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Purse seine fishing activity in PNA waters

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PURSE SEINE FISHING ACTIVITY IN PNA² WATERS

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 2017, including 2018 for vessel numbers.

The purposes of the information 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 2010-2017, 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. The fleet has been quite stable around 275 vessels from 2010 to 2015, with a significant drop to 259 vessels in 2016 which appears to be continuing into 2017 and 2018. The domestic fleets, including foreign flagged vessels operating under the FSM Arrangement, grew until 2017, when they made up more than 40% of the fleet. However, the number of vessels as at June this year, 2018, show a decrease of 25% in domestic vessels following the tightening of requirements for participation in the FSM Arrangement by some Parties, with a corresponding increase in foreign vessels.

² Parties to the Nauru Agreement plus Tokelau

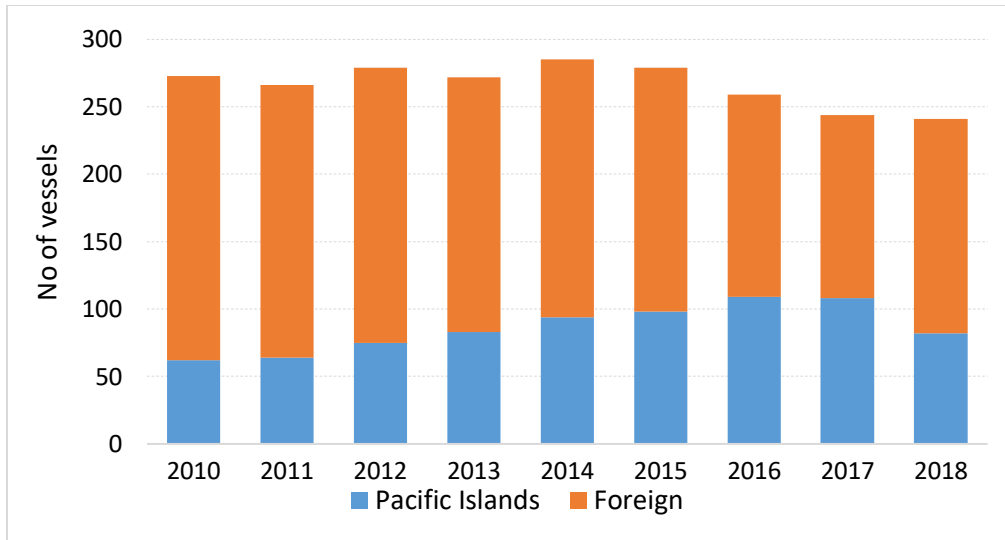


Figure 1: Annual number of vessels operating in PNA waters.

(Pacific Islands include foreign flag vessels operating under the FSM Arrangement; the 2018 figure represent the number of vessels operating as at June 2018. 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. This data indicates the effectiveness of the VDS in controlling effort since hard limits at the 2010 effort level were applied in 2012. As illustrated by the graph, the logsheet data indicates that effort continued to increase in 2017 after the substantial decline in 2015, which reflects tuna market conditions and increasing vessel day prices.

PNA Members are working on improved implementation of electronic catch and effort reporting to improve the timeliness and accuracy of logsheet data.

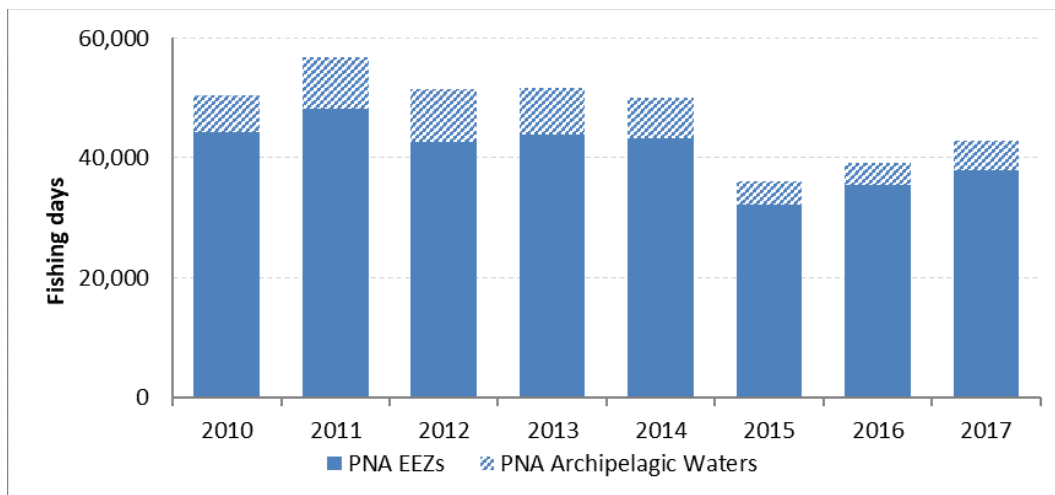


Figure 2: Purse seine effort (fishing days) in PNA waters. (Source: SPC data as at 6 June 2018)

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 catch has been relatively stable since 2010. The previous year’s data is usually provisional but implementation of electronic catch and effort reporting by PNA Members has improved the timeliness of catch data such that the 2017 catch data is complete. Although the 2017 effort in Figure 2 continued to increase, there was a decrease in the 2017 catch from that in 2016.

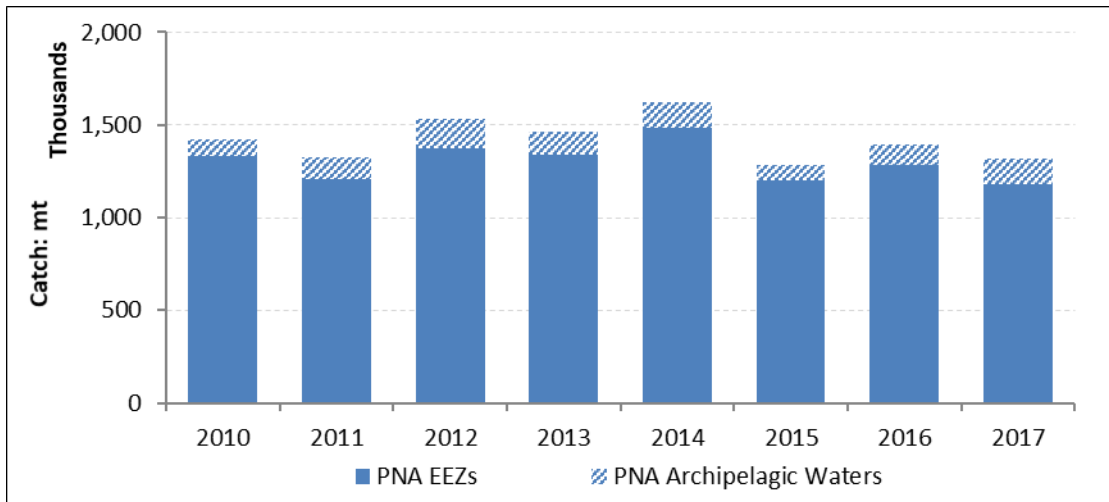


Figure 3: Purse seine catch (mt) in PNA waters. (Source: SPC data as at 6 June 2018)

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 data. In general, the average catch rate has been around 30 tonnes per day over this period with a dip in 2011 and increases in subsequent 2 years 2015-16. These could be due to various reasons such as favourable oceanographic conditions, improved stock and vessel efficiency. The 2017 CPUE is back down to 31 tonnes per day. The catch rates in archipelagic waters (AWs) have generally been lower than catch rates in PNA EEZs but steadily increasing over the years.

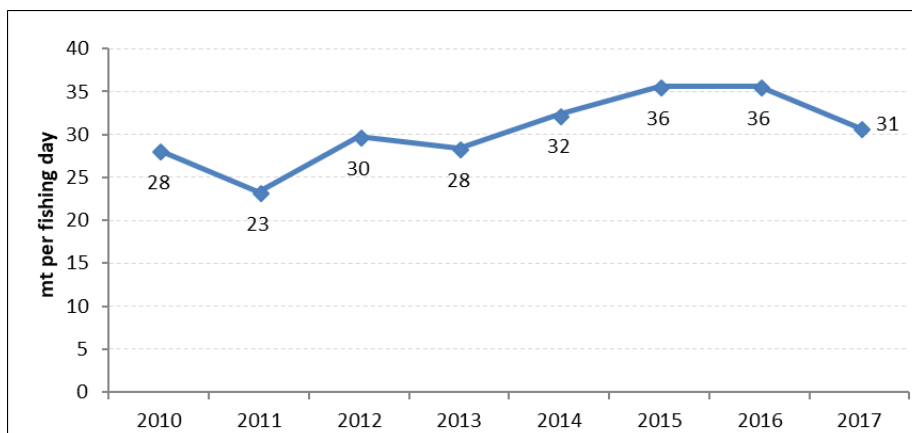


Figure 4: Catch rate (mt per fishing day) in PNA waters (EEZ + AW). (Source: SPC data as at 6 June 2018)

WCPO Purse Seine Effort³ 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, although the effort data does not include effort in Indonesia and Philippines and Philippine vessels in HSP-1 while the catch data does.

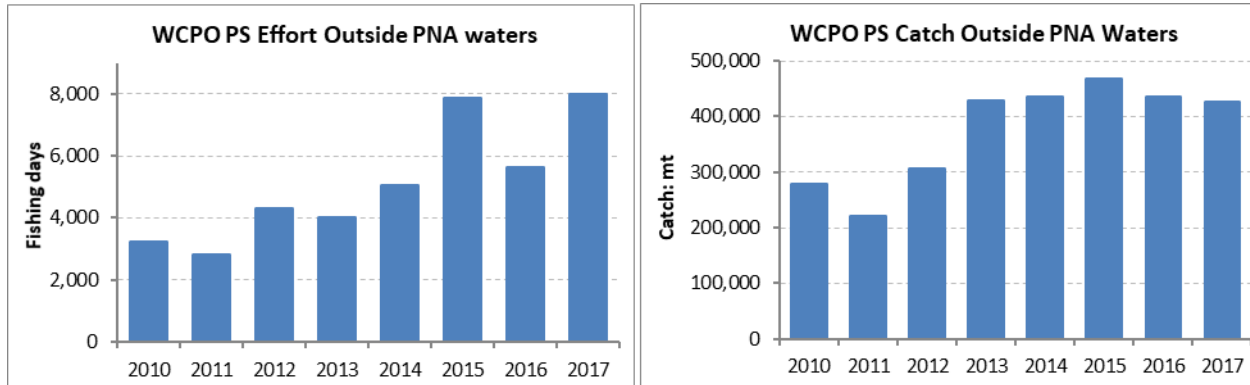


Figure 5: WCPO purse seine effort and catch, outside PNA waters.

(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 6 June 2018)

Purse Seine Bigeye Catch in PNA Waters

The purse seine bigeye catches shown in Figure 6 below and in Table 5, constitute, on average, 4% of the total purse seine catches in PNA waters. It declined from 2011, largely due to the FAD closure, the effect of the VDS in displacing fleets with a high dependence on FADs and its tightening control over PS effort, and has bounced back from 2015 with the overall effort increase since then, and probably also reflecting recent favourable conditions for recruitment.

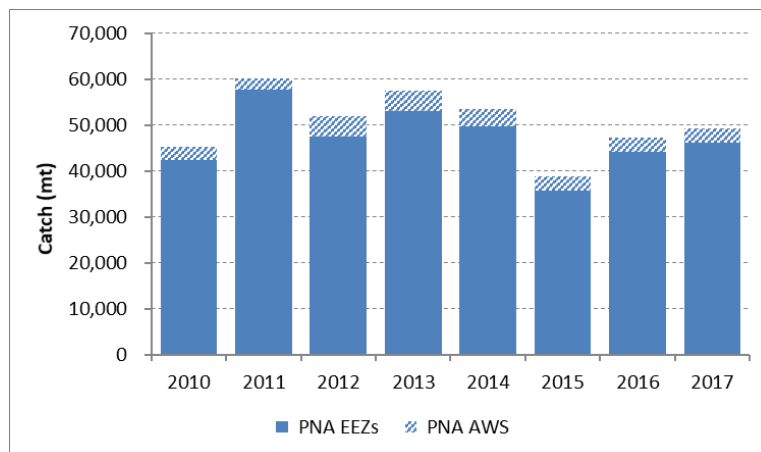


Figure 6: Purse seine bigeye catch (mt) in PNA waters (Source: SPC data as at 6 June 2018)

³Excludes fishing in Indonesia and Philippines

Purse Seine Bigeye Catch outside PNA waters

As shown in Figure 7 below and in Table 5, purse seine bigeye catches in the high seas and in other national waters outside PNA waters have increased by over 50% in two years from 2015 to 2017.

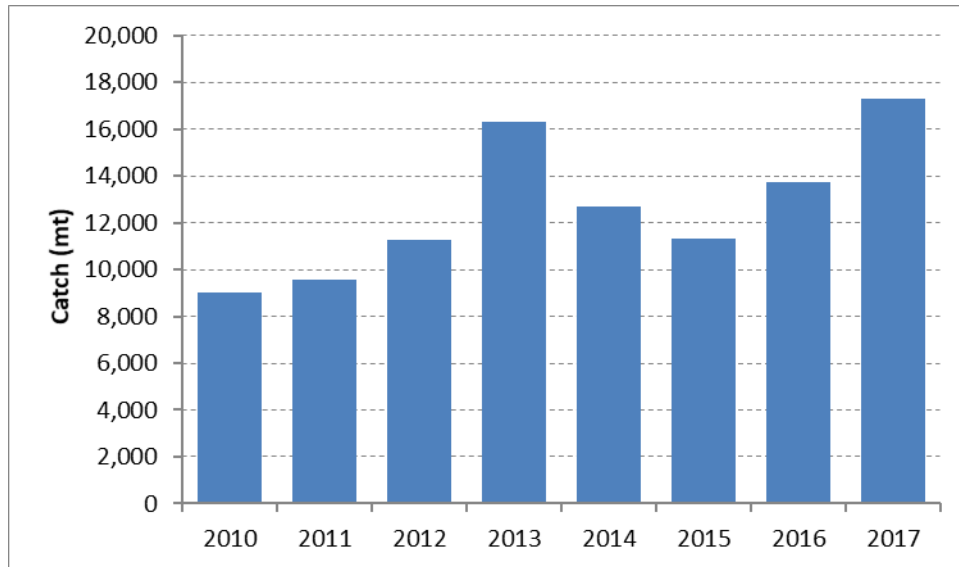


Figure 7: Purse seine bigeye catch (mt) outside PNA waters (Source: SPC data as at 6 June 2018)

Table 1: No of vessels operating in PNA EEZs for the period 2010 to 2017

The Pacific Islands fleet includes foreign flag vessels operating under the FSM Arrangement. The 2018 figures are for vessels operating in PNA EEZs as at June 2018. (Source: PNA VDS Register).

Fleet	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pacific Islands	62	64	75	83	94	98	109	108	82
Foreign	211	202	204	189	191	181	150	136	159
Total	273	266	279	272	285	279	259	244	241

Table 2: Purse seine effort (logsheet days) in PNA waters. (Source: SPC data as at 6 June 2018)

Effort (days)	2010	2011	2012	2013	2014	2015	2016	2017
PNA EEZs	44,248	48,140	42,609	43,959	43,305	32,225	35,427	37,848
PNA AWS	6,266	8,671	8,822	7,631	6,785	3,829	3,677	5,034
Total	50,514	56,811	51,431	51,591	50,090	36,054	39,104	42,882

Table 3: Purse seine catch (mt) in PNA waters. (Source: SPC data as at 6 June 2018)

Catch (mt)	2010	2011	2012	2013	2014	2015	2016	2017
PNA EEZs	1,334,084	1,210,043	1,373,051	1,337,547	1,486,534	1,202,781	1,286,407	1,181,108
PNA AWS	88,859	117,409	158,498	127,894	133,934	81,760	106,490	140,148
Total	1,422,944	1,327,452	1,531,548	1,465,440	1,620,468	1,284,541	1,392,897	1,321,256

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	2016	2017
PS Effort (fishing days)	3,246	2,810	4,317	3,998	5,057	7,871	5,645	8,007
PS Catch (mt)	279,829	221,774	306,874	429,835	436,477	468,453	436,282	427,279

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

	2010	2011	2012	2013	2014	2015	2016	2017
PNA EEZs	42,412	57,840	47,599	53,137	49,834	35,745	44,118	46,076
PNA AWS	2,953	2,328	4,328	4,291	3,760	3,129	3,252	3,291
Total PNA	45,365	60,168	51,927	57,428	53,594	38,874	47,370	49,368
Outside PNA	9,021	9,542	11,251	16,288	12,663	11,292	13,728	17,268
High Seas						7,135	7,241	9,102
Non-PNA Waters						4,158	6,488	8,166