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**PURSE SEINE FISHING ACTIVITY IN PNA WATERS**

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**WCPFC-TCC12-2016 DP04  
11 September 2016<sup>1</sup>**

**Parties to the Nauru Agreement (PNA)**

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<sup>1</sup> The same version of this paper was tabled at SC12 as ST-IP-09

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## PURSE SEINE FISHING ACTIVITY IN PNA<sup>2</sup> WATERS

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### **Introduction**

This paper provides information on purse seine activity in the waters of the Parties to the Nauru Agreement (PNA), and in the Western and Central Pacific Ocean (WCPO) outside PNA waters, for the period 2010 to 2015, including 2016 for vessel numbers.

The purposes of the work are:

- a) to improve understanding of the purse seine fishery in PNA waters, and the tropical WCPO more generally; and
- b) to provide indicators of the performance of the PNA purse seine Vessel Day Scheme (VDS) and other purse seine management processes in the WCPO.

The period for the analysis is from 2010. An overall hard limit on fishing effort under the VDS was applied from 2012 in accordance with CMM 2011-01, limiting effort in PNA EEZs to the 2010 level.

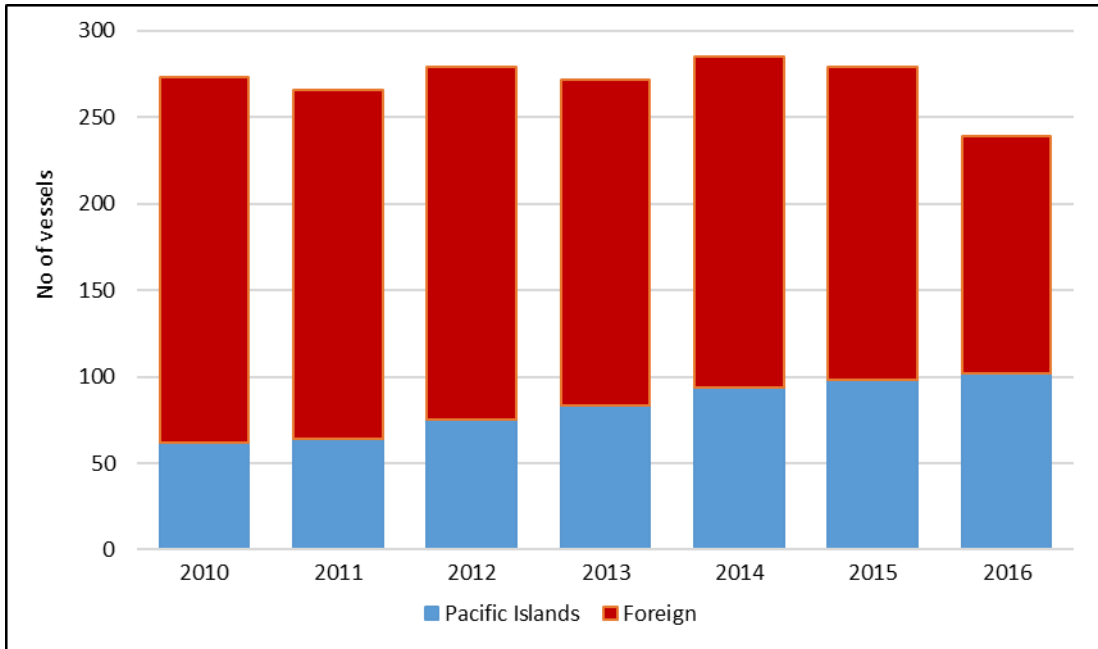
The purse seine fishery in PNA waters has accounted for around 80% of the WCPO purse seine catch from 2010-2014, the balance being taken in the waters of other Commission Members, especially Indonesia and the Philippines, and the high seas.

### **Vessel Numbers in PNA Waters**

Figure 1 and Table 1 show the number of vessels on the PNA purse seine VDS register since 2010. Overall, there has been little change in the size of the fleets operating in PNA waters, which have ranged between 266 and 285 vessels annually over this period. Of the 279 vessels that operated in 2015, as indicated in Table 1, seven were no longer operating in PNA waters at the end of the year.

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<sup>2</sup> Parties to the Nauru Agreement plus Tokelau

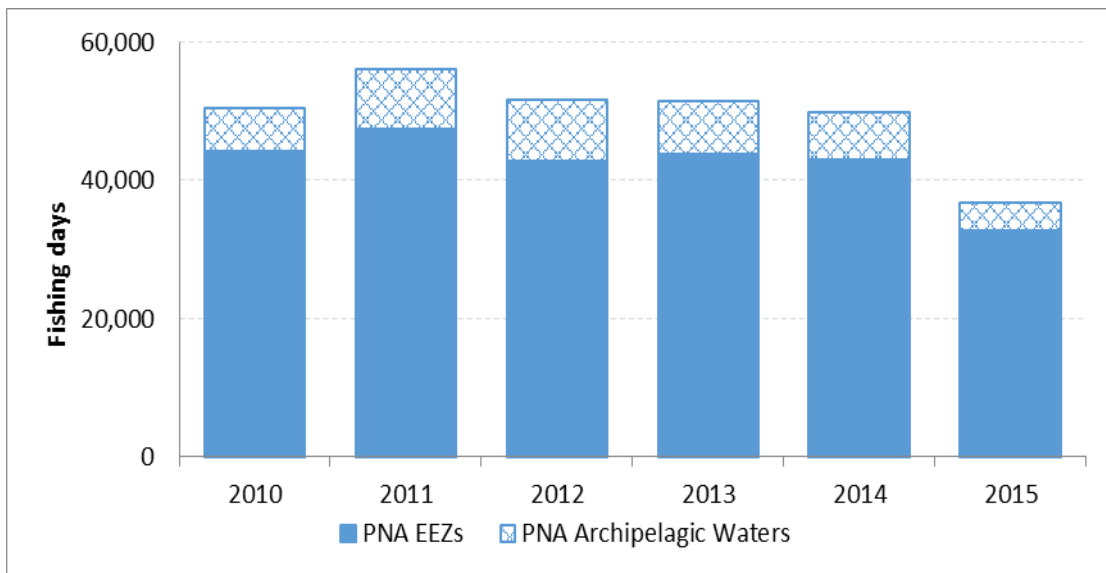


**Figure 1: Annual number of vessels operating in PNA waters.**

(Pacific Islands include foreign flag vessels operating under the FSM Arrangement; the 2016 figure represent the number of vessels operating as at July 2016. Source: PNA VDS Register)

### Purse Seine Fishing Effort in PNA Waters

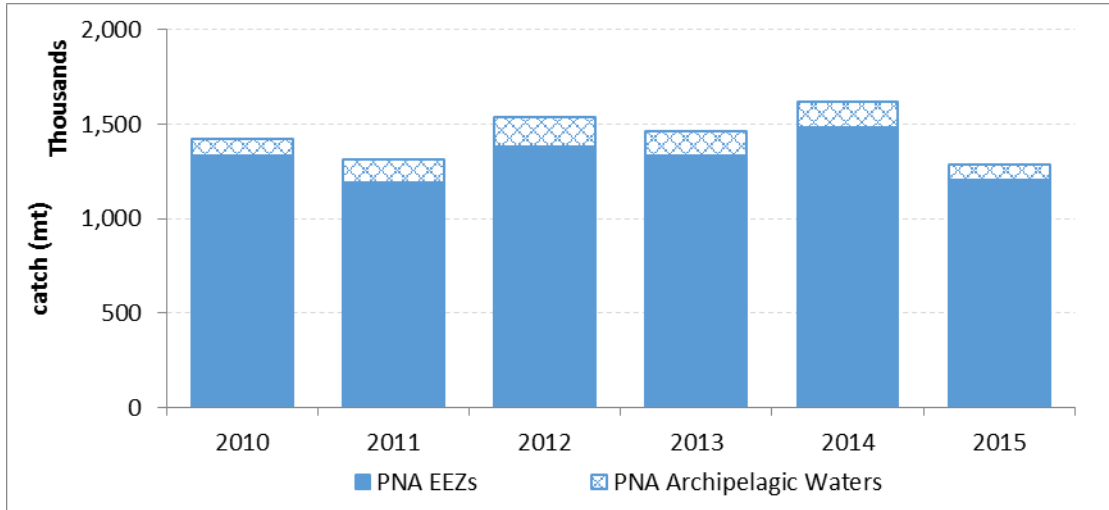
Figure 2 below and Table 2 show the estimated purse seine fishing effort in PNA waters since 2010, based on logsheets. The data for 2015 is provisional. PNA Members are implementing electronic catch and effort reporting that will improve the timeliness of logsheet effort data. As illustrated by the graph, the logsheet data indicates that effort in 2015 declined substantially after a slight decline also in 2014, largely reflecting the effect of increasing vessel day prices.



**Figure 2: Purse seine effort (fishing days) in PNA waters.** (Source: SPC data as at 5 July 2016)

### Purse Seine Catch in PNA Waters

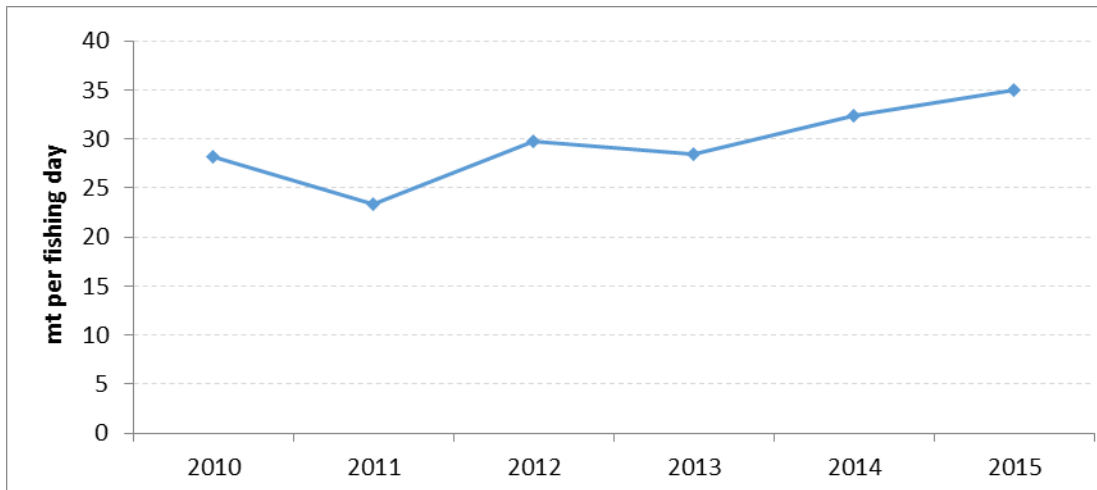
Figure 3 below and Table 3 show the estimated purse seine fishing catch in PNA waters since 2010, based on logsheets. The data for 2015 is provisional. PNA Members are implementing electronic catch and effort reporting that will improve the timeliness of catch data.



**Figure 3: Purse seine catch (mt) in PNA waters.** (Source: SPC data as at 5 July 2016)

### Purse Seine Catch Rate in PNA Waters

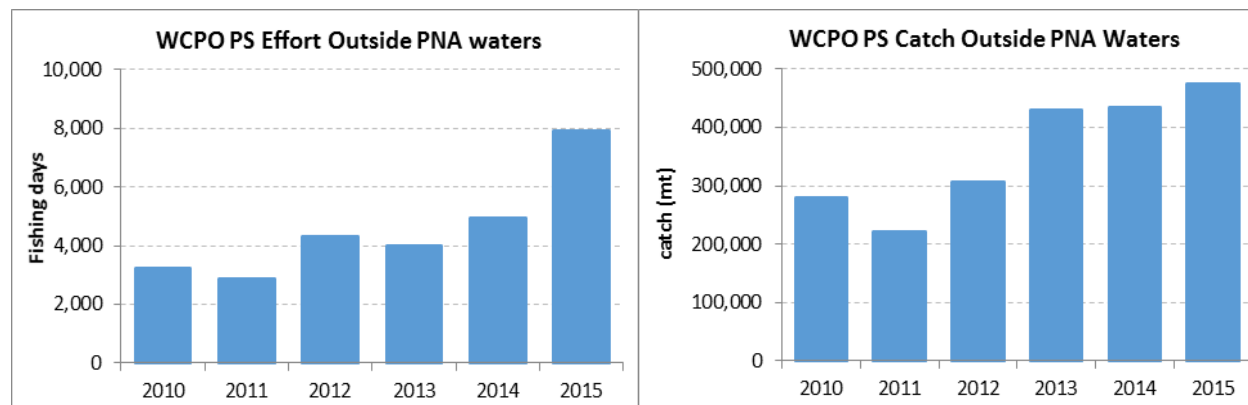
Figure 4 shows the nominal purse seine catch rate per fishing day in PNA waters from the previous effort and catch above. In general, catch rates have been around 30 tonnes per day over this period with a dip in 2011, and increases in 2014 and 2015, that are likely to be substantially due to favourable oceanographic conditions. Catch rates in archipelagic waters (AWs) have been lower than catch rates in the PNA EEZs.



**Figure 4: Catch rate (mt per fishing day) in PNA waters.** (Source: SPC data as at 5 July 2016)

### WCPO Purse Seine Effort<sup>3</sup> and Catch, Outside PNA Waters

Figure 5 below and Table 4 show the estimated purse seine fishing effort and catch in the WCPO outside PNA waters since 2010, based on similar sources to the data for PNA waters.

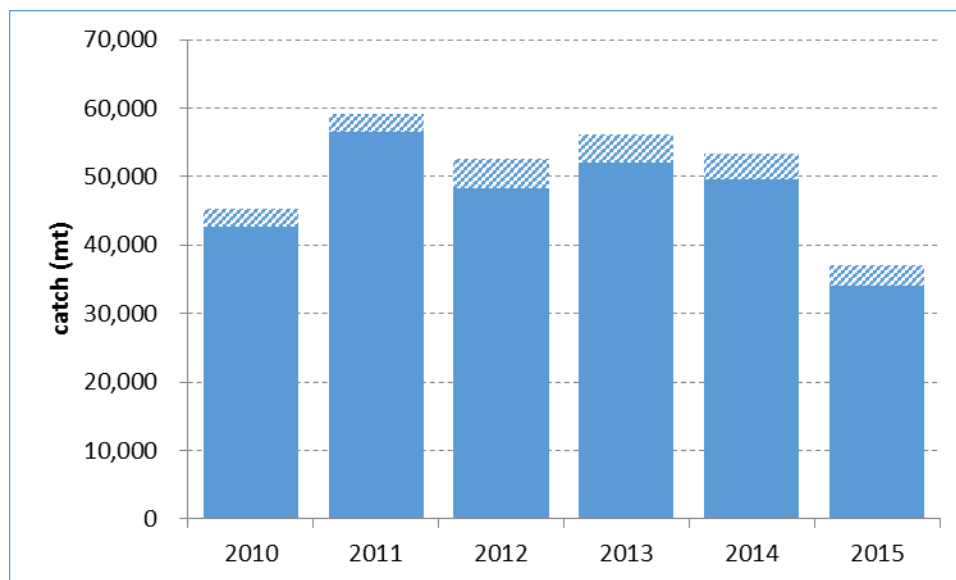


**Figure 5: WCPO purse seine effort and catch, outside PNA waters.**

(Effort excludes fishing in waters of Indonesia and Philippines, and by Philippine vessels under the Special Arrangement in HSP-1. Source: SPC data as at 5 July 2016)

### Purse Seine Bigeye Catch in PNA Waters

The purse seine bigeye catches shown in Figure 6 below and in Table 5, constitute 3 - 5% of the total purse seine bigeye catches in PNA waters. It has been declining since 2011 due to the FAD closure and the effect of the VDS in displacing fleets with a high dependence on FADs.

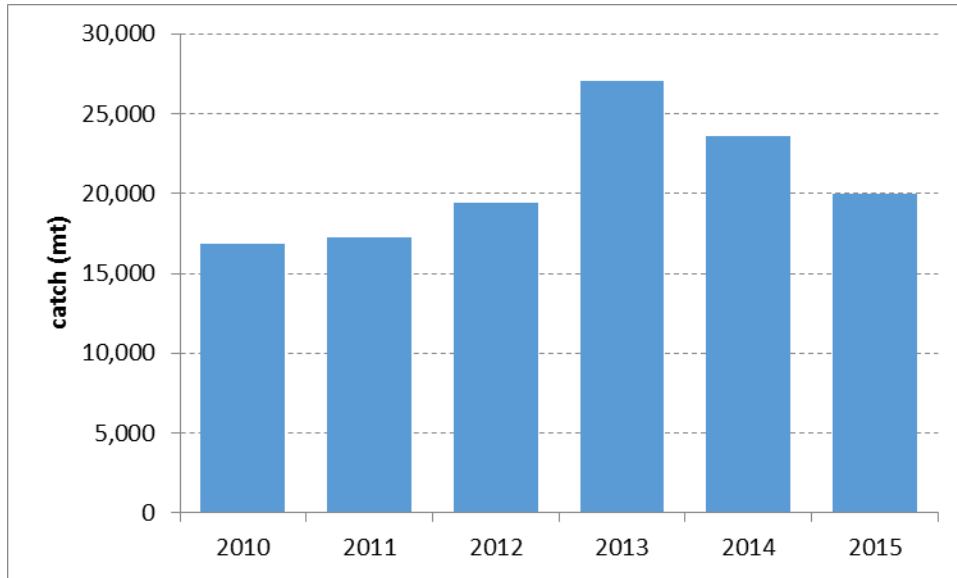


**Figure 6: Purse seine bigeye catch (mt) in PNA waters** (Source: SPC data as at 5 July 2016)

<sup>3</sup>Excludes fishing in Indonesia and Philippines

### Purse Seine Bigeye Catch outside PNA waters

The purse seine bigeye catches outside PNA waters, shown in Figure 7 below and in Table 5, include catches in the high seas and in other national waters. The catch in the high seas constituted over 50% of the bigeye catch outside PNA waters in 2015.



**Figure 7: Purse seine bigeye catch (mt) outside PNA waters** (Source: SPC data as at 5 July 2016)

**Table 1: No of vessels operating in PNA EEZs for the period 2010 to 2015**

The Pacific Islands fleet includes foreign flag vessels operating under the FSM Arrangement. The 2016 figures are for vessels operating in PNA EEZs as at July 2016. (Source: PNA VDS Register).

Fleet	2010	2011	2012	2013	2014	2015	2016
Pacific Islands	62	64	75	83	94	98	102
Foreign	211	202	204	189	191	181	137
<b>Total</b>	<b>273</b>	<b>266</b>	<b>279</b>	<b>272</b>	<b>285</b>	<b>279</b>	<b>239</b>

**Table 2: Purse seine effort (logsheet days) in PNA waters.** (Source: SPC data as at 5 July 2016)

	2010	2011	2012	2013	2014	2015
PNA EEZs	44,253	47,403	42,855	43,808	43,060	32,798
PNA AWs	6,273	8,670	8,811	7,636	6,775	3,942
<b>Total</b>	<b>50,526</b>	<b>56,073</b>	<b>51,666</b>	<b>51,444</b>	<b>49,836</b>	<b>36,739</b>

**Table 3: Purse seine catch (mt) in PNA waters.** (Source: SPC data as at 5 July 2016)

	2010	2011	2012	2013	2014	2015
PNA EEZs	1,333,782	1,192,516	1,379,828	1,335,906	1,482,147	1,203,767
PNA AWs	88,791	118,594	158,267	127,903	133,921	84,101
<b>Total</b>	<b>1,422,573</b>	<b>1,311,110</b>	<b>1,538,095</b>	<b>1,463,809</b>	<b>1,616,068</b>	<b>1,287,868</b>

**Table 4: WCPO purse seine effort (logsheet days) and catch (mt), outside PNA waters**

**Note:** Effort excludes fishing in waters of Indonesia and Philippines, and by Philippine vessels under the Special Arrangement in HSP-1. (Source: Same as Tables 2 & 3)

	2010	2011	2012	2013	2014	2015
PS Effort (fishing days)	3,246	2,854	4,312	3,997	4,947	7,904
PS Catch (mt)	279,557	222,277	306,952	429,284	433,856	475,912

**Table 5: Purse seine bigeye catch (mt) in, and outside, PNA waters** (Source: Same as Tables 2 - 4)

	2010	2011	2012	2013	2014	2015
PNA EEZs	42,667	56,447	48,366	52,077	49,576	34,069
PNA AWS	2,658	2,637	4,266	4,167	3,795	2,987
<b>Total PNA</b>	<b>45,325</b>	<b>59,084</b>	<b>52,632</b>	<b>56,244</b>	<b>53,370</b>	<b>37,055</b>
Outside PNA	8,988	9,505	11,231	15,315	12,543	11,205