

COOK ISLANDS OFFSHORE FISHERIES

ANNUAL REPORT

2017



Ministry of Marine Resources

GOVERNMENT OF THE COOK ISLANDS

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Abstract

This report provides a broad overview of the major commercial fisheries operating under Cook Islands jurisdiction and management within the Cook Islands Exclusive Economic Zone (EEZ) and beyond our fisheries waters. The report highlights activities during the most recent calendar year (2017) and covers the most recent catch data estimates by gear and species. This report outlines the nature and scope of fishing effort and catches in the Cook Islands EEZ, and includes information about the Observer Programme, Monitoring Control and Surveillance (MCS), and Cook Islands vessels operating in areas beyond national jurisdiction.

Introduction

The Cook Islands offshore fishery consists of longline fishing vessels targeting tuna and tuna-like species, purse seine vessels operating under the US Multilateral Treaty and bilateral agreements, Cook Islands trawlers operating in the southern Indian Ocean, and a small fleet of bunker vessels servicing the fishing industry in the Pacific and Indian Oceans.

The majority of the longline fishing activity was concentrated in the Cook Islands Exclusive Economic Zone (EEZ) in the northern Cook Islands, in areas north of 15°S. Some longline fishing also took place in the EEZs of other countries within the Western Central Pacific Fisheries Commission (WCPFC) Convention Area (Figure 1). One nationally flagged vessel fished in the High Seas within the Convention Area during the 2017 period. All purse seine fishing activity occurred within the EEZ.

South Pacific albacore tuna (*thunnus alalunga*) is the main target species in the longline fishery. The longline vessels fishing in the Cook Islands EEZ mostly operate out of Pago Pago, American Samoa and Apia, Samoa with catch unloaded to canneries, or transhipped to carriers or containers. Three Rarotonga based longliners catch albacore tuna and a range of species to cater mainly for the local market, with some exports to Japan. These vessels are around 20 metres in length and operate within 100 nautical miles (NM) of Rarotonga.

The purse seine fishery operates in the northernmost waters of the EEZ targeting Skipjack tuna (*katsuwonus pelamis*) in free school and FAD associated sets, with catch unloaded at canneries in Pago Pago. Purse seine fishing is conducted in the Cook Islands EEZ mostly by USA flagged vessels. In 2016, the Cook Islands entered into purse seine bilateral agreements with Korea and Kiribati flagged companies. A Sustainable Fisheries Partnership Agreement with the European Union was signed in October 2016 and came into force in May 2017.

Since 2012 the entire Cook Islands EEZ has been subject to a total ban on commercial fishing for all sharks, prohibiting the targeting, capturing and possession of any shark species.

Licensing and Fleet Structure

Longliners

In 2017, the Cook Islands longline fleet consisted of ten Cook Islands longline vessels operating within the Western and Central Pacific Fisheries Commission - Convention Area (WCPFC-CA). Of these, three domestic vessels were licensed to fish within national jurisdiction only.

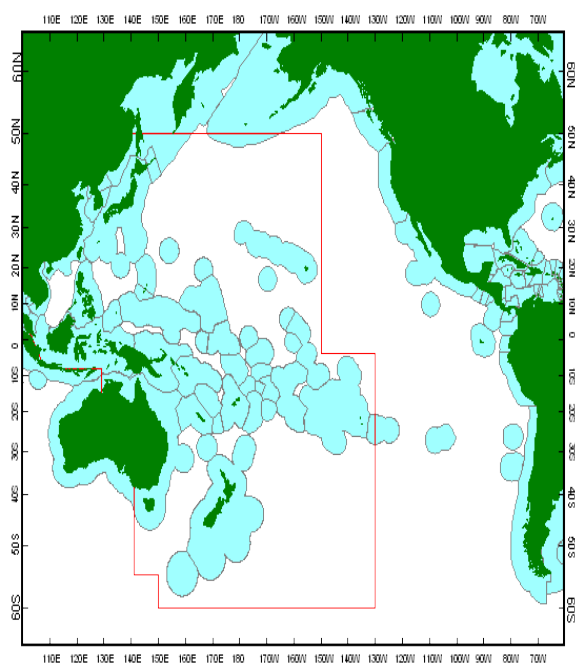


Figure 1. The red line indicates the boundaries of the Western and Central Pacific Fisheries Tuna

Eight vessels were authorised to fish both within the Cook Islands EEZ and on the High Seas, but rarely fished beyond national jurisdiction. A total of 45 foreign flagged vessels were licensed and authorised to operate within the Cook Islands EEZ during 2017. Foreign flagged longline fishing in 2017 was undertaken by two Chinese companies, with their vessels operating out of Pago Pago (American Samoa), Suva (Fiji), Papeete (French Polynesia) and Kosrae (Federated States of Micronesia). All commercial longline vessels were prohibited to fish within 12NM (the territorial seas) of all islands and 24NM of Rarotonga.

Purse seiners

Purse seine vessels under the US Multilateral Treaty were authorised to fish in Cook Islands waters in 2017. A total of 49 purse seine vessels were licensed to fish within the Cook Islands waters. Three non-US companies were authorised to fish with vessels flagged from Kiribati, Korea and Spain. All purse seine vessels are prohibited to fish within 24NM of each island and 48NM of Rarotonga.

Other commercial vessels

The Cook Islands has two mid-water trawl vessels that target orange roughy (*Hoplostethus atlanticus*) and alfonsino (*Beryx splendens*). These vessels fish in the Southern Indian Ocean and offload their catches in Port Louis, Mauritius and Capetown, South Africa.

A total of eight bunker vessels which supply fishing vessels with fuel and provisions were also authorised to operate within the Pacific and Indian Oceans.

Gear	Cook Islands	China	Kiribati	Korea	Spain	USA	Total
Longline	10	45	-	-	-	-	55
Purse Seine	-	-	7	6	2	34	49
Trawl	2	-	-	-	-	-	2
Bunker	6	-	2	-	-	-	8

Table 1. Breakdown of number of licensed vessels by gear and flag in 2017

Longline Fishery

Longline catch and effort trends

For the purposes of this report, catch estimates are generated using operational logsheet data. The total longline tuna catch estimate for 2017 within the Cook Islands EEZ is 4,801mt, which is a 26% decrease from 2016, and a 82mt increase from the 2010-2015 average. Total fishing effort in the CK EEZ was approximately 15.3 million hooks (Figure 2), with 13.1 million hooks of effort from Cook Islands flagged vessels attributed to effort within the WCPFC area. Albacore continues to dominate the overall catch totalling about 3,552mt and accounting for 65% of the total species catch composition. Yellowfin tuna (*thunnus albacares*) comprised

18% of the longline catch (971mt) and bigeye tuna (*thunnus obesus*) 5% (277mt) (Figure 3). Other species make up the remaining 12% of catch, including blue marlin (123mt), skipjack tuna (79mt), wahoo (107mt), swordfish (54mt), mahi mahi (59mt) and others (Figure 4).

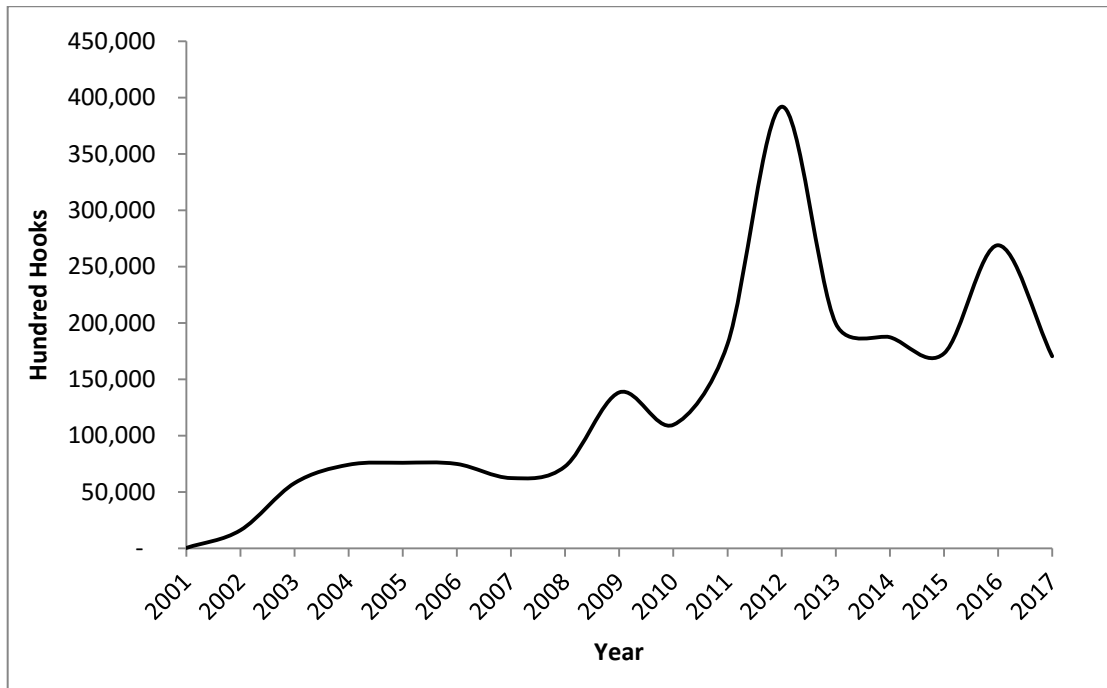


Figure 2. Total longline fishing effort (number of hooks) per year in Cook Islands EEZ 2001 – 2017

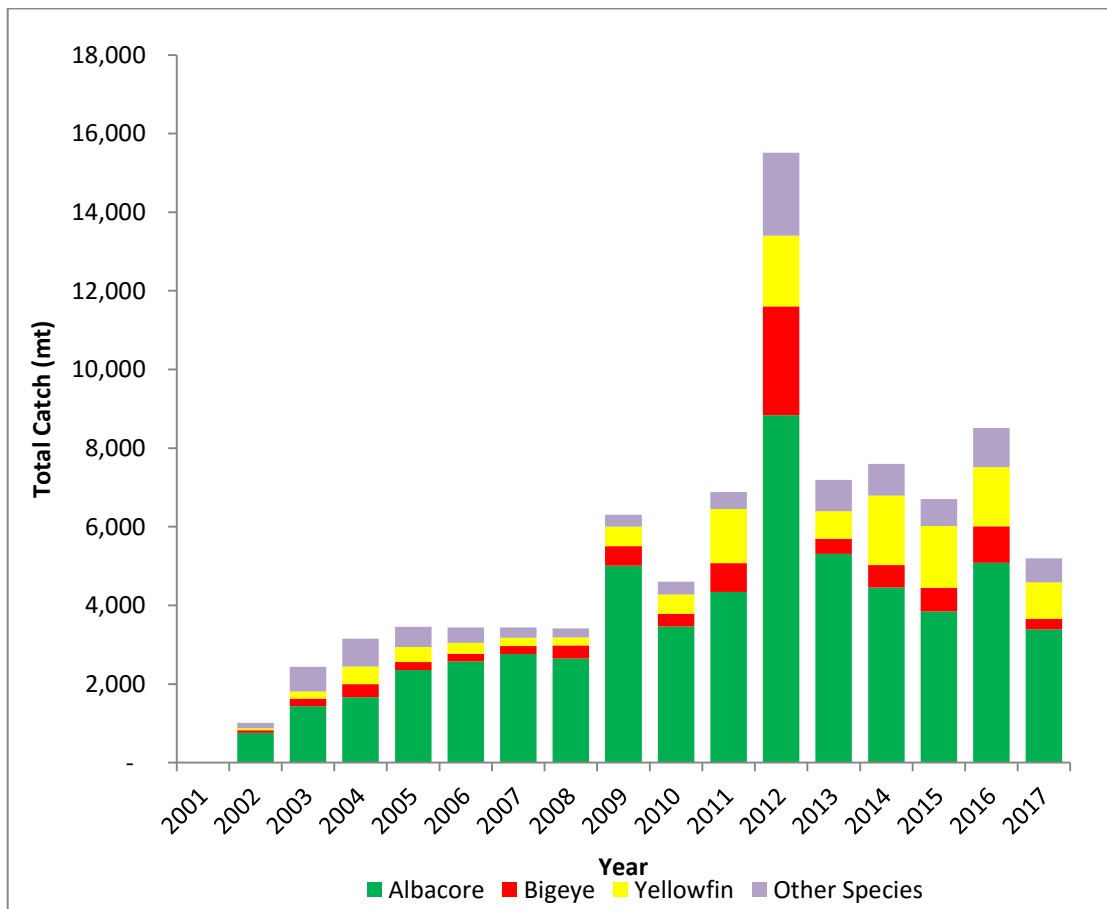


Figure 3. Time series of longline catch by key species within the CK EEZ from 2001 – 2017.

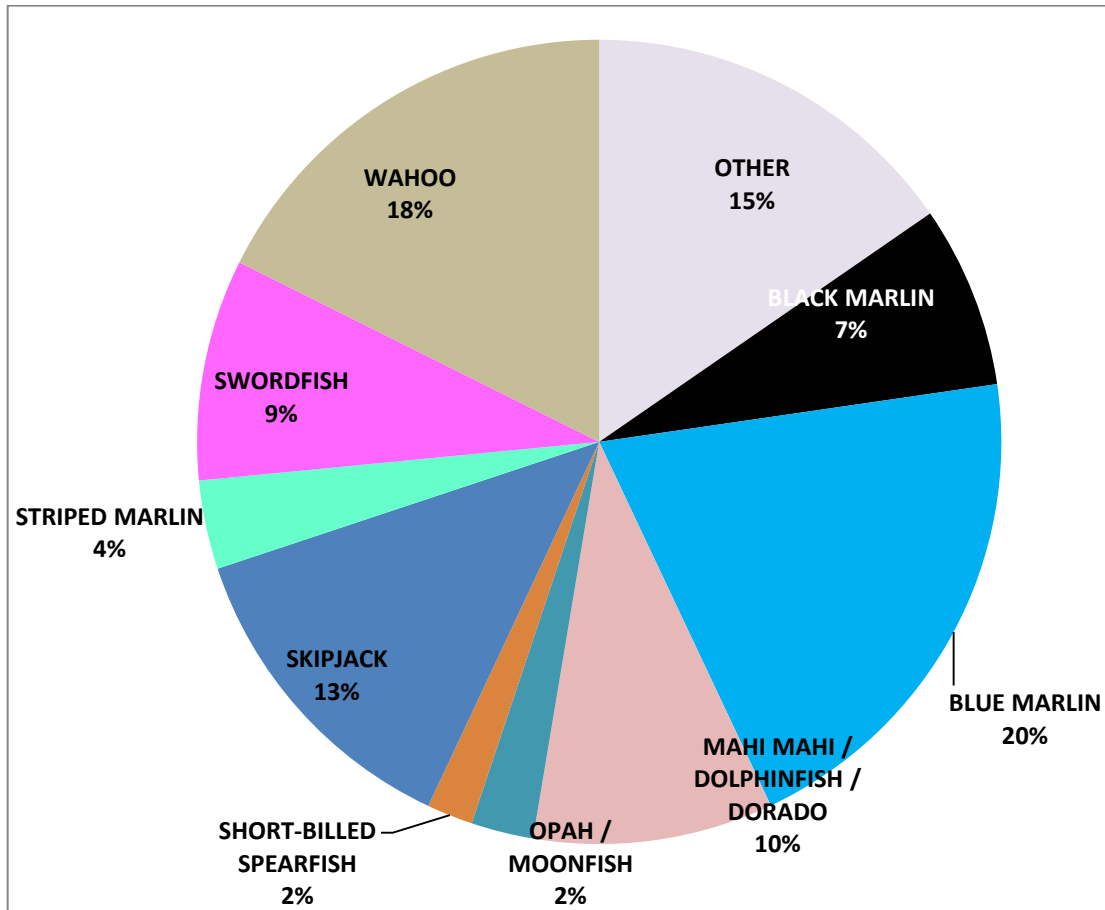


Figure 4. Species catch composition of 'Other Species' in 2017.

Catch rates of albacore, measured in kilograms per 100 hooks (kg/Hhks), have steadily declined since 2007 from around 44kg/Hhks to 22k/Hhks. Catch per unit effort (CPUE) for both bigeye and yellowfin tuna has fluctuated around 4kg/Hhks. In 2017 Yellowfin CPUE more than doubled and remained at that rate through 2015 (Figure 5). Low albacore catch rates earlier in the time series indicate an un-fished or lightly fished fishery, with an evident increase in CPUE catch through 2016 and 2017.

There is a strong seasonal trend evident in Cook Islands fisheries. In general, first and fourth quarter catch rates and total catch are low, with this period referred to as the off-season. Second and third quarter catches are the peak of the fishing season with CPUE of albacore ranging between 20 and 80 kg per hundred hooks in 2017. Yellowfin tuna had high catch rates from March 2017 with a second peak of increased CPUE (25kg/Hhks) around May. Catch rates of all three key tuna species steadily declined from September onwards, signalling the end of the fishing season in both 2016 and 2017 (Figure 5).

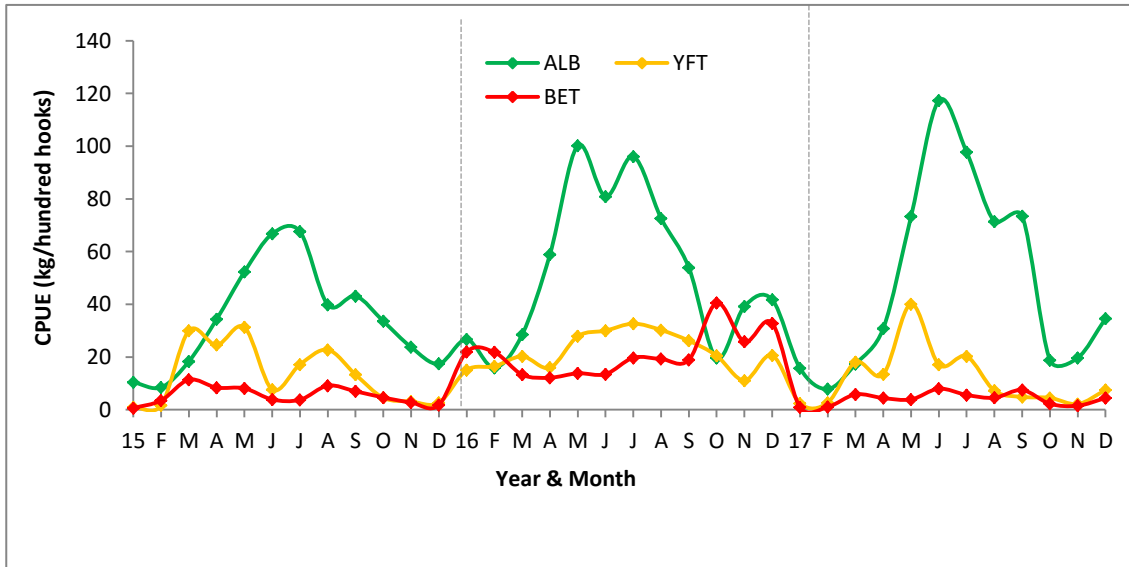


Figure 5. Monthly CPUE for albacore (green), yellowfin (yellow) and bigeye tuna (red) 2015-2017 for all vessels fishing in the Cook Islands EEZ

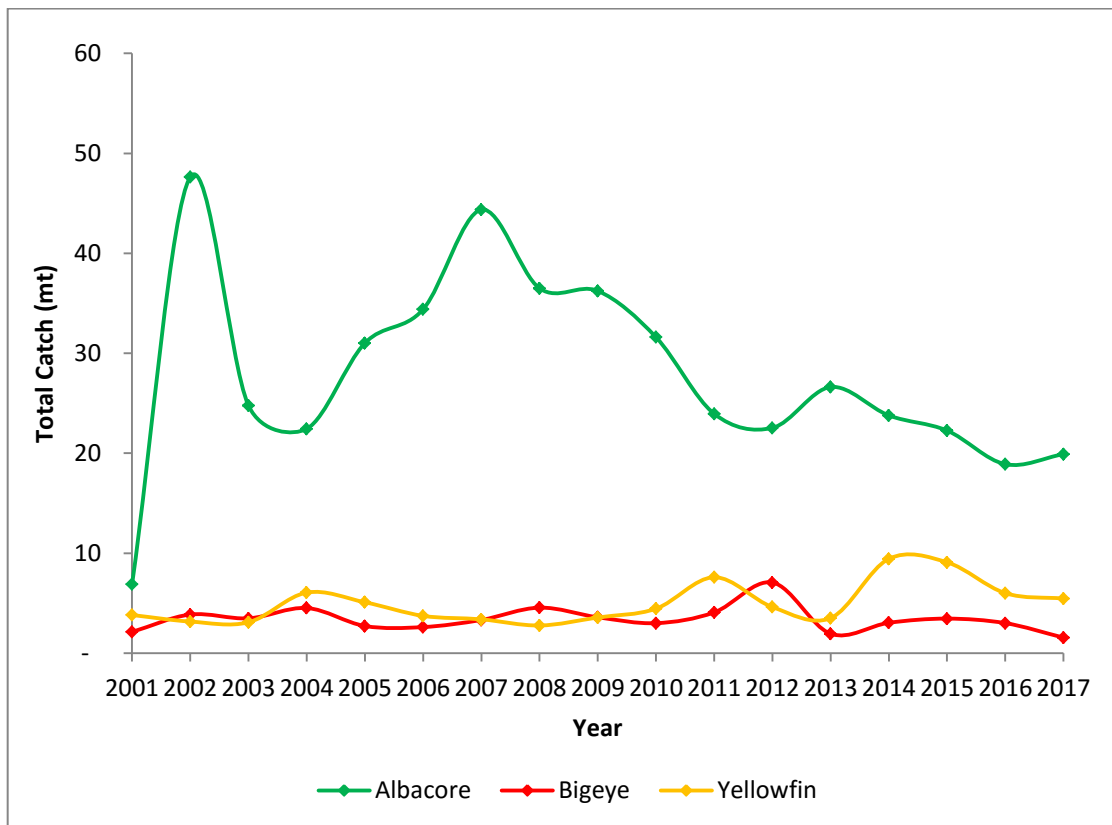


Figure 6. Annual average catch per unit effort (kg per 100 hooks) key tuna species 2001-2017.

Longline catch and effort beyond national jurisdiction

The majority of Cook Islands flagged longline fishing vessels issued with EEZ licenses are issued authorizations to fish on the High Seas and areas beyond national jurisdiction within the WCPFC Convention Area, with the exemption of three domestic vessels. A total of 12 longline fishing trips were undertaken in areas beyond the CK EEZ with a total catch of 33mt.

Longline catch distribution

Figure 7 demonstrates 5 degree x 5 degree aggregated distribution of key tuna species catch for 2017. The longline fishery is typically delineated around 15°S however longline fishing effort and catch continues to extend further south than in previous years. In 2017, 45% of key tuna species were caught below 15°S latitude.

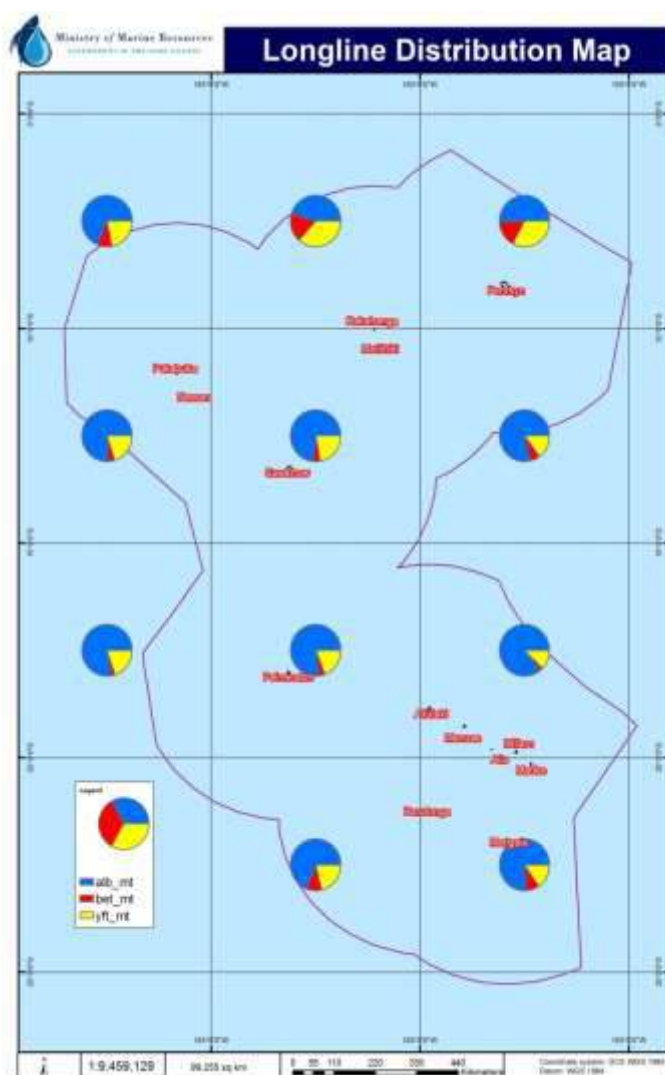


Figure 7. Fishing distribution of longline catch for key tuna species in the Cook Islands EEZ, 2017 (metric tonnes).

commercial fishing exclusion zone around all islands in the Cook Islands. Marae Moana is designed as a multi-use marine protected area extending over the entire Exclusive Economic Zone of the Cook Islands. As a consequence, commercial fishing will be prohibited within 50NM around all islands, to be implemented in 2018.

below 15°S latitude. bigeye tuna is mostly taken in the northernmost part of the EEZ, north of Penrhyn, closer to the equatorial belt. Similarly, there are higher catches of yellowfin tuna in the same tropical band (north of 10°S). Large concentrations of Albacore were taken south of 15°S of the EEZ towards Aitutaki and south towards Mangaia. This high concentration is indicative of the three domestic vessels operating out of Rarotonga, but in 2017 also includes an increased presence of other licensed longline vessels following the fish south.

In July 2017, the Cook Islands passed the Marae Moana Act was enacted to promote the ecological, biodiversity and heritage values of the Cook Islands marine environment.

This act mandated a 50NM

Regional Longline Perspective

The provisional total tuna catch in the Western and Central Pacific – Convention Area (WCP-CA) for 2017 was estimated at 2,539,950 mt, approximately 340,000 mt below the record catch in 2014 (2,883,204 mt). About 9% of this catch (240,387mt) was taken by longline fisheries, lower than in the past five years. Albacore tuna was 40% of WCP-CA longline catch (96,280mt) which was higher than the average catch over the past decade, and only 50,000 mt lower than the record of 101,816 mt (2010). Yellowfin tuna was 35% of longline catch (83,399mt), and bigeye tuna was 25% (58,164mt) (Williams & Reid, 2018). Annual catches in the longline fishery since 2000 have been high compared to historical catch figures (Figure 10). In comparison, the total albacore tuna catch in the Cook Islands EEZ comprises only 3.7% of the total longline WCP-CA albacore catch.

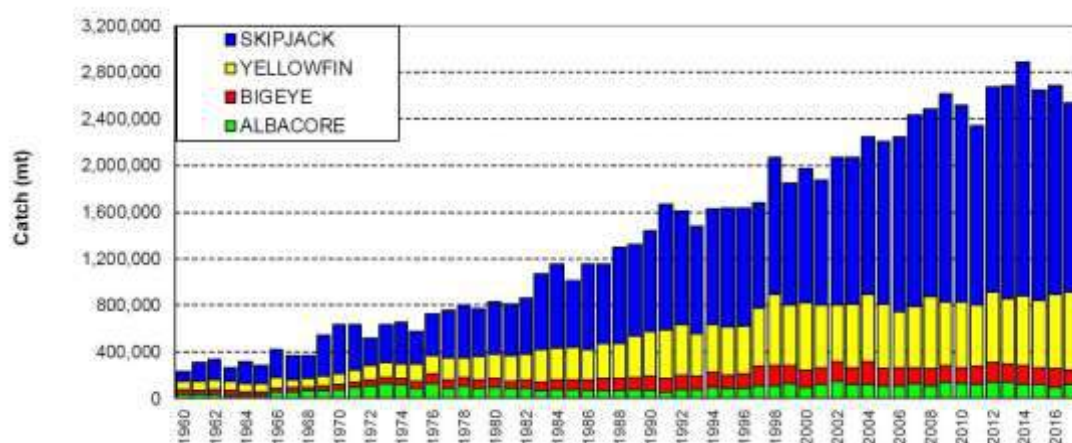


Figure 8. Longline catch (mt) of target tuna species in the WCPFC-CA from 1960 - 2017.

Source: WCPFC SC14/2018-GN-WP-01

Purse Seine Fishery

Purse Seine Catch and Effort Trends

The purse seine fishery is a surface fishery targeting schooling Skipjack tuna in the tropical waters of the Western and Central Pacific Ocean (WCPO). The purse seine fishery operates in the northernmost waters of the EEZ targeting tuna on both free and FAD associated schools. Associated schools include sets on drifting logs and drifting rafts known as Fish Aggregating Devices (FADs). This catch is unloaded in ports outside the Cook Islands, including Pago Pago. 2017 was the third year the Cook Islands agreed bilateral arrangements to license purse seine vessels in addition to vessels under the US Multilateral Treaty with Pacific Islands States (US Treaty). In 2017 an additional 15 vessels from Korea, Kiribati and Spain were licensed to fish in the Cook Islands EEZ.

The purse seine fishery is controlled by fishing effort using the Vessel Day Scheme (VDS), which monitors the days fished inside the Cook Islands EEZ. A fishing day is defined as either a set (deploying the purse net) or when the vessel is actively searching for a school, or deploying a fish aggregating device (FAD). The Cook Islands has a declared Purse Seine limit of 1250 vessel days available annually, of which 350 days are reserved for US vessels under

the US Treaty. US vessels fished 456 days in the Cook Islands EEZ in 2017 including additional days made available by bilateral agreement with the American Tunaboat Association (ATA). 76 days were fished by non-US operators. Two Spanish purse seine vessels were also authorised to fish under the EU Sustainable Fisheries Partnership Agreement (SFPA), with a capped total of 7,000mt from a national tonnage limit of 30,000mt. In 2017 the Spanish vessels fishing under the SPFA caught 650mt and were present in the EEZ for 13 days.

Catch logsheets are submitted by vessel operators and verified against monitoring data collected by MMR, with catch figures in this report compiled from verified logsheets.

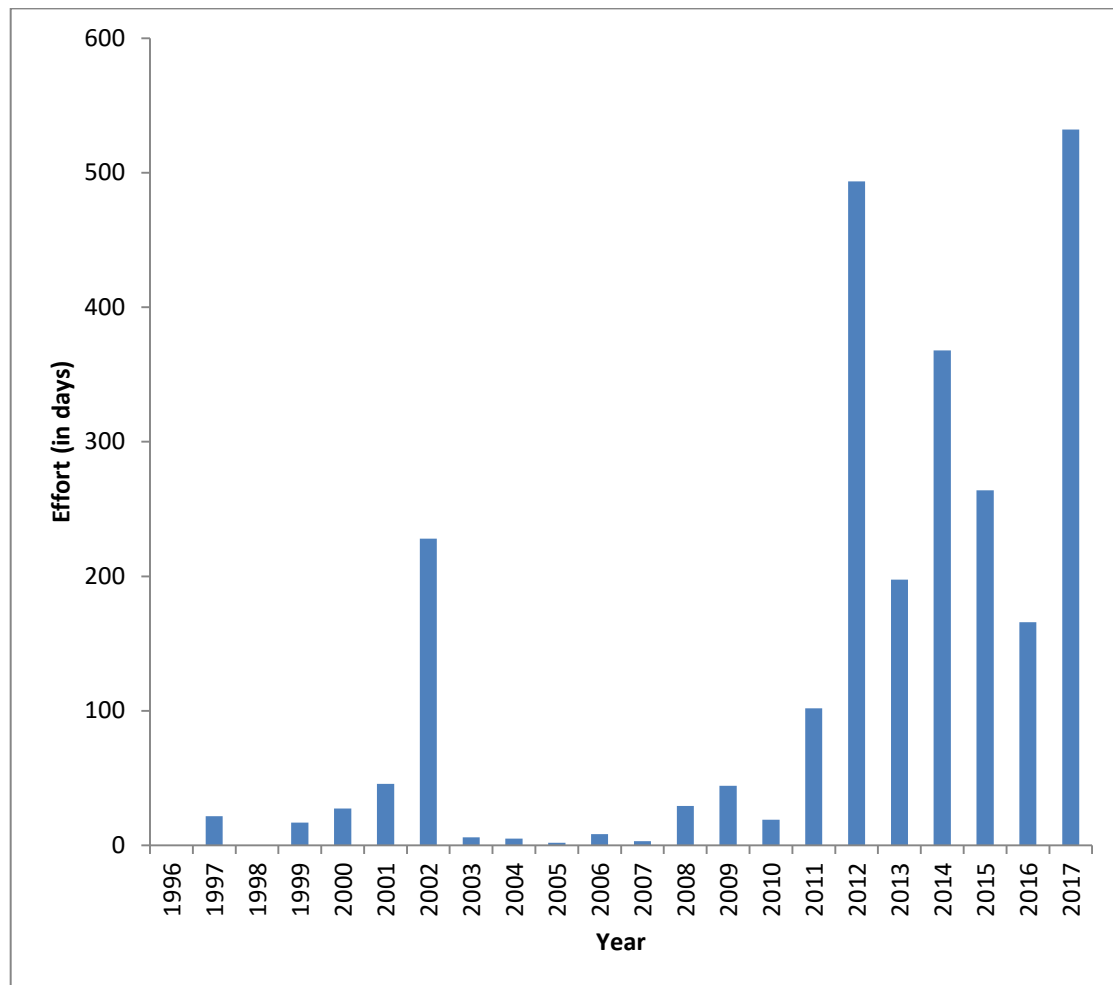


Figure 9. Total effort (in days) for the purse seine fishery within the CK EEZ from 1996 - 2017

Catches in the purse seine fishery in the Cook Islands EEZ have increased since 2012. Catch in 2017 was approximately 19,635mt representing a 67% increase over 2016. 90% of the total catch was Skipjack tuna, with 8% of Yellowfin and 2% of Bigeye tuna (Figure 10). 95% of the total catch in 2017 was taken from FAD associated sets and 5% from free school sets (Figure 11). Since 2012, an average of 79% of the total purse seine catch has been from associated sets, with 21% from un-associated sets, indicating the reliance on FAD sets for the viability of the fishery in Cook Islands waters.

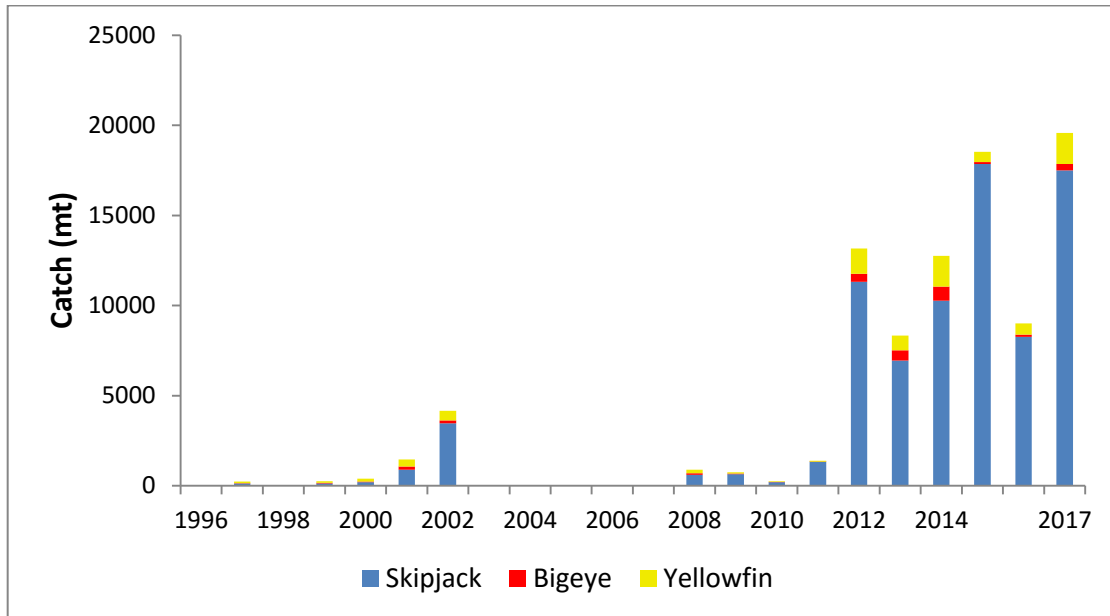


Figure 10. Catch (mt) of key tuna species in the purse seine fishery Cook Islands EEZ 1996 – 2017.

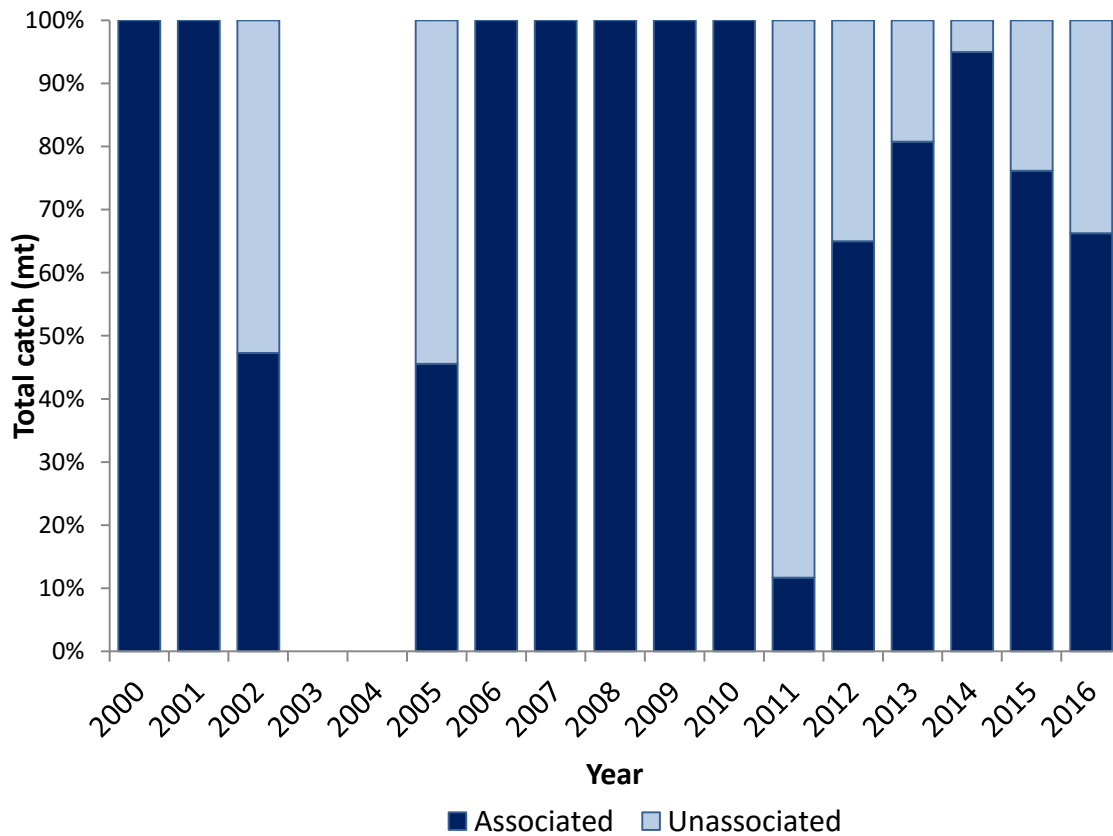


Figure 11. Associated and Un-Associated Purse Seine Catch Cook Islands EEZ 2000- 2017

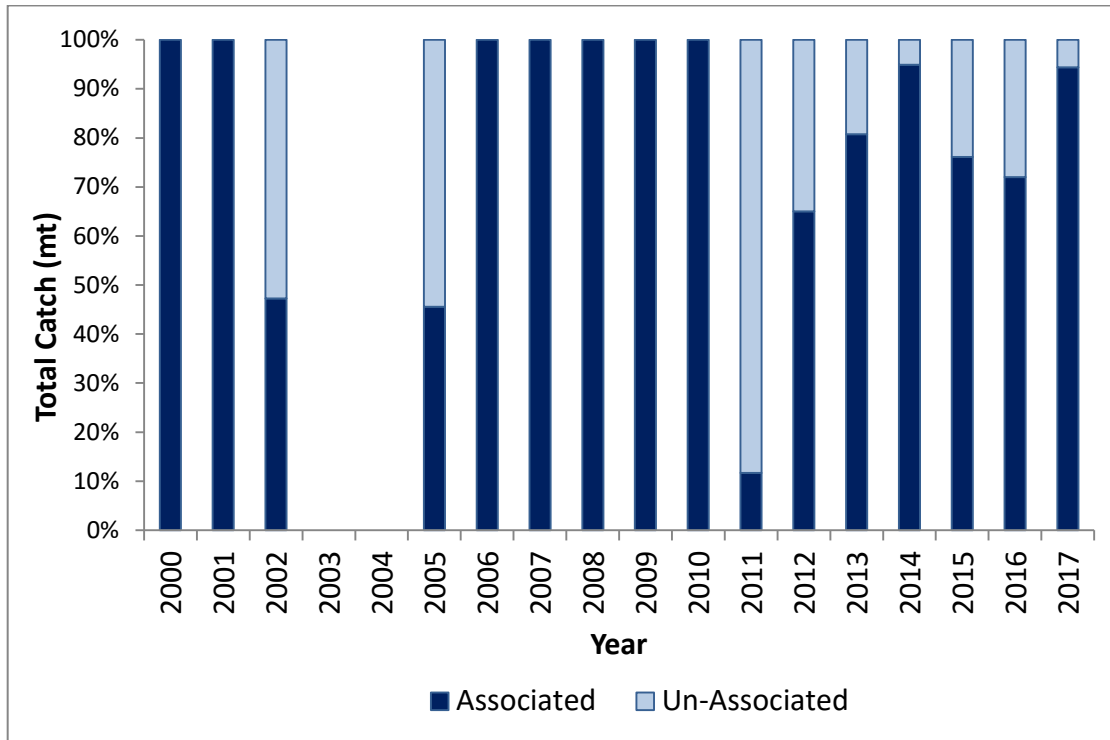


Figure 12. Proportion of the total purse seine catch (mt) taken on associated (FAD) versus unassociated (free school) within the CK EEZ, from 2000-2016.

There is a strong seasonal trend in the purse seine fishery, with the fourth and first quarter of the year the peak season of the fishery. This is opposite to the longline fishery which operates largely through the winter months. The purse seine fishery is subject to a three month FAD closure from July to September which prohibits the setting of nets on FADs. A total of 1,089mt of catch from unassociated sets and 17,548 from associated sets was taken during 2017 (Figure 11). No catch was reported during the FAD closure in July to September (Figure 13) as purse seine vessels move out of the Cook Islands EEZ during FAD closure.

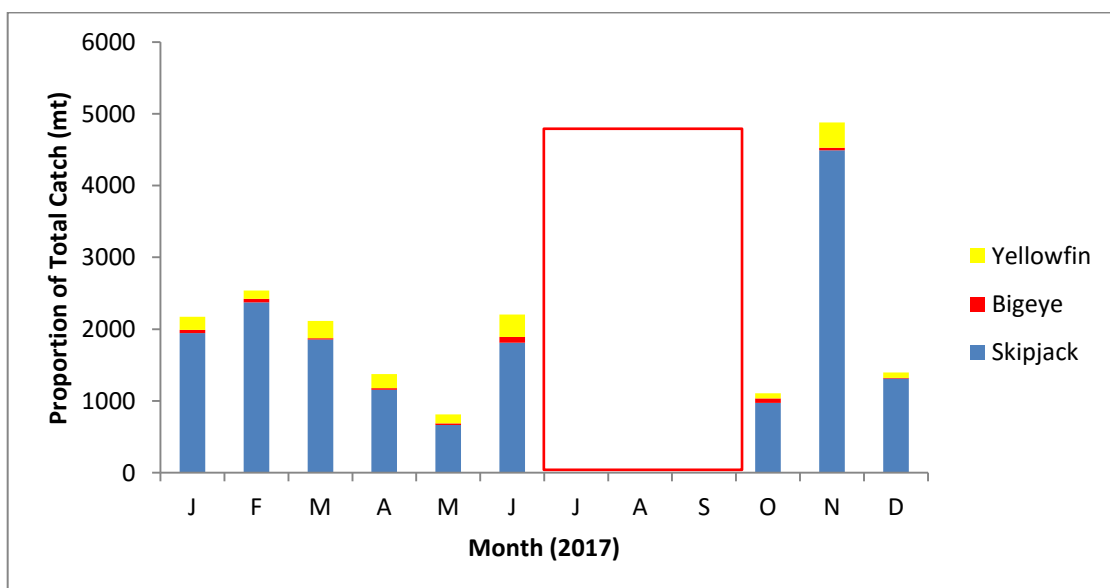


Figure 13. Purse seine logsheet catch estimates (metric tonnes) of key tuna species in by month in 2017. The red shaded area depicts the three month FAD closure.

Purse seine by-catch

The composition of bycatch in the purse seine fishery available from observer data coverage on 2017 purse seine sets indicates that silky sharks comprise the largest component of bycatch, followed by blue marlin and rainbow runners (Figure 14). Purse seine by-catch does not include yellowfin and bigeye tuna, which are regarded as secondary target species.

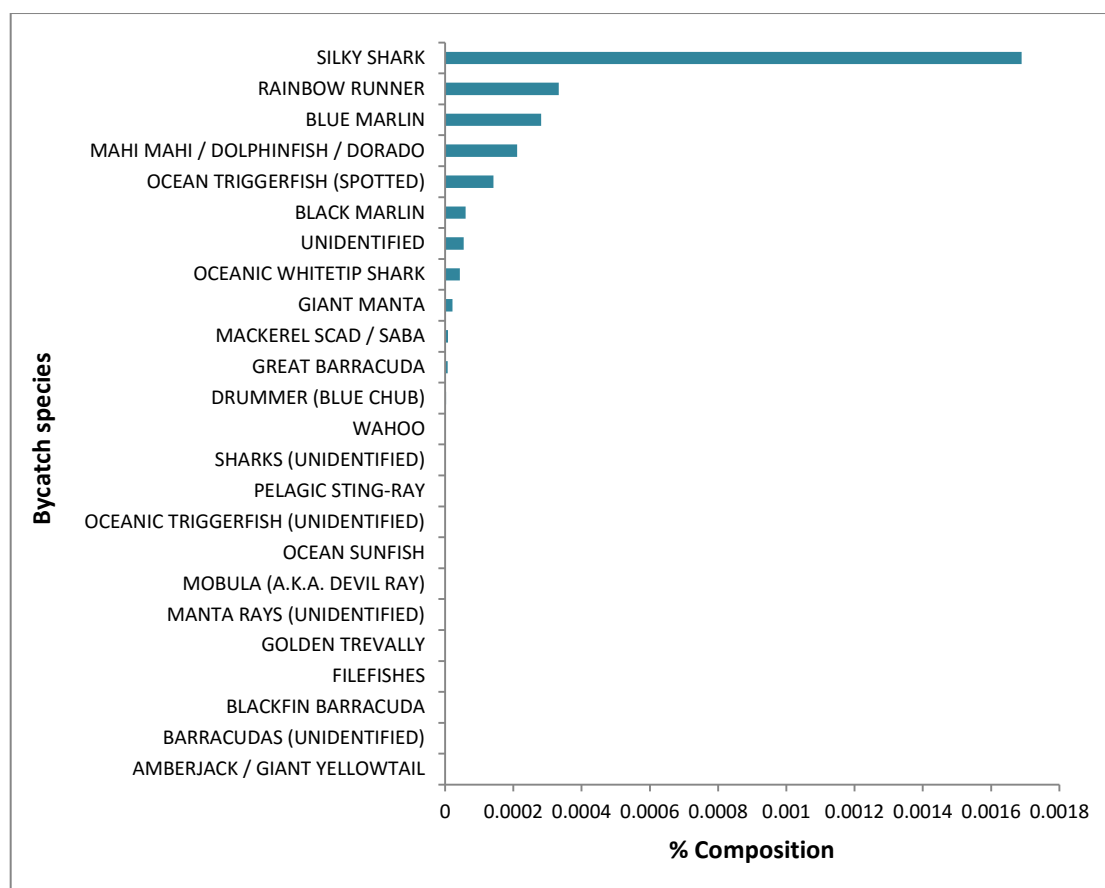


Figure 14. Purse seine by-catch composition in 2017 based on observer data.

Purse seine catch distribution

The spatial distribution of purse seine catches is exclusive to the northernmost parts of the EEZ, north of 13°S (Figure 15). 2016 was a strong El Nino year (Figure 17) and resulted in the expansion of purse seine activity into the eastern tropical areas. El Nino conditions continued into the first half of 2017 later moving abruptly to a neutral state by the middle of the year. As such, the Cook Islands experienced increased purse seine fishing activity, particularly in the first quarter of the year (Figure 13). All commercial activity is monitored in near real time with the capability to record vessel positions on a 24/7 basis from the national Oceans Monitoring Centre (OMC), using satellite based vessel monitoring systems (VMS).

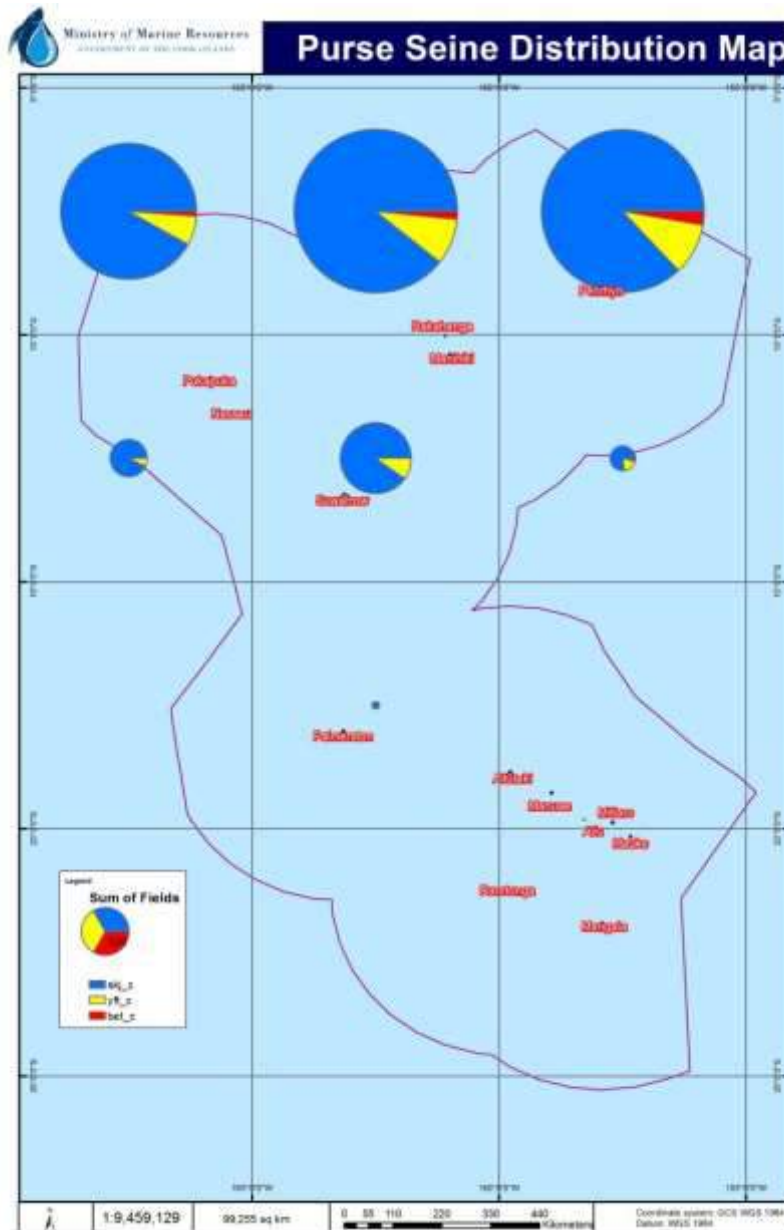


Figure 15. Purse seine catch distribution of key tuna species (mt) within the Cook Islands EEZ 2017.

Regional Purse Seine Perspective

The provisional purse seine catch in the WCPO in 2017 was 1,812,474 mt, slightly less than the most recent five-year average, and nearly 250,000 less than the record catch of 2014 (2,059,008 mt). 2017 catch was similar to 2016, however the species composition was different. 71% was skipjack tuna (1,280,311mt), 26% yellowfin tuna (472,279 mt), and 56,194mt of bigeye tuna. (Williams & Reid, 2018) (Figure 16).

The Cook Islands purse seine catch (19,595mt) constituted just 1.08% of the total WCPO purse seine catch in 2017. The regional purse seine catch and effort distribution is strongly influenced by El Nino – Southern Oscillation Index (ENSO) events. Fishing activity in 2014 and

2015 extended further to the central and eastern area of the WCPO, driven by a very strong El Nino event that continued through into 2015 and the first half of 2016.

The move to ENSO-neutral conditions during 2017 resulted in more effort in the area west of 160E compared to recent years, this also experienced a higher use of drifting FADs in the area east of 160E in 2017. In general the distribution of effort for each fleet in 2017 was similar to 2016 activities (Williams & Terawasi, 2018). There was a notable increase to Yellowfin portions in the overall catch (by weight) which generally occur during El Nino years, as well as higher Bigeye catch spread across the equatorial band compared to 2016.

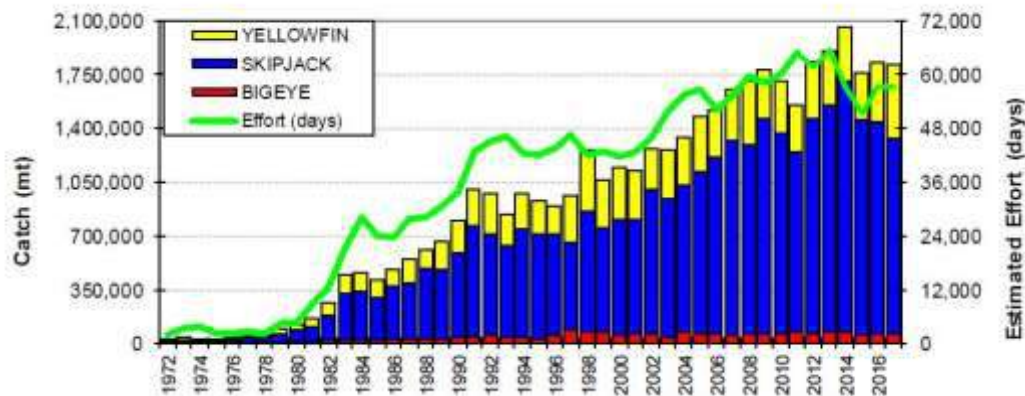


Figure 16. Purse seine catch (mt) of bigeye, skipjack and yellowfin and estimated fishing effort (days fishing and searching) in the WCPO from 1972 - 2017. Source: WCPFC SC14/2017-GN-WP-01

Total fishing effort (vessel days) has tracked quite closely with the total purse seine catch since the early 1970s. Higher catches with lower effort in 2014 shows increased catch rates over both 2013 and 2015. There has been a notable increase with Pacific Island purse seine fleets operating in the WCPO since 2015 (Figure 17).

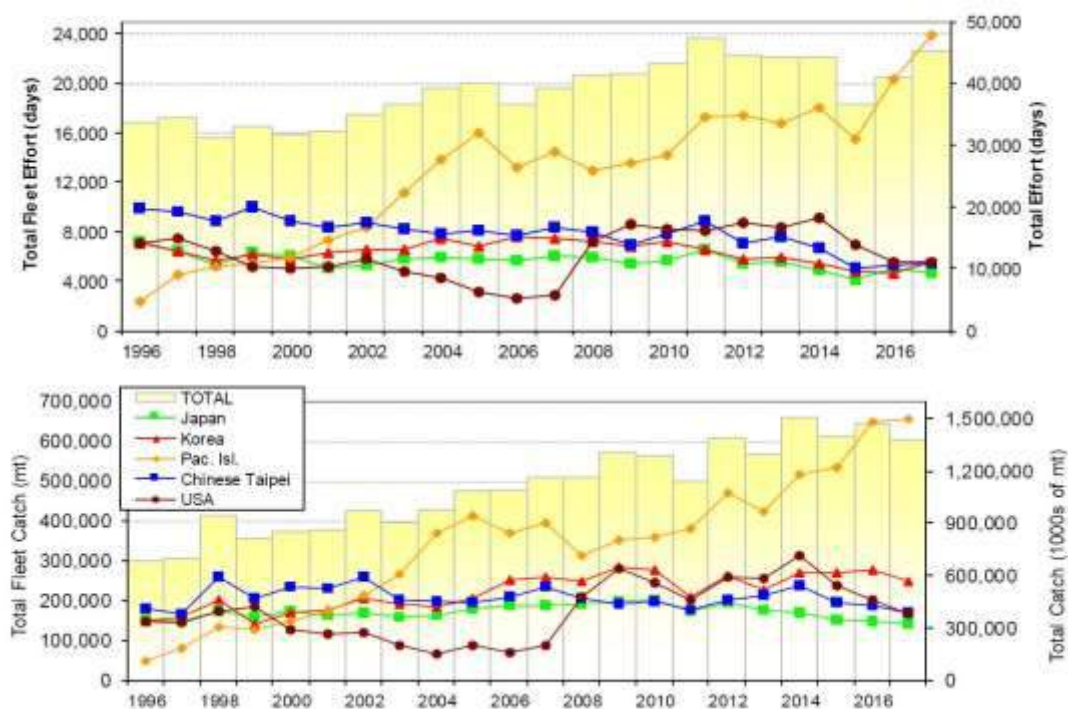


Figure 17. Trends in annual effort (top) and catch (bottom) estimates for the top five purse seine fleets operating in the tropical WCPO, 1996-2017. Source: WCPFC SC14/2017-GN-WP-01

The Artisanal Fishery

Offshore Division provides data collection and analysis services to the Inshore and Aquaculture Division to assist with the management of coastal artisanal fisheries in a holistic framework with the commercial fisheries offshore.

The Cook Islands artisanal fishery occurs from all inhabited islands, primarily targeting tuna and pelagic species. In 2017 there were 265 active artisanal vessels reporting on the artisanal database. Of these, 96% were small powered boats with outboard motors, 3% were recreational sport charter vessels (tourist operators), and 1% were unpowered canoes.

Small aluminium, fibreglass or wood constructed powered vessels are generally 2-4 metres in length crewed by 1-3 people, fishing for subsistence purposes. Artisanal fishers with powered vessels often troll around the coast of the islands, while unpowered canoes tend to fish at fishing aggregating devices (FADs) using handlining methods. Most islands within the Northern Group do not have deployed FADs and fishing in the north takes place within deep lagoons, and along the coast of islets (motu), resulting in a variety of reef and pelagic species being caught. It is very common for artisanal fishers in the Pa Enea (outer islands) to use multiple fishing methods at one particular spot due to fuel being limited and expensive.

There are currently 12 game charter vessels in the Cook Islands. These are high powered outboard and in board motorboats and are approximately 8-12 metres in length. Trolling is the main fishing method used to target billfish, tuna, and other pelagic game species.

Artisanal Catch and Effort

Artisanal catch data was recorded from the islands of Aitutaki, Atiu, Mangaia, Manihiki, Mitiaro, Mauke, Pukapuka, Rakahanga, and Rarotonga. Artisanal catch estimates totalled 255 mt in 2017 (Figure 18). Estimated numbers are based on reported catch; hours fished and catch per unit of effort (CPUE Kg/Hr).

Nassau saw a decline in total catch from 2015 to 2017, but the CPUE over all three years, an average of 34.2kg/hour, was the highest among all other islands. This indicated that very little effort is necessary to catch high quantities of fish there. Rarotonga and Aitutaki saw similar catches for 2017 with an estimated total of 56mt and 57mt respectively. This is due to higher catch yields (weight of fish) reported for Aitutaki, influencing the CPUE. Atiu had an estimated 27mt, Pukapuka 21mt and Rakahanga 20mt (Figure 19).

Data was insufficient from some islands, but MMR continues to work with artisanal fisherman and island fishing clubs to support and encourage timely and accurate data submission and address gaps in data submission through a programme of positive incentives and subsidies.

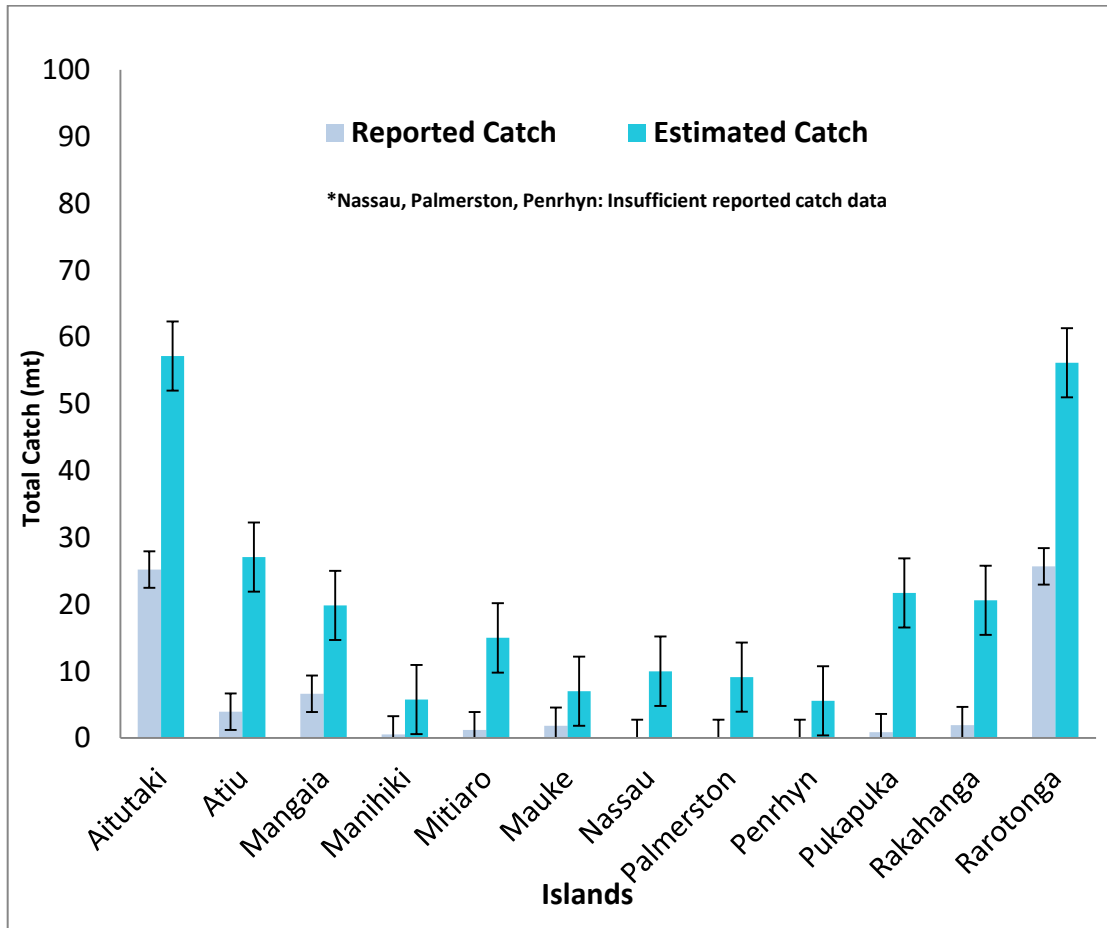


Figure 18. Artisanal reported and estimated catch totals (metric tonnes) per island for 2017.

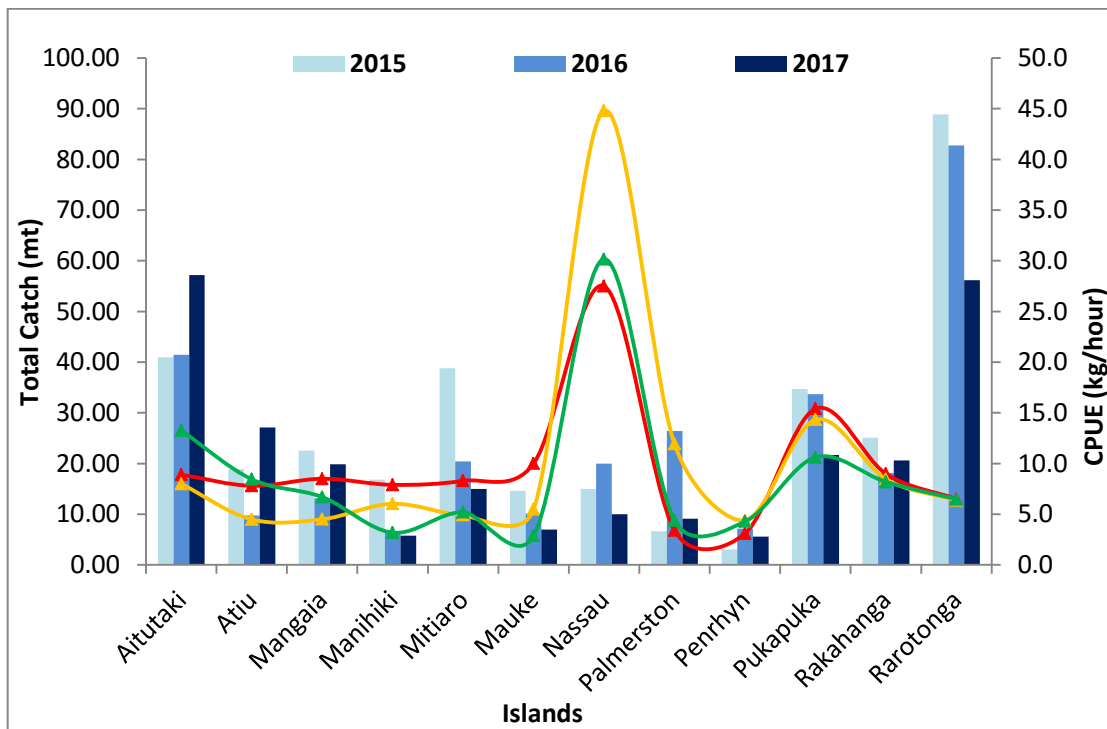


Figure 19. Total artisanal catch (metric tonnes) and catch per unit effort (kilograms of fish caught per hour) per island over years 2015, 2016 and 2017.

2017 saw a general decline in catch except for the islands of Aitutaki, Atiu, Mangaia and Rakahanga. This corresponded with a decline in CPUE (kilograms of fish caught per hour), suggesting a decline in the fishing effort for each of the respective islands. Total catch at Rarotonga in 2017 decreased 10mt compared to 2016 with 87mt reported. Aitutaki Catch in 2017 increased from 40mt to 57mt. Mitiaro had an estimated catch of 15mt in 2017, while Rakahanga showed a slight increase from 18mt in 2016 to 20mt in 2017 (Figure 19).

Yellowfin continues to dominate the overall catch at 150mt in 2017 (Figure 20), accounting for 66% of the total catch composition (Figure 21); followed by other species at 24% (56mt). Skipjack contributing 10% (23mt), and albacore 0.2% (0.5mt).

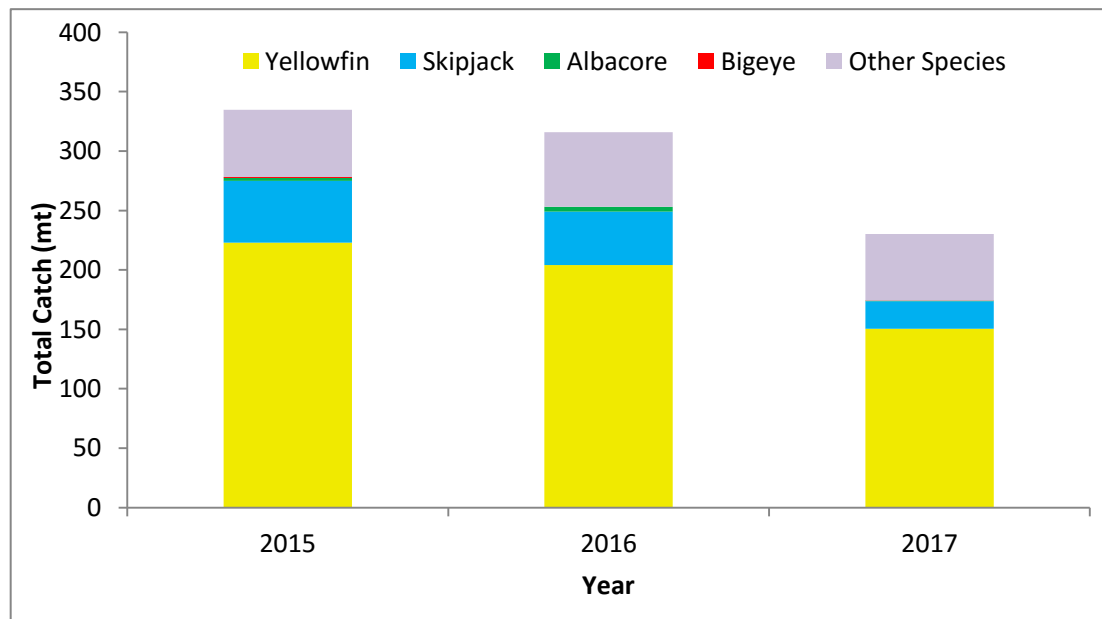


Figure 20. Total catch (metric tonnes) of key species 2015-2017.

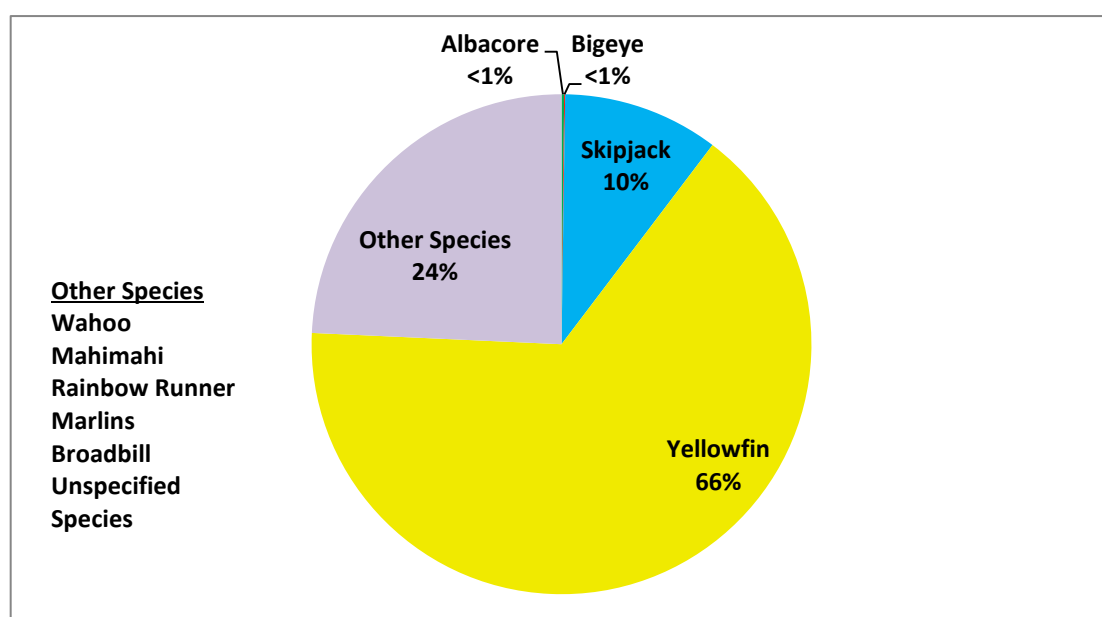


Figure 21. Total artisanal catch composition including 'other species' 2017

Catch rates of yellowfin tuna and other pelagic species measured in kilograms per hook have fluctuated since 2015 to 2017. Seasonal trends are apparent in the artisanal fishery. When yellowfin tuna catches decline during the third quarter of every year, the catch rates of other pelagic species tend to increase. In each year catches of yellowfin tuna CPUE decline by 60% in the third quarter (Figure 22).

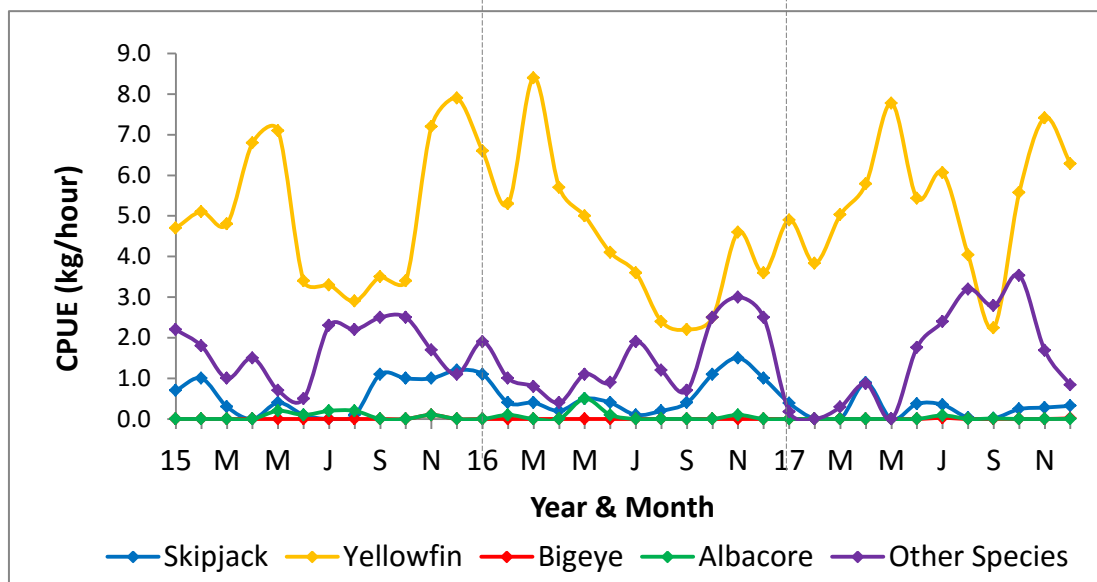


Figure 22. Monthly catch per unit effort of key tuna species and other pelagic species 2015- 2017. The dashed line indicates a new year.

In 2017 CPUE for other pelagic species more than tripled during the months of June through to October (Figure 22). Low bigeye and albacore catch rates indicate an unfished or lightly fished fishery. The species with the highest CPUE (kg/hour) per island for 2017 was yellowfin tuna, followed by other species.

Artisanal Fishery Developments

Offshore Division has developed a robust artisanal fishery data collection programme for delivery to Inshore and Aquaculture division since 2011. The Cook Islands is now one of the leading nations in the Pacific in terms of the development of artisanal fisheries programs. With this programme the Ministry has been able to carry out a basic artisanal data collection programme across all twelve inhabited islands.

Although the provision of catch data by Artisanal fishers is on a voluntary basis, this is now complimented with positive incentives via fuel subsidies and fisheries small grant schemes.

The introduction of the ‘TAILS’ mobile device application to synchronise artisanal catch data to the Ministry’s database has dramatically improved coverage in artisanal data collection. TAILS can operate with limited internet connectivity and provides a solution to the problems of geographic isolation experienced on many Pa Enea (outer) islands. In 2017, in collaboration with the Pacific Community (SPC), MMR undertook an ‘Artisanal Tuna Data Collection Workshop’ to train southern group Fisheries Officers to operationalize TAILS.

The long term goal of MMR is to improve the quality of artisanal fisheries data for the Cook Islands. The programme focused on Fisheries Officers;

- a) Being trained how to accurately complete the updated SPC regional data forms,
- b) Being educated on the importance of collecting good quality data,
- c) Getting feedback from data received in past years,
- d) Providing feedback of issues and concerns, and
- e) Registering all active fishing vessels

Sector support funding resulting from the Cook Islands and the European Union Sustainable Fisheries Partnership Agreement (SFPA) has enabled the grant of positive subsidies to artisanal fishermen in exchange for logsheet data. This was identified as a priority in response to the increasing costs of fishing and its impacts on the food security and livelihoods of the artisanal fishers and currently provides 10% fuel subsidies for Rarotonga/Aitutaki and 25% for the outer islands.

MMR is also mindful of the importance of sea safety for fishers and actively encourages fishermen to be fully equipped and compliant with the Ministry of Transport (Small Motorized Vessels) Regulations 2014. The SFPA programme also provides funding for this, with approximately NZD\$28,000 allocated each year for sea safety gear and equipment.

Observer Programme

In 2017 the Cook Islands National Observer Programme had 10 Observers attached to the Ministry, 3 based in Rarotonga and 1 in Pago Pago working within MMR, with 2 based in Apia, 2 in Honiara, 1 in Nauru and 1 in Kiribati as Contractors to the Ministry. Up to 30 additional Observers were available by formal agreement with the Fisheries Department of the Kingdom of Tonga to deploy their observers to the Cook Islands programme, and informal arrangements existed with Fiji and Vanuatu to deploy Observers from those countries as requested from MMR.

A total of 256 sea days were observed in 2017 for an overall coverage of 7.6% of days.

Twenty-three placements were made in 2017; eight trips on longliners, ten trips on purse seiners and five trips on trawl vessels.

Monitoring, Control and Surveillance and Enforcement (MCS&E)

Boarding and Inspections

In 2017, a total of 64 boarding and inspections were conducted. Four vessels were inspected in the port of Avatiu, 16 vessels were inspected in Apia port by MMR Fisheries Officers, 6 vessels were inspected in Pago Pago by MMR Fishery Officers and 38 at sea boarding and inspections were undertaken by the Police Patrol Boat Te Kukupa involving Police and MMR Fisheries Officers.

Year	Port Inspection in Avatiu		Port Inspection in Apia		Port Inspection in Pago Pago		At Sea Boarding				
	CK Flag	Foreign Flag	CK Flag	Foreign Flag	CK Flag	Foreign Flag	CK License		Foreign License		Joint Ops
							CK EEZ	High Seas	CK EEZ	High Seas	
2017	1	3	1	15	6	0	10	0	1	2	25

Table 2: Boarding and Inspections 2017

Patrols and Joint Operations

The Cook Islands participated in three regional operations in 2017 alongside Kiribati, Tonga, Samoa, Niue, the Pacific Forum Fisheries Agency (FFA), New Zealand, the United States of America, Australia and France (including French Polynesia).

Illegal, Unreported, Unregulated Fishing (IUU fishing)

The Cook Islands Fisheries MCS&E team, comprised of Offshore Division Fisheries Officers and Maritime Police, work together to detect IUU fishing activity in the Cook Islands EEZ and beyond to the High Seas and Areas Beyond National Jurisdiction. In 2017 there were no major breaches of Cook Islands laws detected in the EEZ. A number of minor infringements relating to gear markings and radio beacons were detected. Surface patrols were conducted by the Police Patrol Boat Te Kukupa, with crew including MMR Fisheries Officers, and vessel monitoring using the VMS based systems based at Offshore Division ensured that all vessels in operating in the Cook Islands fleets complied fully with Cook Islands laws.

The Cook Islands Fisheries Field Office (CIFFO)

The Cook Islands and the Government of American Samoa cooperate in fisheries management and conservation through a Memorandum of Understanding (MOU) signed in 2012. The MOU provides for mutual cooperation in economic development related to fishing operations and scientific endeavour.

CIFFO was established in 2014 to enable more effective monitoring of licensed and flagged vessels and to facilitate development opportunities with industry partners in American Samoa. A restructure of the office was completed in 2017, with the aim of turning CIFFO into a self-funding service provider. In 2017 the office employed a Port Coordinator and an Observer Debriefier to service Cook Islands MSC&E functions in the ports of Pago Pago and Apia, and to provide Observer services to national and sub-regional agencies on an as needed basis. CIFFO also provided technical services to the Pacific Community (SPC) in support of their tagging and biological sampling programme.

Monitoring and Research Programmes

Unloading and Port Sampling

In 2017 three domestic vessels unloaded at the port of Avatiu, with Cook Islands and foreign licensed vessels unloading at Apia or Pago Pago either to containers or to canneries. A limited number of in port transhipments occurred in Pago Pago and Apia. At sea transhipments are not permitted by MMR. Port sampling for 2017 was conducted by Fisheries Officers on longliners unloading in Avatiu, Apia and Pago Pago. Port sampling coverage at Avatiu in 2017 was 10% of all landings. Unloadings were also monitored by Fisheries Officers in Apia and Pago Pago, and by Observers in Port Louis, Mauritius.

Logsheet data collection and verification

A mandatory requirement for commercial operators is to provide logsheets to MMR for data collection and verification purposes. Most logsheets are received as original copies by post after the completion of a trip, or received in electronic format via email either weekly, or after the completion of a trip, as a scanned copy. There are a number of critical issues with a paper based system, including timeliness of reporting, missing logsheets and failure to furnish logsheets. This has the potential to undermine the integrity of the quota management system, so in 2017 Offshore Division pushed forward electronic reporting (ER) to address this issue as the first part of a policy to ensure 100% reporting is maintained.

Electronic Reporting is essential to improve the timeliness and accuracy of catch data, the transparency of tuna supply chains, and has the corollary of providing advanced real time communication to assure at-sea safety of Observers and crew.

SPC created and developed the ONBOARD e-Reporting App for ship captains to electronically report effort and catch data by transmitting the data collected by a boat's crew, skipper, or on-board Observer directly to the authority via satellite in real time, replacing the current paper-based record-keeping system. One Avatiu based vessel participated in trials using the SPC ONBOARD application in 2017. The trial was a success with the vessel undertaking trips of up to a week, with MMR providing regular feedback and training.

Industry consultations in 2017 revealed a preference for ONBOARD be developed for Windows 10 due to crew familiarity with laptops and connectedness to existing ship to shore communication systems. SPC agreed to adapt the app for Windows 10 (PC). It is anticipated that the PC version for ONBOARD will be installed and operationalized by early 2019.

Quota Management System

Pursuant to the Marine Resources (Large Pelagic Longline Fishery and Quota Management System) Regulations 2016 a quota management system of two longline fisheries tuna species was implemented on the 1st January 2017, by placing a quota limit on the Albacore (ALB) and Bigeye Tuna (BET) fisheries in Cook Island waters. The QMS Regulations placed a commercial

quota limit or total allowable commercial catch (TACC) and total allowable catch (TAC) for each of the species being a TAC for ALB 9,750 mt and a TACC of 9698mt; with a TAC for BET at 3,500 mt and a TACC of 2,500 mt.

In 2017 a total of 6,700 mt ALB was purchased accounting for 69% of the ALB TACC with 3,400mt reported reported as caught (Figure 23)

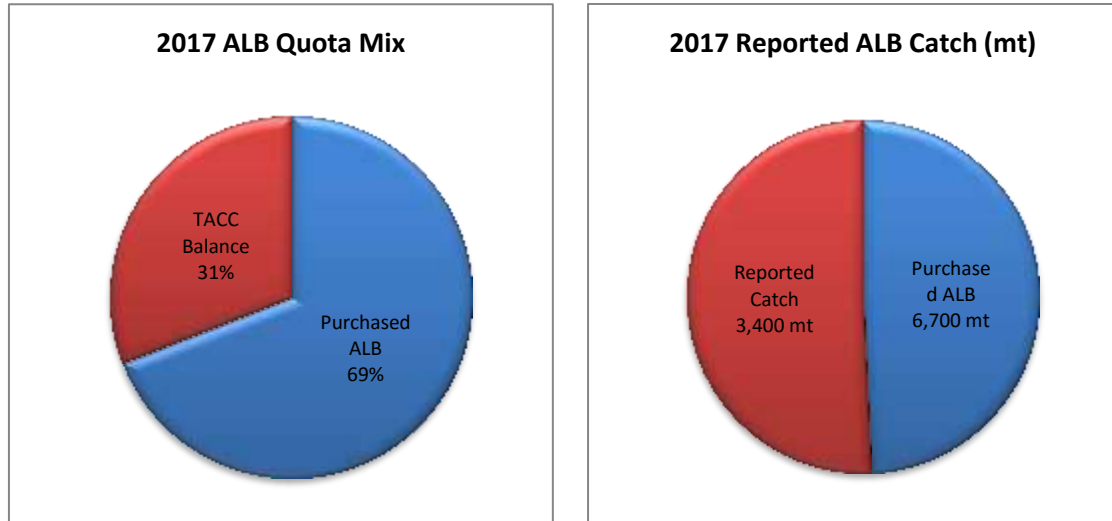


Figure 23. Quota mix for albacore 2017

A total of 1,150mt BET was purchased accounting for 46% of the BET TACC and 259mt was reported caught (Figure 24)

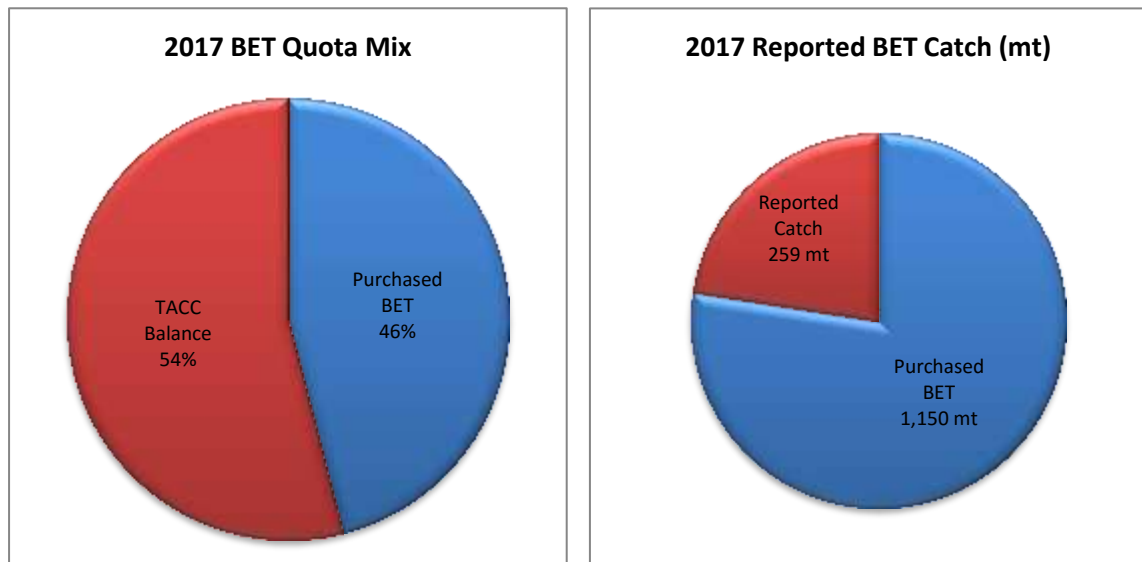


Figure 24. Quota mix for bigeye 2017

Socio-economic Trends

High operating costs out of Rarotonga continue to hinder domestic industry growth. Only three domestic fresh fish vessels operated out of Rarotonga in 2017, supplying the local market and achieving limited export to Japan using airfreight for high grade sashimi tuna. The local economy in Rarotonga benefits from the purchase of fuel, labour to assist with the unloading, purchase of provisions, and port fees. Offshore Fisheries Officers conducted routine portside boarding inspections and port sampling of catches.

Future Developments

100% electronic reporting is expected to be achieved across all licensed longline vessels in order to monitor catches in real time by 2019, along with electronic monitoring by 2020.

Relationships are emerging in Regional Fisheries Management Organizations (RFMOs) such as SIOFA (the Southern Indian Ocean Fisheries Agreement) and SPRFMO (The South Pacific RFMO) which have the potential to attract revenue for the Cook Islands under access agreements, licencing, and the development of sustainable High Seas fisheries.

Reference

Williams, and Reid, (2018) Overview of tuna fisheries in the Western and Central Pacific Ocean, including economic conditions – 2017; WCPFC-SC14-2018/GN-WP-01. Fourteenth Regular Session of the Scientific Committee of the WCPFC (SC14).