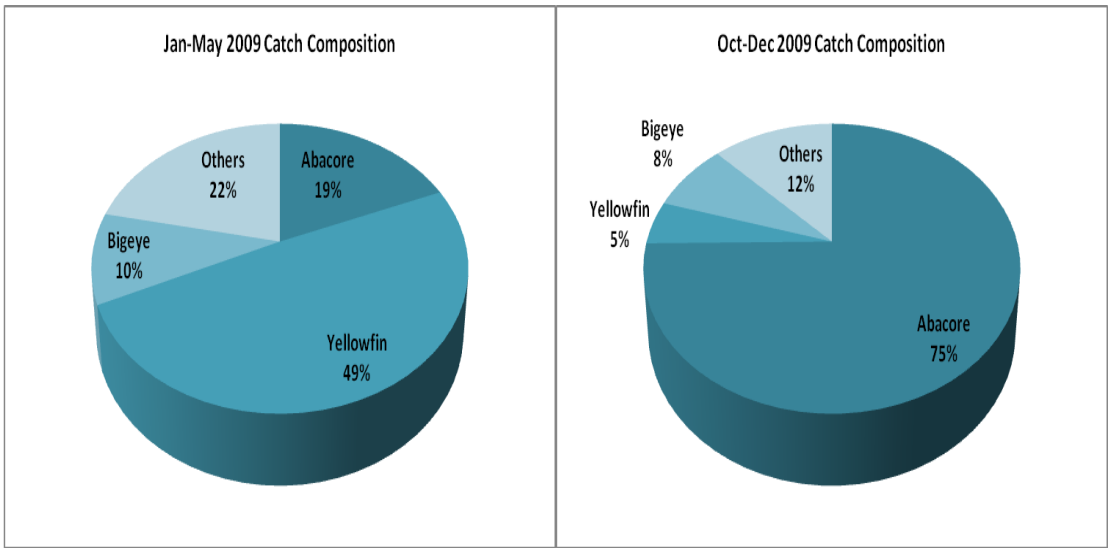




Catches of albacore and other pelagic species vary seasonally, impacting local abundances and therefore catch rates. The highest catch rates of albacore from the Niue EEZ have generally been reported during the middle of the year (May-September) with a smaller peak at the end of the year (November-December). Catch rates of yellowfin and bigeye are reported as highest during the first and last quarters of each year (Fig 3).

Fishing effort was at its lowest in the Niue EEZ during the first two quarters of 2009 with only one vessel fishing sporadically. During the 4th quarter of 2009 catch and effort rates increased with 7 vessels consistently fishing in the Niue EEZ. No catches were reported during the 3rd quarter.

Figure 3: 1st and 4th Quarter 2009 Catch Composition



1.1.4 Estimated Catches of Non-target, Associated, and Dependent Species

The major bycatch species of commercial interest to Niue is Wahoo and Mahimahi

Interactions with seabirds have not been recorded in the Niue long line fishery. Sea turtle interactions are very rare in the Niue long line fishery. During 2009 no interactions with turtles were reported

1.1.5 Other Information

The development of a large-scale commercial fishery has long been an aspiration of Niue. Despite resource limitations Niue has worked progressively over recent years researching and implementing viable operations while factoring in some of the constraints in pursuing such a venture such as those present in Niue. In recognising the potential of Niue's fisheries resources to provide greater economic development opportunities, the Niue Government has identified that the continued development of the commercial fishery be actively pursued over the next year and beyond. This priority and direction is reflected in the Niue National Integrated Strategic Plan 2009-2013. This document along with the Tuna and Billfish Management Plan provides the policy frameworks within which Niue can pursue its national development objectives and strategies and allow for the sustainable utilisation of these fish stocks both in the Niue EEZ and in their entirety.

Since 2005 exclusion zones have been in place within the Niue EEZ. These zones were established to reduce interactions between artisanal vessels and the long line vessels to maintain catches, catch rates and supply of fish to local markets by artisanal vessels.
The three long line exclusion zones in regard to permitted fishing activities are:

- 0-3nmi from the coast: only artisanal vessels are permitted to fish. All long line vessels are excluded from fishing in this zone;
- 3-12nmi from the coast: artisanal vessels and small long line vessels (<10m in length) are permitted to fish. Longline vessels greater than 15 m in length are excluded from fishing in this zone;
- 12-200nmi from the coast: all vessels are permitted to fish including long line vessels greater than 10 m in length.
- 3nm closed areas around both Antiope and Beveridge Reefs.

Since the development of the domestic tuna long line fishery within the Niue EEZ in 2005 vessel numbers have fluctuated over the years resulting in fluctuations incatch .
In 2008 Niue experienced its lowest catch and effort rates in the fishery since 2005 with only one active vessel landing 21.7 mt. In late 2009 Niue pursued alternative arrangements with its joint venture partner and approved in-port transhipment of catches from the Niue EEZ.

Since 2005 small quantities of yellowfin and bigeye have been exported as chilled sashimi grade products to the USA and Hawaii markets and as frozen loins to the New Zealand market. Majority of the catches taken from within Niue's EEZ were destined for the canneries in American Samoa. Catches for 2009 were transhipped in port to a 'mother ship' which continued on to Pagopago, American Samoa to the canneries.

Niue Fisheries Officers observed approximately 100% of the in-port transhipment procedures which took place for 2009.

1.2 RESEARCH AND STATISTICS

1.2.1 Summary of Observer and Port Sampling Programmes

Observer data provides critical inputs to the regional stock assessment model as well as information on fisheries within an EEZ. More importantly, observers are able to record the catches and fates of all species regardless of whether they are retained or not thus providing a much higher level of detail than log sheet data.

There is currently no observer programme in Niue at present thus details of interactions of the long line fishery with species in the Niue EEZ are minimal. Inferences can be made however from limited observer data held by SPC from the vicinity of the Niue EEZ.

The data presented in this section should only be considered as broadly indicative of the species and frequency of interactions with the long line fishery in the Niue EEZ. This is due to the unique fishing operations that are likely to occur in the Niue EEZ (targeting, seasonality of fishing operations)

Between 1996 and 2006 a total of almost 16,000 individual fish from more than 70 taxa were reported by observers in the vicinity of the Niue EEZ from approximately 600,000

hooks. Twenty four taxa represented more than 60% of all catches. Many other species of commercial and/or artisanal importance were also reported.

Only one turtle was reported by observers as captured by the long line fisheries operating in the vicinity of the Niue EEZ. It is unlikely that turtles are common in the Niue EEZ due to the absence of suitable nesting habitats.

Table 3: Summary of catches by species reported by observers on long line vessels in the vicinity of the Niue EEZ, 1996-2006

Species	Number	%	Number/hhooks
Albacore	*5,908*	36.73	1.14
Yellowfin	*2,415*	15.02	0.47
Bigeye	*867*	5.39	0.17
Longsnouted lancet fish	*860*	5.35	0.17
Skipjack	*776*	4.82	0.15
Blue Shark	*764*	4.75	0.15
Wahoo	*705*	4.38	0.14
Mahi-mahi	*688*	4.28	0.13
Oceanic whitetip shark	*485*	3.02	0.09
Escolar	*283*	1.76	0.05
Shortbill spearfish	*262*	1.63	0.05
Oilfish	*215*	1.34	0.04
Unspecified	*197*	1.22	0.04
Blacktip shark	*173*	1.08	0.03
Shortfin mako shark	*158*	0.98	0.03
Opah	*154*	0.96	0.03
Great Barracuda	*108*	0.67	0.02
Striped marlin	*104*	0.65	0.02
Silky shark	*98*	0.61	0.02
Indo-Pacific sailfish	*86*	0.53	0.02
Swordfish	*75*	0.47	0.01
Black marlin	*75*	0.47	0.01
Barracuda (unidentified)	*74*	0.46	0.01
Blue marlin	*54*	0.34	0.01
Turtle (unidentified)	*1*	0.01	0.00

Source: Observer data held by SPC

Port sampling data provides additional supporting biological data pertinent of a fishery (species composition, length and weigh frequency) within a national EEZ. Limited size data from port sampling operations are available for Niue. Most of the size data that is available is for the periods April-July 2005 and May-July 2006. Size data for albacore tuna showed a single strong mode of 100 cm FL. Wider size ranges of bigeye tuna have been captured in the Niue EEZ (80 – 130 cm FL) with up to three size modes observed. Two size modes are observed in the yellowfin data (50-150 cm FL) and nearly all the skipjack captured in the Niue EEZ were 45-90 cm FL.

Wahoo captured in the long line fishery of Niue were mainly between 85-150 cm FL with most of the Mahimahi captured in the long line fishery were between 75-125 cm FL

Niue has experienced a decline in its port sampling coverage from 80% in 2006-2007 to approximately 50% from 2007-2008. Partial coverage of 25% was achieved in 2008. An increase or in this case, decrease in the number of vessels or changes to the target coverage coupled with limitations in staff support and other administrative constraints will often result in a proportional increase or decrease in the amount of resources available and required for the effective coverage to be achieved and poses a challenge for a small fisheries administration to effectively overcome.

Port sampling coverage for 2009 was not achieved due to changes in the nature of the fishery operation. Niue will consider the expansion in the collection of size data in the Niue EEZ from both the long line fishery and the artisanal fishery.

1.2.2 Research Activities

Niue aims to undertake a Wahoo tagging project in late 2010 as Wahoo is a significantly high value fish of importance to food security for Niue. Catch rates have displayed relatively minor seasonal fluctuations however a longer time series of data is required to better determine temporal and spatial patterns of catch rates in the Niue EEZ supported by biological data.

1.2.3 Statistical Data Collection Systems

Niue currently has two main data collection systems in place to collect catch and effort data for:

i. Artisanal and canoe fishery
ii. Tuna long line fishery

Catch and Effort Data
Catch, fishing effort, fishing operation data and vessel information are collected from operational log sheets provided by each long line vessel with a license to fish in the Niue EEZ since 2005.

Unloadings Data
Unloadings data is collected during each in port transhipment procedure which also provides market destination information of the catches.

1.2.4 Data Coverage of Catch, Effort and Size Data for all Species

Longline tuna vessels are required by their licensing terms and conditions to fill in logsheets providing 100% coverage of catch and effort. Coverage of catch and effort data for 2009 has been achieved at 95% which is supported by the unloading data coverage.