



Ministry of Marine Resources
GOVERNMENT OF THE COOK ISLANDS

Submission to the Purse Seining Special Committee

Ben Ponia

Secretary, Ministry of Marine Resources

EXECUTIVE SUMMARY

- The **purse seine** fishing in the Western Central Pacific is a common method of commercial fishing targeting healthy stocks of migratory skipjack tuna with a short lifespan of 3.5 years.
- In 2014 the **total catch** was 2,900,000 t. Of this 2,000,000 t was purse seining with 13,000 t caught in the Cook Islands Economic Exclusive Zone (CK EEZ) or 0.6% of the total.
- Most purse seine catches was in **PNA EEZs** with 700,000 t in Kiribati alone.
- **Milestones** for Cook Is fishery: 1982- Law of the Sea; 1987- US Fisheries Treaty; 1989- Marine Resources Act; 2005- WCPFC established; 2012- 12,000 t caught in CK EEZ; 2013- CK EEZ limit of 1,250 days adopted; 2015- Purse seine revenues exceed \$10 million dollars.
- In 2012 the WCPFC scientific committee concluded that overfishing of the bigeye had been occurring for ten years populations had moved to an **overfished** status.
- Bigeye is caught by longliners 73,314 t **exceed** purse seine by-catch 67,601 t
- Cook Islands, 2010-14: bigeye catch longliners was 6,500 t **greater** than purse seiners which totalled 1,600 t.
- % of bigeye catch in CK EEZ is between 1% to 6% which is low compare to regional average and to CK longliners by-catch of 24% to 43%
- 2013 WCPFC bigeye **regulations**: (1) limit of 64,000 fishing days; (2) phase out high seas FAD sets; (3) 4 month ban on FAD sets; (4) 40% reduction of longline catches. 10 year rehabilitation.
- Tuvalu and small islands argue FAD ban is a **disproportionate conservation burden** on SIDS.
- The Cook Islands is a **FAD dependent** fishery, i.e. 78% catches in Cook Islands are at FADs.
- In 2014 there was Zero catches in Cook Islands during the 4 month FAD ban from July-October.
- Free school fishing is opportunistic but leads to increased **yellowfin** catches for example in 2015 694 t at free school compared to 205 t at FADs (Korean boats).
- MMR efforts to **control & reduce** interaction of purse seiners and local fishermen: 50km buffer; vessel tracking; observers & catch reports;
- Catches by local fishermen increased from 126 t (2012) to 220 t (2014)
- Fisheries revenues **benefit** local fishermen: (2015) \$350,000 dollars, 93 grant recipients; fishing club support; increase nos FADs; sea safety program; 302 reporting from inhabited islands
- Foreign fishing licenses in region increased from US\$ 92 million dollars (2007) to US\$ 349 million in 2014. Kiribati US\$ 116 million dollars. The Cook Islands increase from US\$ 0.3 million to US\$ 8.4 million is **highest** rate % increase.
- Limited but feasible economic opportunities for processing, harbour development and employment

- Since 2014 purse seining revenues of \$10 million dollars is main contributor to fisheries revenue

BACKGROUND

The purse seine fishery and skipjack tuna

Purse seine fishing is one of the most common forms of commercial fishing in the Western Central Pacific. The method involves the purse seiner circling a large net, up to 300 meters in diameter around schools of skipjack tuna and slowly retrieving this to the side of the vessel where the catch is scooped onboard (**Figure 1**).

Skipjack tuna which are the target species in the purse seine fishery are the most abundant tuna species in the Pacific. The skipjack tuna population is considered **healthy**. The skipjack are able to withstand high levels of fishing because of its remarkable reproductive capacity. Skipjack tuna has a short life span of less than **3.5 years**, mature at 6 months and breed daily.

The other common method of fishing is longlining. This method of fishing involves deploying baited hooks on horizontal longlines that can stretch out to 80 kilometers. Longliners target deeper and larger tuna species such as bigeye, yellowfin and albacore tuna.

The most recent record of tuna catches in the Pacific is for 2014 (**Figure 2**). The provisional total is 2.9 million tonnes the highest catch on record. About 2.0 million tonnes was caught by the purse - seine fishery which was also the highest catch on record. The majority of purse seine catches are caught in the EEZs of the eight Pacific Islands whom are Parties to the Nauru Agreement (PNA). Around 700 thousand tonnes was caught in the EEZ of Kiribati alone.

Purse seining has been occurring in the Cook Islands since 1987 when the government signed the US fisheries treaty. However the fleet has rarely fished in the Cook Islands waters and only recently, since 2012 has there been persistent fishing.

The Cook Islands catches in 2014 was 14 thousand tonnes also a record at the time but still comprising less than 0.7 per cent of the total catches for the entire Western and Central Pacific Region. Since 2010 the Cook Islands purse seine catches have ranged from a low of 0.02 to a high of 0.7 per cent of the total catches in the region.

	2010	2011	2012	2013	2014
Pacific total catches	1,703,131	1,549,770	1,841,237	1,899,013	2,036,968
Cook Islands catches	265	1,144	12,800	7,585	13,828
Cooks % of total catches	0.02%	0.1%	0.7%	0.4%	0.7%

All of the purse seine catches in the Cook Islands are caught in the waters of the northern Cook Islands predominately north of 11 degrees south latitude. In 2012 catches were mainly north of Pukapuka on the border with Tokelau but in 2014 and 2015 with the warm waters of the *El Nino* moving east there was a pronounced shift of fishing towards the north of Penrhyn on the border with Kiribati (**Figure 3**).

The following synopsis provides an overview of the pathway to developing the Cook Islands purse seine fishery:

- **1950's:** Era of modern commercial fishing begins in the Pacific.
- **1977:** The Cook Islands Parliament passes its *Territorial Seas and Economic Exclusive Zone Act*.
- **1982:** The *United Nations Convention on the Law of the Sea (UNCLOS)* is adopted. Coastal states are entitled to a 200 nautical mile Economic Exclusive Zone.
- The *Parties to the Nauru Agreement (PNA)* was established by eight of the western Pacific Island countries whose EEZ's is where the majority of purse seining fishing occurs.
- **1987:** The *Multilateral Treaty on Fisheries between Pacific Island Parties and the United States* is signed. US purse seiners begin to fish in Cook Islands waters.
- **1989:** The Cook Islands Parliament passes its *Marine Resources Act*.
- **1995:** The Cook Islands ratifies the *United Nations Convention on the Law of the Sea (UNCLOS)*.
- **2004:** The Cook Islands ratifies the *Convention on the Conservation and Management of High Migratory Fish Stocks in the Western and Central Pacific Ocean*
- **2004:** The Cook Islands reports a record purse seine catch of over 4,000 tonnes by the US fleet.
- **2005:** The *Western Central Pacific Fisheries Commission (WCPFC)* is established.

2010:

- The PNA purse seine catch exceeds one million tonnes and 44 thousand fishing days.
- Renegotiations over the value of the US Treaty begins. The total value of the Treaty is US\$ 21 million. The price of a vessel fishing day is **US\$ 2 thousand dollars** per day of fishing.
- The MMR submission to Cabinet to conduct exploratory purse seine fishing of 500 days to collect scientific catch data. The Ipukarea Society (TIS) publically objects. Cabinet defers its decision.

2012:

- The MMR engages French Space Agency CLS to conduct a stock assessment for its purse seine catch limits.
- The US fleet reports a record of 12,000 tonnes of purse seine catch and 450 fishing days in the Cook Islands.

2013:

- The US treaty package worth US\$ 65 million dollars. Cook Islands fishing day valued at **US\$ 5 thousand dollars** per day.
- The Cook Islands Purse Seine Fishery Regulations are adopted.
- MMR begins first round of negotiations with the European Union for a Sustainable Fisheries Partnership Agreement.
- The WCPFC Regulations, *Conservation and Management Measure for Bigeye, Yellowfin and Skipjack (CMM 2013-01)* is adopted. The WCPFC approves a total EEZ limit of **64,000 fishing days** largely based on 2010 PNA fishing levels. The Cook Islands EEZ limit is **1,250 fishing days**.

2014:

- Value of Cook Islands fishing day under the US treaty is **US\$ 8 thousand dollars** per day.
- MMR enters into bilateral fishing arrangements with the US fleet.

- Total purse seine catches in the Cook Islands are 14,000 tonnes.

2015:

- MMR enters into bilateral fishing arrangements with two Korean-Kiribati joint venture companies and a New Zealand company price per day is **US\$ 8.5 thousand per day**.
- Purse seine revenues account for NZ\$ 10 million of the NZ\$ 12.6 million of fisheries revenues collected by MMR.
- US industry default on treaty payment claiming the price of PNA fishing days is too high given the low price of tuna and an oversupply in the market.
- MMR enters into second round of negotiations with the European Union for a Sustainable Fisheries Partnership Agreement. The equivalent value of 7,000 tonnes catch limit in fishing days is **USD 11 thousand dollars** per day.
- Total purse seine catches in the Cook Islands is 18,500 tonnes.

2016:

- Value of Cook Island fishing day under the US treaty is **US\$ 10.6 thousand dollars** per day.
- Revised US Treaty for a four year pool has allocation for a Cook Islands pool of 350 fishing days annually at **US\$ 10.6 thousand dollars** per day and additional bilateral days subject to renegotiation.
- MMR fisheries revenue for 2016 expected to exceed \$NZ 13 million dollars with NZ\$ 10 million dollars from purse seine revenues.

The status of the bigeye tuna stocks and by-catch at purse seine FADs

Bigeye tuna exhibited very different biological characteristics to that of skipjack tuna. Bigeye are large tunas with a lifespan of up to twelve years or more and begin to mature at 3 years of age. The bigeye tuna prefer cool waters at deep depths of up to 600 meters.

In 2012 the scientific committee of the Western Central Pacific Fisheries Commission (WCPFC) concluded that overfishing of the bigeye tuna had been occurring for around ten years and that bigeye tuna was considered to be in an overfished state.

In the Western Central Pacific there are longline fisheries targeting large bigeye tuna and purse seine fisheries that take juvenile bigeye tuna which aggregate beneath drifting purse seine FADs. In 2014 the total catch of bigeye tuna was 161,064 tonnes, which was a drop from the highest value (190,145t), recorded in 2004. In 2014 there was an increase in the longline catch (73,314t) and a slight decrease in the purse seine by-catch (67,601t) which represents around 40 per cent of the total bigeye tuna catch (**Figure 4**).

Within the Cook Islands from 2010-2014 the bigeye tuna catches from the longline or purse seine fishery was very small compared to the Pacific total, particularly the purse seine which 0.3 per cent of the total bigeye catches.

Incidentally during this five year period the amount of bigeye caught by longliners in the Cook Islands was 6,500 tonnes which is significantly higher than the catches from purse seiners which only totalled 500 tonnes.

	2010	2011	2012	2013	2014
WCPO longline catch	71,549	76,735	82,516	64,420	73,314
Cook Islands EEZ longline catch	420	789	3,528	534	983
Cooks % of total	0.6%	1.0%	4.3%	0.8%	1.3%
WCPO purse seine catch	55,144	72,010	63,997	72,574	67,601
Cook Island purse seine catch	12	18	466	454	659
Cooks % of total	0.02%	0.02%	0.73%	0.63%	0.97%

The catch of bigeye juvenile tuna at purse seine FADs is at a relatively low rate compared to by-catches recorded in other areas of the Pacific, particularly in the Line Islands of Kiribati where bigeye is prevalent. Since 2010 the per cent of bigeye by-catch reported was between 1 to 6 per cent.

In terms of tonnage, the overall amount of Skipjack caught has increased significantly and the overall trend in Bigeye catch through purse seining is for less to be caught. This is also expected to improve further with new technology coming online to reduce the amount of incidental bycatch in purse seine nets. MMR is developing rules for the retention of all bycatch, including Bigeye tuna.

	2010	2011	2012	2013	2014
Purse seine catches	274	1,371	12,737	7,720	12,757
Bigeye tuna by-catch	12	18	466	454	659
% by-catch of total catches	4%	1%	4%	6%	5%

Purse seining is a more highly selective method of fishing because it generally only targets schooling skipjack and yellowfin tuna. With advances in net and monitoring technology, other bycatch species now have an increased chance of being freed before the catch is scooped onboard. Juvenile bigeye is a main by-catch species, but the overall catch from the Cook Islands is very small in comparison to the rest of the Pacific region and bycatch rates are much smaller compared to other methods of fishing.

For example the longline fishery is a more indiscriminate method of fishing as many different species of fish will take the hooks. In the Cook Islands albacore longline fishery the rates of by-catch ranges from 24 to 43 per cent and includes species such as bigeye, bluefin tuna, yellowfin, skipjack and marlin.

MMR can better contribute to fundamental management of Bigeye tuna by being actively involved and proactive in our management of the fishery.

% by-catch	2010	2011	2012	2013	2014
Purse seiners	4%	1%	4%	6%	5%
Longliners	24%	43%	41%	31%	31%

WCPFC regulations to rejuvenate the bigeye tuna stocks

The WCPFC as the fisheries management body is responsible for overseeing the management of Pacific's tuna fisheries. The WCPFC adopts regulations that are referred to as Conservation and Management Measures (CMMs) which are binding upon member states. There are a raft of CMMs that apply to the purse seine fishery (**Figure 5**)

The WCPFC CMMs includes regulations such as: for reporting of catches, illegal fishing, impact on cetaceans, regional observer program, vessel monitoring system and compliance monitoring system.

At the annual session of the WCPFC in December 2013 a *Conservation and Management Measure for Bigeye, Yellowfin and Skipjack (CMM 2013-01)* was adopted in response to the scientific report that bigeye tuna populations were considered overfished.

Recognising that bigeye tuna catches are attributed to both the longline and purse seine fishery the CMM 2013-01 addresses bigeye tuna overfishing by the adopting the following rehabilitation strategies over a 10 year period:

- A limit of total purse seine fishing effort to 64,000 vessel fishing days;
- Phasing out of purse seine fishing on the high seas;
- A four month ban on purse seine fishing at FAD sets;
- A 40 per cent reduction of bigeye tuna catches.

Some Pacific island states such as Tuvalu have argued that a FAD ban causes a disproportionate conservation burden to small island nations which the WCPFC cannot impose on small island states under Article 30 of the Law of the Sea. Tuvalu and other SIDS have stated that they would accept no further restrictions on FADs unless SIDS were compensated monetarily for lost revenue or developed countries took further measures to restrict their longliners targeting bigeye.

Hon. E. Pita the Minister of Fisheries for Tuvalu, explained this concept when he addressed WCPFC:

"Tuvalu, like other PNA countries, has been implementing the 4 month FAD closure. Because purse-seining in Tuvalu is highly FAD-dependent, it is now clear that this has greatly reduced the profitability and attractiveness of fishing in Tuvalu waters, and compromised our fishery revenues... the result of this measure has been to increase the disproportionate burden on Tuvalu, one of the smallest and most fragile economies in the world."

The Cook Islands – A FAD dependent waters

When fleets conduct purse seine fishing in the Cook Islands they will either fish at FADs or if they encounter free swimming schools of tuna on the trip then the boats will fish these 'free schools' also.

Since the purse seine fishery began in 2012 the MMR has come to understand that it is uneconomical to expect the fleets to only fish on free schools in the Cook Islands waters. Like Tuvalu and Tokelau next door we are a 'FAD dependent' fishery and unlike PNA countries further west such as Papua New Guinea whom have shallow archipelagic waters there is less opportunities to fish at free schools.

The efficiency and economics of fishing at FADs is highlighted in the Table below. As can be seen catches at FADs are up to three times greater per set then when fishing on free schools.

	2010	2011	2012	2013	2014
Free school sets	1	53	199	84	34
Free school catches (tonnes)	-	1,211	4,457	1,485	645
FAD sets	7	6	234	101	246
FAD catches (tonnes)	274	160	8,280	6,234	12,111

The fact that without FADs the purse seine fishery would not operate is clearly evident during the four month FAD ban from July – October. For these four months of the year none of the US fleet fish in the Cook Island EEZ and there are no catches recorded during this period or fishing days sold (**Figure 6**).

The disadvantages of free school sets is that there is a greater proportion of large sized yellowfin tuna caught among the swimming skipjack tuna. This was evident in 2015 when the MMR entered into bilateral agreements with the Korea-Kiribati fleet to develop free school purse seine fishery. In 2015 there a much larger portion of yellowfin tuna (694 tonnes) caught at free school sets compared to 205 tonnes of yellowfin at FAD sets.

Yellowfin tuna are the mainstay catches of the local fishermen and important source of food security therefore a purse seine fishery solely based free school will cause an increased in fishing pressure on this important species.

Interaction of purse seining with the local fishermen

The MMR has put in place a 24 nautical mile buffer where purse seining is prohibited to avoid the purse seiners from interacting with local fishermen whom fish around 1-2 nautical miles offshore. Purse seine fishing takes place more than 1,000 kilometres from Rarotonga so the fishermen in the southern Cook Islands will have no interaction with this fleet, and they fish on a different target stock.

The purse seine boats are constantly monitored via satellite tracking devices to ensure that they remain outside of the zone. In addition there is always a trained Pacific Island Regional fisheries observer onboard the purse seiner to check that the vessel is complying with all regulations (**Figure 7**).

The MMR has put a lot of effort into monitoring the levels of catches by local fishermen to ensure that purse seining does not impact on their catches. Since 2012 has the MMR been accurately able to monitor the catches from all inhabited islands.

Catch estimates in 2007 indicated that around 50 tonnes was landed at inshore FADs designed to assist local fishermen. Since 2012 when MMR began to directly support local fishermen the catches have risen to a record of 220 tonnes in 2014.

Island	2012	2013	2014
Aitutaki	24	57	55

Atiu	8	4	4
Mitiaro			12
Mangaia	7	11	8
Manihiki	4	1	4
Mauke	2	4	5
Nassau	10	5	9
Palmerston	0	2	3
Penrhyn			1
Pukapuka	5	10	16
Rakahanga	22	17	17
Rarotonga	43	94	86
Total	126	204	220

Yellowfin tuna is the dominant catch, totalling at 60 per cent followed by other species (mahi mahi and wahoo) of 32 per cent. Skipjack tuna is just 7 per cent or around 16 tonnes per year. Bigeye tuna are often too deep for local fishermen and are rarely caught, except on Rakahanga, and according to the data only comprise 0.3 per cent of the local fishermen catches.

In 2012 Cabinet approved a Fisheries Development Facility funded by a levy on foreign fishing license revenues which contributes towards supporting fishermen reporting, FADs and small grants directly to fishermen. In addition \$100,000 is contributed towards the Cook Islands Fishing Association to support fishing clubs throughout the Cook Islands.

Government support	2007	2012	2013	2014	2015
Number local fishermen reporting	0		223	302	301
Government funding ¹	0	\$200,000	\$200,000	\$250,000	\$350,000
Number of FADs	7 FADs	15 FADs		22 FADs	28 FADs
Nos persons receiving small grants	0	11	37	44	93

Economic opportunities and Fisheries revenue

The Cook Islands does not have the capacity for large scale economic opportunities but a small tuna pouching facility of 1,500 tonnes on Rarotonga may be feasible. Penrhyn harbour might also be utilised as a base for offloading, storing and transhipment of catch. Local stevedores and labourers may be employed for maintenance of the purse seine net and etc.

Significant licensing revenues can be derived provided government has the institutional capacity for scientific reporting of catches, monitoring and compliance of the fishing boats and sound fisheries policies.

According to a study of fisheries revenues the access value of foreign fleet licenses has increased from US\$ 92 million dollars in 2007 to US\$ 349 million in 2014. Kiribati has the largest increase from

¹ Fisheries Development Facility (POBOC) and budget allocation for a new initiative to support FADs in southern group. MMR's core budget support for local fishermen is estimated to around \$100-\$150,000 p.a

US\$ 25 million in 2007 to US\$ 116 million dollars in 2014. The Cook Islands is notable within the region for the greatest relative increase of 2,645% (US\$ 300 thousand to US\$ 8.4 million dollars).

Since 2014 the purse seining accounts for the bulk of fisheries revenues collected by MMR. This has been in part directly associated with the vessel day price paid by the US Treaty for the Cook Islands pool. In addition the MMR has entered into additional bilateral fishing days with the US industry since 2014 and in 2015 there were large revenues associated with bilateral fishing days sold to the Korean-Kiribati fleet.

	2011 US\$ per day	2012 US\$ per day	2013 US\$ per day	2014 US\$ per day	2015 US\$ per day
Price per fishing day	2,000	3,500	5,060	8,150	10,600
Purse seine revenues	290,000	2,200,000	1,750,000	10,216,847	10,374,940
Total fisheries revenues	1,826,411	2,926,250	5,610,313	12,651,800	13,628,688

The TIS Petition

1. *“The vast majority of Cook Islander are fundamentally opposed to purse seining”*

The depth of public support for the TIS Petition is questionable. MMR has pointed out that TIS engaged in campaign of misinformation and fear by using misleading images and statements in television and newspaper to compel members of the public to sign the Petition.

The MMR has conducted 45 formal consultations in nine of the Cook Islands since 2011 to explain purse seine fishing (**Figure 8**). In all cases the audiences were sympathetic if not fully supportive of MMR’s purse seine intentions. The March 2016 consultation held on Rarotonga referred to in the Petition was an exception and the proceedings were dominated by the TIS members who were outspoken and emotive to MMR’s presentation.

In public meetings since the Petition persons have declared that they signed the Petition under duress and at the time the proponents failed to provide a balanced view.

In a visit to the Northern Cook Islands in March 2016 the vast majority of persons consulted were appreciative of MMR’s intentions on how it intends to develop the purse seine fishery and if not were outright supportive.

It is the opinion of MMR that the vast majority of Cook Islanders are concerned that purse seining as with any other form of fishing, be done in a sustainable manner, and are not fundamentally opposed to purse seining per se.

2. *“The Cook Islands commitment to global marine conservation goals, through Marae Moana, will lose all credibility if the Cook Islands increases its contribution to the overexploitation of bigeye tuna by purse seine fishing”*

The purpose of the *Marae Moana Oceans Policy 2016-2020, An Ocean Policy Framework for the Cook Islands: an emerging Ocean State* is to:

“Promote conserving biodiversity and natural assets in the oceans, reefs and islands while ensuring sustainable development of economic growth interests”. This commitment specifically allows for the multiple-use of our oceans including commercial fisheries and seabed minerals.

It is important to recognize that the Cook Islands “Ocean State” is a modern creation of the United Nations under the 1982 United Nations Convention on the Law of the Sea (UNCLOS) known as the Law of the Sea. This Treaty establishes EEZ borders and conservation of the living resources of the oceans.

A subsidiary agreement, the 1995 United Nations Fish Stocks Agreement, divided up the world’s ocean and established regional fisheries bodies to manage migratory tuna stocks across different EEZs. In the Pacific the UN fisheries body is the Western Central Pacific Fisheries Commission (WCPFC) better known as the “Tuna Commission”.

The MMR has been leader in marine conservation and its efforts to develop a sustainable commercial fishery including purse seining are commendable and highly credible within the framework of *Marae Moana*.

Given the migratory tuna is not the exclusive property of the Cook Islands EEZ the only means for Cook Islands to be effective in their efforts to advocate for conservation and *Marae Moana* is to utilise our rights to participate in this fishery and demonstrate how to develop a sustainable purse seine fishery.

3. *That a scientific report commissioned by the Ministry of Marine Resources (MMR) in 2012 recommended the development of the Cook Islands purse seine fishery should concentrate on free school of skipjack, and not use fish aggregate devices (FADs), to help conserve bigeye tuna, which are overfished and caught in much higher numbers when FADs are used.*

In 2011 the MMR requested Cabinet support to conduct exploratory purse seine fishing to collect scientific catch information in order to develop purse seine regulations and to declare an EEZ catch limit to the WCPFC. Te Ipukarea Society opposed this proposal. With a lack of fishing data to model a catch limit the MMR secured the services of Dr Lehodey from the French Space Agency to assess skipjack abundance using satellite technology and an ecosystem based stock assessment software (SYPODYM) (**Figure 9**).

The study proved the theoretical possibility of a purse seine fishery based in the northernmost latitudes of the Cook Islands EEZ. The report included a section which modelled catches based on both FAD and free school sets to assist MMR in determining EEZ catch limit. Therefore Dr Lehodey recognises that FAD sets are integral to MMR purse seine fishery.

The report does stress the need for MMR to consider the issue of FAD fishing since the region is a spawning habitat for bigeye. However contrary to the Petition text, Dr Lehodey does not specifically say the Cook Islands should ban the use of FADs or only fish on free schools. Rather his advice is pitched to at the WCPFC level where FAD sets need to be addressed: Quote “the development of skipjack fishing using free school sets rather than FAD sets should be a priority to sustain the **WCPFC effort** for reducing juvenile bigeye mortality” (bold text is the authors highlight).

Because of the lack of fishing data in 2011 there was an overly optimistic assumption that the majority of fishing in the Cook Islands would be on free school sets. Since 2012 the MMR is now

aware that in fact over 70 per cent of sets are being made on FADs and the Cook Islands are a FAD dependent fishery.

As pointed out free sets also lead to higher per cent of adult yellowfin tuna being caught which impacts catches of the local fishermen. This suggests that a combination of free school and FAD sets is required to balance the by-catch of bigeye and yellowfin tuna.

The EU partnership offers an opportunity to further develop free school and FAD fisheries. The Spanish boats are considered amongst the best fishers and are able to target free school. They are also involved in leading edge research in the development of Non-Entangling FADs (NEFs) which further reduce the amount and types of bycatch caught. Moreover a catch based scheme, such as a catch quota system, to impose limits on the by-catch species has been proved in a number of fisheries to be extremely viable and could be a useful model for the WCPFC in implementing the Harvest Strategy approach to Tuna Management.

4. *“That since 2012, Bigeye tuna stocks have further declined and the scientist tell us the stocks in the region are at 16% of their unfished levels. All attempts at reducing the catch by commercial fishing vessels over the past 7 years have failed. In fact the catch of bigeye tuna by purse seiners in 2013 was the highest on record.”*

TIS are unfair in judging the level of complexity in seeking a consensus on managing the regions bigeye fishery. A WCPFC regulation is in place and is becoming effective. The WCPFC regulation is a combination of cuts to the purse seine and longline fishery. It includes a ban on FAD sets that has cost hundreds of millions of dollars in lost revenue to Pacific Island countries and whom argue that it presents a disproportionate burden of conservation on SIDS which is illegal under Article 30 of the UN Law of the Sea.

5. *That MMR has failed to ban the use of Fish Aggregate Devices by purse seine vessels, despite the unacceptable impact on bigeye tuna stocks.*

There is no evidence that purse seining is causing an unacceptable impact on bigeye tuna stocks. Therefore a ban on purse seining is not necessary, nor desirable for the Cook Islands. The MMR is backed up in this position by scientific evidence from SPC and by the catch limit available through the Tokelau Arrangement.

Purse seining using FADs in the Cook Islands does not harm the regional or national sustainability of the stocks because the Cook Island footprint for bigeye is extremely small and makes no significant contribution to the bigeye mortality in the region. To put this into context the total catches of bigeye tuna from 2010 to 2014 was 700,000 t and the total bigeye tuna caught at FADs in the Cook Islands during this same period of time was 1,600 t or 0.2 per cent of the total bigeye.

Banning Purse Seine fishing would have no conservation impact. Purse Seining does not harm the people of the Cook Islands. The real harm is that we have an abundant stock of tuna resources up to 300,000 t at any time and the local fishery only takes 15 t so if we do not choose to fish this resource a most significant economic resource effectively becomes worthless and we severely restrict our future prospects to wealth around a small and fragile economic base around tourism.



Top: A typical purse seine fishing vessel that fishes in the Cook Islands.

Middle: The boat circles a school of skipjack tuna with a purse seine net.

Bottom: The tuna scooped onboard.

Each day in the EEZ is counted as a fishing day, e.g if 5 boats are present today then total is 5 days

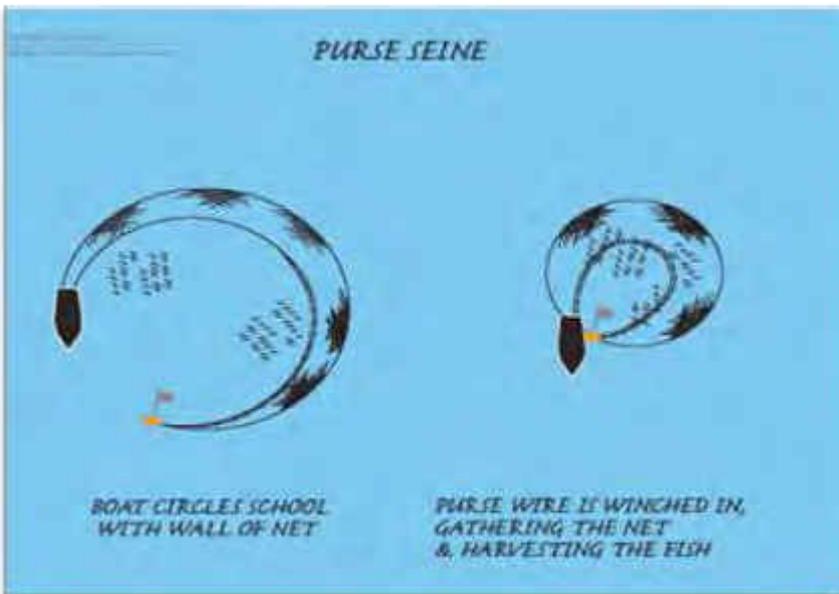


Figure 1

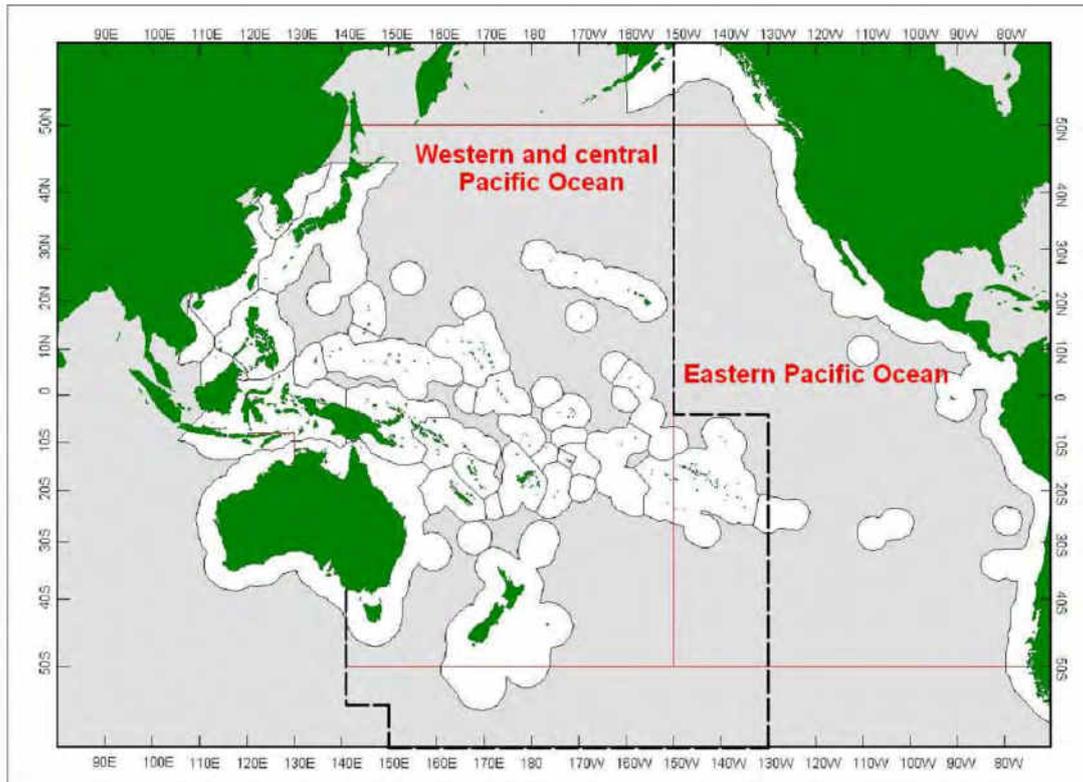
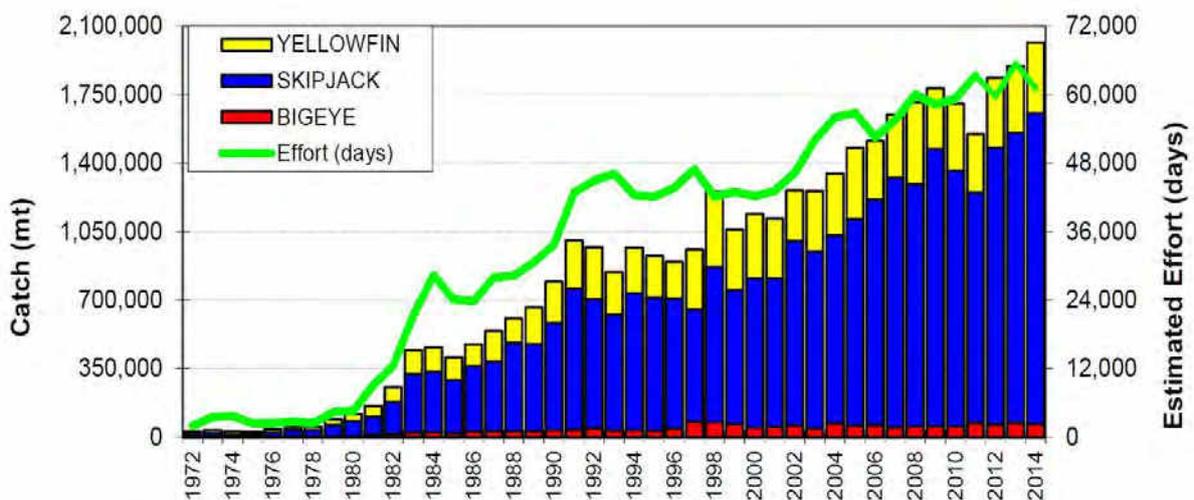


Figure 1: The western and central Pacific Ocean (WCPO), the eastern Pacific Ocean (EPO) and the WCPFC Convention Area boundary. Note: WCP-CA in dashed lines.



Purse seine catch (mt) of bigeye, skipjack and yellowfin and estimated fishing effort (days fishing and searching) in the WCP-CA. Source: SC11-2015-GN-WP-01

Figure 2: Source - THE WESTERN AND CENTRAL PACIFIC TUNA FISHERY: 2014 OVERVIEW AND STATUS OF STOCKS

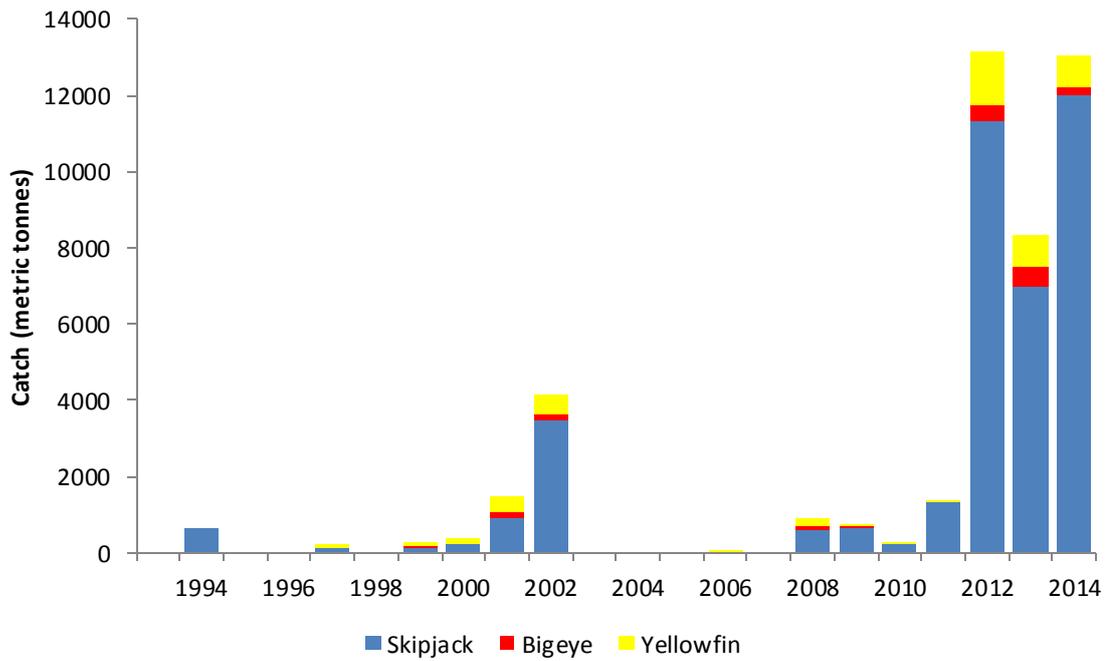


Figure 13. Catch (mt) key tuna species in the purse seine fishery, within the CK EEZ from 1994 - 2014.

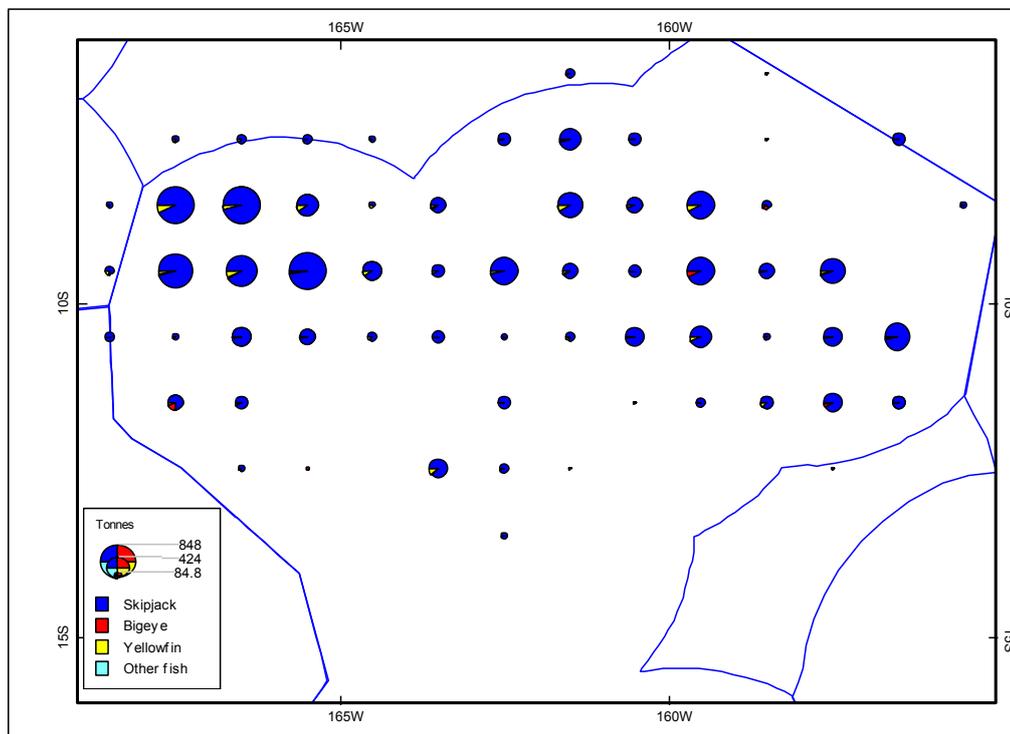


Figure 16. Purse seine catch (mt) distribution of key tuna species within the CK EEZ 2014.

Figure 3: Source - MMR Annual Offshore Fisheries Catch Report 2014

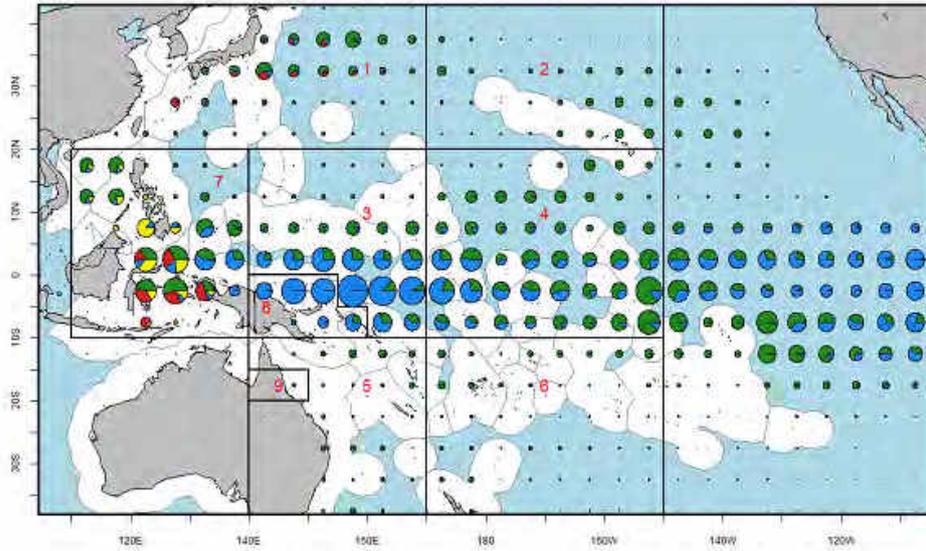


Figure 6. Catch distribution (2003-2012) by 5 degree squares of latitude and longitude and fishing

Figure 4: Source - SCIENTIFIC COMMITTEE TENTH REGULAR SESSION. STOCK ASSESSMENT OF BIGEYE TUNA IN THE WESTERN AND CENTRAL PACIFIC OCEAN (WCPFC-SC10-2014/SA-WP-01)

Relevant Conservation and Management Measures	
CMM 2009-10	Monitor Landings of Purse Seiners at Ports so as to Ensure Reliable Catch Data by Species
CMM 2010-06	Establish a List of Vessels presumed to have carried out Illegal, Unreported and Unregulated fishing activities in the WCPO
CMM 2011-03	Address the Impact of Purse Seine Activity on Cetaceans
CMM 2012-03	Implementation of the ROP by vessels fishing north of 20N
CMM 2012-04	Protection of whale sharks from purse seine operations
CMM 2013-03	Standards, specifications and procedures for the Western and Central Pacific Fisheries Commission Record of Fishing Vessels
CMM 2013-04	WCPFC Implementation of a Unique Vessel Identifier (UVI)
CMM 2013-05	Daily catch and effort reporting
CMM 2013-10	WCPFC Record of Fishing Vessels and Authorization to Fish
CMM 2014-01	Bigeye, yellowfin and skipjack tuna in the Western and Central Pacific Ocean
CMM 2014-02	Commission VMS
CMM 2006-07	Regional Observer Programme
CMM 2014-07	Compliance Monitoring Scheme

Figure 5: source – Conservation and Management Measures and Resolutions of the Western Central Fisheries Pacific Fisheries Commission, February 2016

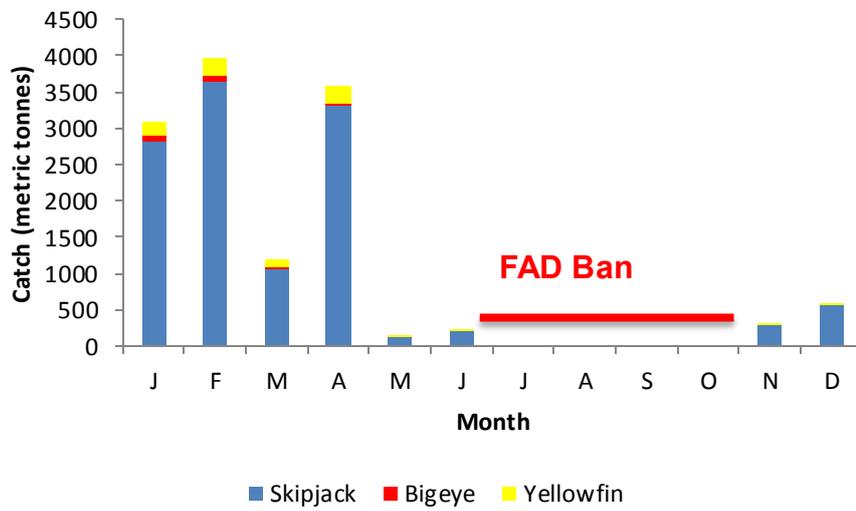


Figure 14. Purse seine logsheet catch estimates (metric tonnes) of key tuna species in 2014.

Figure 6: Source - MMR Annual Offshore Fisheries Catch Report 2014

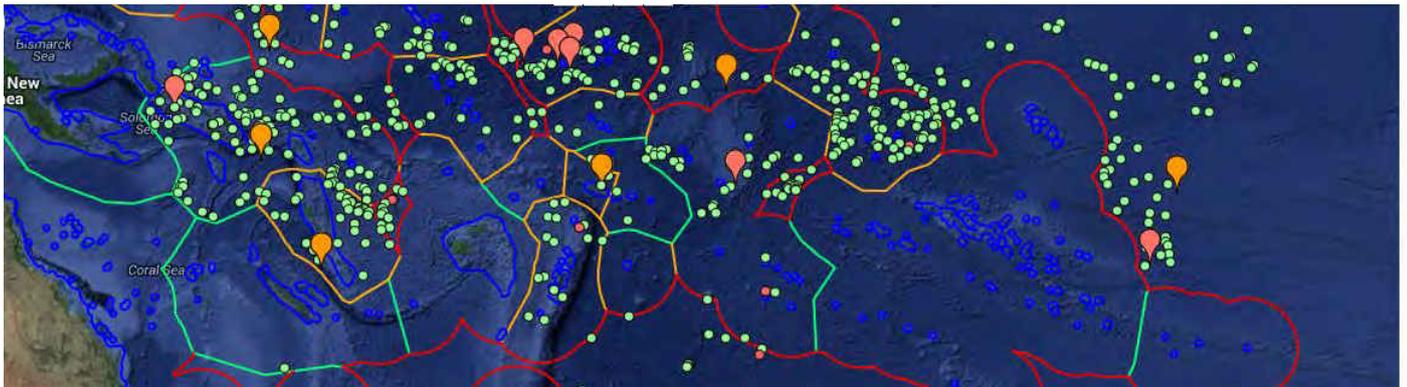


Figure 7

#	Date	Island	Location	Presenter	Audience	Subject
1	29-Apr-16	Rarotonga		PM and MMR secretary	Public	Overview of purse seining
2	5-Mar-16	Penrhyn	Tetautua village	PM delegation	Public	Overview of purse seining
3	4-Mar-16	Penrhyn	Tetautua village	MMR secretary	Penrhyn fishing association	EU partnership policy support
4	4-Mar-16	Penrhyn	Omoka village	PM delegation	Public	Overview of purse seining
5	4-Mar-16	Penrhyn	Omoka village	MMR secretary	Penrhyn fishing association	EU partnership policy support
6	3-Mar-16	Manihiki	Tukao village	PM delegation	Public	Overview of purse seining
7	3-Mar-16	Manihiki	Tukao village	MMR secretary	Tukao fishing association	EU partnership policy support
8	2-Mar-16	Manihiki	Tauhunu	PM delegation	Public	Overview of purse seining
9	2-Mar-16	Manihiki	Tauhunu	MMR secretary	Tauhunu fishing association	EU partnership policy support
10	2-Mar-16	Manihiki	Tauhunu	PM delegation	Island Council	Overview of purse seining
11	1-Mar-16	Rakahanga	Main village	PM delegation	Public	Overview of purse seining
12	1-Mar-16	Rakahanga	Main village	PM delegation	Island Council	Overview of purse seining
13	1-Mar-16	Rakahanga	Main village	MMR secretary	Rakahanga fishing association	EU partnership policy support
14	29-Feb-16	Pukapuka	Main village	PM delegation	Public	Overview of purse seining
15	29-Feb-16	Pukapuka	Main village	PM delegation	Island Council	Overview of purse seining
16	29-Feb-16	Pukapuka	Main village	MMR secretary	Pukapuka fishing association	EU partnership policy support
17	19-Nov-15	Manihiki	Tukao	MMR secretary	Public	Overview of purse seining
18	19-Nov-15	Manihiki	Tukao	MMR secretary	Tukao fishing club	EU partnership policy support
19	18-Nov-15	Manihiki	Tauhunu	MMR secretary	Public	Overview of purse seining
20	18-Nov-15	Manihiki	Tauhunu	MMR secretary	Tauhunu fishing club	EU partnership policy support
21	16-Jun-15	Mangaia	Main village	MMR secretary	Public	Overview of purse seine fishery, strategy for development
22	29-Apr-15	Rarotonga	avarua	MMR secretary	Democratic Party Caucus	Overview of purse seine fishery, strategy for development
23	16-Mar-15	Rarotonga	avarua	MMR secretary	Public	Overview of purse seine fishery, strategy for development
24	21-Nov-13	Mauke	Main village	MMR secretary	Public	Overview of purse seine fishery, EU Partnership
25	24-Oct-13	Atiu	Public	MMR secretary	Public	Overview of purse seine fishery, strategy for development
26	4-Nov-13	Rarotonga	Avarua	MMR secretary	Heads of Ministries and SOEs	Overview of the purse seine fishery
27	1-Oct-13	Rarotonga	Avarua	MMR secretary	Cook Islands Fishing Association	Overview of purse seine fishery, EU Partnership
28	May-13	Manihiki	Tukao village	MMR minister and MMR secretary	Public	Overview of purse seine fishery
29	May-13	Manihiki	Tukao village	MMR minister and MMR secretary	Island Council	Overview of purse seine fishery
30	Apr-13	Rakahanga	main village	MMR minister and MMR secretary	Island Council	Overview of purse seine fishery
31	Apr-13	Rakahanga	main village	MMR minister and MMR secretary	Public	Overview of purse seine fishery
32	Feb-13	Rarotonga	Avarua	MMR secretary	Public	Purse seine fishery regulations
33	20-Feb-13	Rarotonga	Avarua	MMR minister and MMR secretary	House of Ariki	Overview of purse seining, strategy for designating purse seine fishery
34	13-Feb-13	Rarotonga	Avarua	MMR secretary	Cabinet	Purse seine fishery regulations
35	23-Jan-13	Rarotonga	Avarua	MMR secretary	Public	Overview of purse seining, strategy for designating purse seine fishery
36	13-Dec-12	Rarotonga	Avarua	MMR minister and MMR secretary	Chamber of Commerce	Overview of purse seining, economic oppertunities
37	8-May-12	Rarotonga	Avarua	MMR secretary	Cabinet	Report update
38	5-Apr-11	Rarotonga	Avarua	MMR secretary	Cook Islands Party members	Overview of purse seining, exploratory fishing plans
39	25-Mar-11	Rarotonga	Avarua	MMR secretary	Cook Islands Fishing Association Executive	Overview of purse seining, exploratory fishing plans
40	15-Apr-11	Rarotonga	Avarua	MMR secretary	Cook Islands Fishing Association members	Overview of purse seining, exploratory fishing plans
41	12-May-11	Rarotonga	Avarua	MMR secretary	Cook Islands Fishing Association Executive	Overview of purse seining, exploratory fishing plans
42	17-May-11	Rarotonga	Avarua	MMR secretary	Te Ipukarea Society executive	Overview of purse seining, exploratory fishing plans
43	20-May-11	Rarotonga	Avarua	MMR minister and MMR secretary	House of Ariki and Koutu Nui	Overview of purse seining, exploratory fishing plans
44	18-Apr-11	Aitutaki	Amuri	MMR minister and MMR secretary	Public	Overview of purse seining, exploratory fishing plans
45	28-Apr-11	Rarotonga	Avarua	MMR minister and MMR secretary	Public	Overview of purse seining, exploratory fishing plans

Figure 8: Source – MMR

	Stocks (mt)	% Region	Catch (mt)	% Region
Pacific Region	6,544,397	100%	1,184,763	100%
Cook Islands	189,317	2.9%	1,851	0.2%

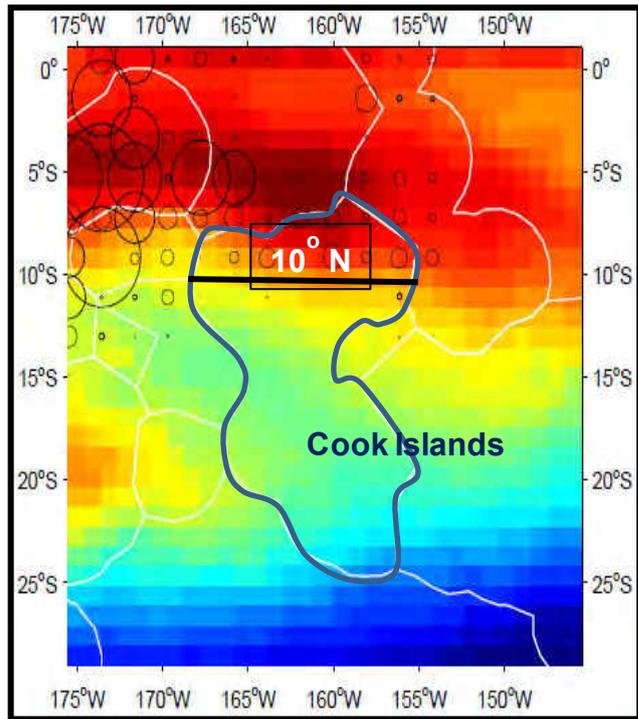
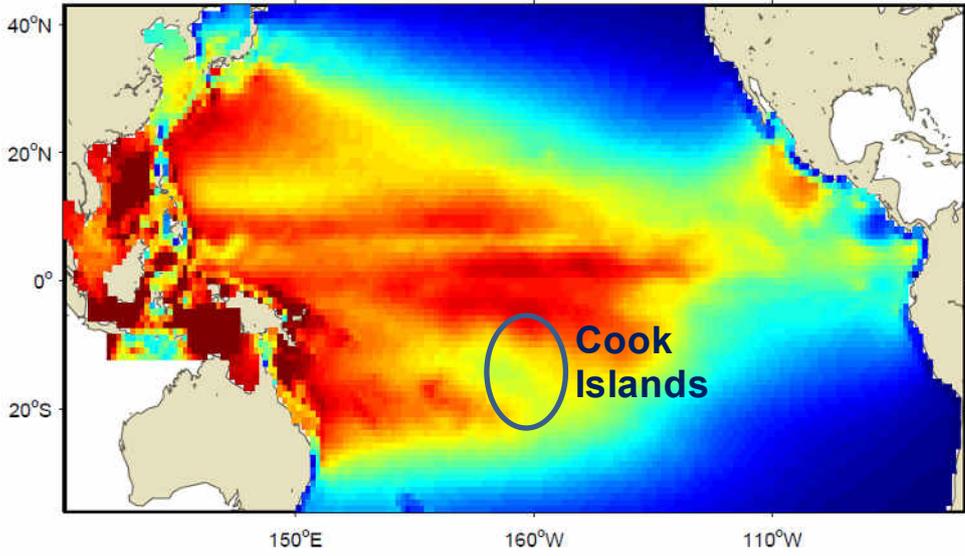


Figure 9: Source - Oceanography and skipjack dynamics in the Cook Islands EEZ, Patrick Lehodev , 2013