# PNG TUNA TAGGING PROJECT (PNGTP-2)

#### **CRUISE REPORT No. 1**

#### **Eastern EEZ and Solomon Sea**

17<sup>th</sup> January - 8<sup>th</sup> February (PNG)

#### INTRODUCTION

This report summarizes activities of the first cruise of the second annual charter of the Papua New Guinea Tagging Project (PNGTP) during a twenty-three day period in January/February 2012. After entry into PNG waters on 18<sup>th</sup> January, the vessel initially fished in waters east and north east of Buka, Bougainville AR, before moving to the Solomon Sea on January 26<sup>th</sup> and entering the port of Lae at cruise end. Scientific personnel involved in the cruise are listed below in Table 1.

Table 1. SPC and NFA personnel onboard during Cruise 1

Name	Title	Affiliation	
Antony Lewis	Cruise leader	SPC contractor	17/1 – 8/2/2012
Thomas Usu	Co-cruise leader	NFA	17/1 – 26/1/2012
Simon Nicol	Principal Scientist	SPC	26/1 – 8/2/2012
Bruno Leroy	Field Coordinator	SPC	26/1 – 8/2/2012
Malo Hosken	Tagging Technician	SPC	17/1 – 26/1/2012
Sharmaine Siaguru	Tagging Technician	NFA	26/1 – 8/02/11
Mathilda Kepang	Tagging Technician	NFA	20/1-26/1/2012

### **GENERAL DESCRIPTION OF SEARCHING and FISHING ACTIVITY**

The vessel left Solomons with good bait onboard and encountered good fishing on entry to PNG waters and around TAO buoy at 5°S 156°E before clearing into Buka. Good fishing was experienced for several days over a wide area north of 5°S, east of Nuguria and near Carteret Is; much fish in the area was associated with baleen whales and with much purse seine activity in the area; there was an unusually high proportion of bigeye in the catch of mostly smaller fish; very little fish was found east of Buka on this occasion, unlike on previous visits; the vessel moved into Solomon Sea with already over 10,000 fish tagged but encountered less fish in St Georges Channel and along south coast of New Britain than on previous trips; there was one good day's fishing on yellowfin before bad weather associated with depressions further south curtailed fishing and lasted for five days; the vessel then relocated to Morobe Coast where slightly better weather prevailed but fishing was hampered by weather before recording some moderate catches and going into Lae for the full moon break.

The track of the cruise in the PNG EEZ, based on school, 0600, 1800 and 2400 hrs positions, is found below as **Figure 1** and a summary of general movements and tag releases follows as **Table 2**.

A compilation of the daily log extracts, detailing daily activities, is provided as **Appendix 2**.

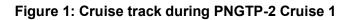




Table 2 Summary of PNGTP- 2 Cruise 1 activity, with the number of conventional and archival tag releases per day

Date	Jan Activity	Conve	ntional re	leases	Archival releases			Total releases
	Jan	SJ	YF	BE	SJ	YF	BE	
Jan 17 <sup>th</sup>	Departed Noro for baiting at Ropa, Choiseul							
Jan 18 <sup>th</sup>	PNG waters, fishing north to TAO buoy	1105	47					1152
Jan 19 <sup>th</sup>	Fishing east of Buka, baiting Taiof Is.	588	210	61				859
Jan 20 <sup>th</sup>	Clearance into PNG, Buka; steaming north							
Jan 21 <sup>st</sup>	Fishing near Nuguria, baiting Nuguria	866	530	7				1403
Jan 22 <sup>nd</sup>	Fishing towards Nissan, baiting Nissan	997	123	86				1206
Jan 23 <sup>rd</sup>	Fishing towards Carteret, baiting Carteret	1405	1953	374				3732
Jan 24 <sup>th</sup>	Fishing towards Buka, baiting Taiof Is	966	691	174				1831
Jan 25 <sup>th</sup>	Fishing north-east of Buka, baiting Taiof Is	353	178	140				671
Jan 26 <sup>th</sup>	In port, Buka; provisions, water, staff change							
Jan 27 <sup>th</sup>	Fishing St Georges Channel, Wide Bay	154	64	1		2		221
Jan 28 <sup>th</sup>	Fishing NB south coast, baiting Lindenhaven	57	34			4		95
Jan 29 <sup>th</sup>	Fishing off Lindenhaven; baiting Lindenhaven	63	1185	1		12		1249
Jan 30 <sup>th</sup>	Fishing off Gasmata; baiting Fulleborne	408	29					437
Jan 31 <sup>st</sup>	Steaming towards Morobe coast – no fishing							
Feb 1st	Fishing off Morobe coast	101	154			1		256
Feb 2 <sup>nd</sup>	Medical emergency to Lae; fishing back south		1					1
Feb 3 <sup>rd</sup>	Fishing near Morobe Harbour	3						3
Feb 4 <sup>th</sup>	Fishing near Morobe Harbour	314	12					326
Feb 5 <sup>th</sup>	Fishing near Morobe Harbour	944	134					1078
Feb 6 <sup>th</sup>	Fishing near Morobe Harbour	58						58
Feb 7 <sup>th</sup>	Fishing into Lae	8	8					16
Feb 8 <sup>th</sup>	In port Lae							
	CRUISE 1 TOTAL	8390	5353	844		19		14606

#### TAG RELEASES

Of the 23 days of the cruise, all or part of four days were spent in port, with one day steaming in bad weather (no fishing) and six days with fishing reduced by bad weather A total of over 14,000 fish was tagged and released with conventional tags during the cruise, comprising 8390 skipjack (57%), 5353 yellowfin (37%) and 844 bigeye (6%.). Additionally, 19 archival tags were deployed on yellowfin during the cruise, making a total of **14,606 releases** for the cruise.

**10,854** fish were tagged in waters east and north-east of Buka in six excellent days fishing, with 6280 skipjack, 3732 yellowfin and 844 bigeye (Area 3 of the four designated release areas). **2014** fish were then tagged during four days fishing in the western Solomon Sea along the south coast of New Britain partly curtailed by bad weather (682 skipjack, 1330 yellowfin and 2 bigeye) (Area 4).

The remainder of the cruise was spent on the Morobe coast (Area 4) for the first time; 7 days were spent fishing but with bad weather reducing activity on four of those days and variable fishing when good weather prevailed. **1738** fish were tagged – 1428 skipjack and 310 yellowfin.

The figure below shows the distribution of tag releases by species during the cruise.

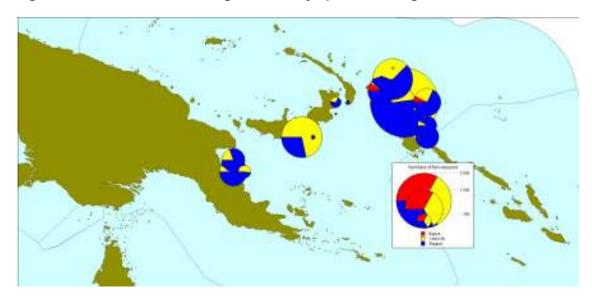


Figure 2 Distribution of tag releases by species during Cruise 1

The average number of fish tagged per day's fishing was close to 1000, and in excess of this during the very productive fishing in east Bougainville waters.

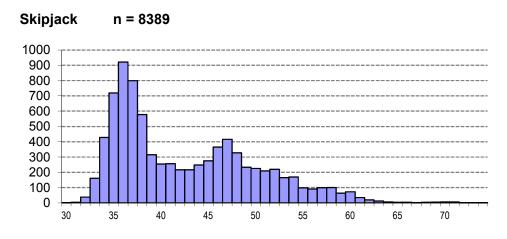
The majority of releases involved fishing free schools (50%), with 39% on log schools, and smaller numbers on mammal-associated schools and an anchored FAD, the 5°S 156°E TAO buoy.

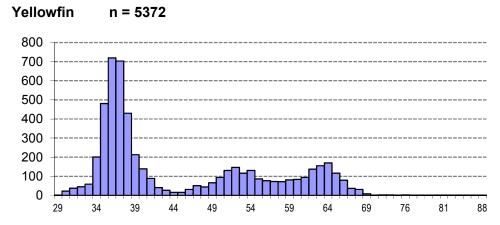
A slight majority of the releases (7,629 - 52%) were the larger P tags (generally fish > 38 cm), but with large numbers (6,958 - 48%) of the 11cm Z tags on the cruise, mostly during fishing on log schools in Area 3.

The Cruise 1 releases are summarized by school, location, school type day and area in **Appendix Table 1**.

## SIZE DISTRIBUTION OF TAGGED FISH

Figure 3 below shows the overall size distribution of fish tagged during Cruise 1.





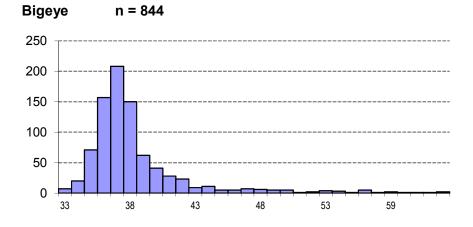


Figure 3. Size distribution of fish tagged during Cruise 1

The skipjack size distribution (8389 fish) shows a single mode centred on 44cm, while the yellowfin size distribution (5372 fish) shows two modes centred on 37cm and 48cm respectively. The small number of bigeye tagged (844 fish) were between 35 and 52 cm. The sizes of fish tagged in the three areas offer considerable contrast.

Fish tagged in **area 3** were mostly smaller fish – skipjack with a primary mode at 37-38 cm, and larger modes up to over 60cm; yellowfin were also mostly smaller fish – primary mode also 37-38 cm fish but with a minor mode at 52cm. The relatively large number of bigeye tagged was centred on a primary mode at 38cm.

The smaller number of fish tagged off the **south coast of New Britain** showed skipjack with a major mode at 36cm, and a range of larger fish up to 72cm; yellowfin with modes at 55 and 65 cm and just two bigeye.

Skipjack dominated catches off the *Morobe coast*, with a primary mode at 48cm; the yellowfin size distribution shoed clear bimodality with modes at 32 and 51 cm, and some larger fish; no bigeye were taken in this area

#### **BAITING**

Bait supply was generally good, as summarized in Table 4 below. The initial catch taken in Solomon waters again lasted for several days with low mortality on the inward run to Buka. The Taiof Island baiting area near Buka again supplied large reliable catches of anchovy on 3 occasions whilst baiting at the offshore atolls of Nuguria, Nissan and Carterets was also good, especially at Nissan Island.

The main area baited on the New Britain south coast, Lindenhaven, provided large catches of sardines on two occasions, whereas exploratory baiting at Fulleborne Harbour and Henry Reid Bay yielded poor baiting.

Morobe Harbour, the only location fished in the area, provided large catches albeit mostly weaker small anchovies, on six successive nights. First night mostly *Chorinemus* 

Table 4 Summary of bait fishing activity during PNGTP Cruise 1

Date	Location	Catch (bkts loaded, hauls)	Species
Jan 17 <sup>th</sup>	Ropa	247 (2)*	Anchovy (het, dev, Tb)
Jan 19 <sup>th</sup>	Taiof Is	280 (1)*	Anchovy (het, dev)
Jan 21 <sup>st</sup>	Nuguria Is	123 (1)	Sprats (blue, silver)
Jan 22 <sup>nd</sup>	Nissan Is	340 (3)*	Anchovy, large sardine (sifted)
Jan 23 <sup>rd</sup>	Carteret Is	100 (3)	Mixed (sprats, cardinals, h/h, reef)
Jan 24 <sup>th</sup>	Taiof Is	240 (1)*	Anchovy (het, dev)
Jan 25 <sup>th</sup>	Taiof Is	260 (1)	Anchovy (het, dev), sardines (medium)
Jan 27 <sup>th</sup>	Henry Reid Bay	No set	
Jan 28 <sup>th</sup>	Lindenhaven	310 (1)*	Sardine(sirm, brachy), Decapt,Rk, Da
Jan 29 <sup>th</sup>	Lindenhaven	355 (1)	Sardine (sirm, brachy), Rk, Hq
Jan 30 <sup>th</sup>	Fulleborne Hbr	55 (2)	Hq,little priests
Feb 1 <sup>st</sup>	Morobe Hbr	260 (1)	Chorinemus juvs, Sard brachysoma
Feb 2 <sup>nd</sup>	Morobe Hbr	262 (1)	S devisi (small),
Feb 3 <sup>rd</sup>	Morobe Hbr	160 (1)*	S.devisi, some Pellona, S brachy
Feb 4 <sup>th</sup>	Morobe Hbr	300 (1)*	S devisi, Sard brachy, Rk, Da
Feb 5 <sup>th</sup>	Morobe Hbr	97 (1)	S devisi, Sard brachy, Rk, Da, Pellona
Feb 6 <sup>th</sup>	Morobe Hbr	82 (2)	S. devisi

<sup>\*</sup> partial loading only

#### SUMMARY

After a slightly delayed start and the early timing in the year of the reduced charter in 2012, the first cruise has provided an excellent start to PNGTP-2, despite a persistent period of bad weather due to a stationary severe tropical depression in the Coral Sea. 10,854 fish were tagged and released in Area 3 and approximately 3,700 fish in Area 4. Activity will now move to Areas 1 and 2. The table below summarizes the releases by area.

Area	Dates	Catch	Notes
Area 3	18-25/1/2012	10,854,	Much small fish, SJ
(East Buka)		6280 SJ, 3732 YF, 844 BE	top; high % bigeye
Area 4	27 -31/1/2012	2,014	YF top, larger; SJ
(south New Britain)		682 SJ, 1330 YF, 2 BE	small, very few BE
	1-7 /2/2012	1,738	SJ top, medium; YF
(Morobe Coast)		1428 SJ, 310 YF	two sizes, no BE

If good weather persists, then tagging in area 2 (Bismarck Sea) should be the next priority, whilst retaining the flexibility to switch to other areas according to prevailing weather. Area 4 will require further coverage, especially with the decision not to fish in Milne Bay waters on the shortened charter and the disrupted time spent on the New Britain south coast. It is suggested that this may occur after the full moon break in Kavieng, with a return to south New Britain en route to Buka to clear out at the end of the charter and then fish the TAO 5°S and the east coast on the run home to Noro.

The concentration of juvenile bigeye in north-east Bougainville waters at the beginning of the cruise was noteworthy; it remains unclear if it was a one-off event associated with the high productivity in the area (whales with bait schools), or a more permanent seasonal feature as has been noted in a few other areas eg off Rakata, Solomon Islands.

The vessel crew contained many new faces and these generally performed well during this first of the three cruises which will make up the charter.

APPENDIX TABLE 1
Releases of tagged fish by date, location, school type and species during Cruise 1

Project PNGTP - Papua New Guinea # 2						Cr	Cruise 1 To		1	1 Vesse Soltai 105			
Event	Tagged				Sch					T			
no	sch no.	Date	Lat	Lon	type	Assoc.	Start	Stop	YFT	BET	SKJ	ОТН	TOTAL
3	1	18-Jan-2012	0613.857S	15615.551E	3	1	0911	0944	7	0	656	0	663
5	2	18-Jan-2012	0546.517S	15612.926E	3	1	1340	1358	40	0	270	0	310
8	3	18-Jan-2012	0540.056S	15621.430E	3	1	1550	1610	0	0	179	0	179
10	4	19-Jan-2012	0458.113S	15601.064E	3	3	0515	0605	210	61	569	0	840
14	5	19-Jan-2012	0515.025S	15512.960E	2	1	1202	1210	0	0	19	0	19
19	6	21-Jan-2012	0323.766S	15456.748E	4	5	1230	1235	5	2	2	0	9
20	7	21-Jan-2012	0326.973S	15456.923E	4	5	1300	1310	1	0	1	0	2
21	8	21-Jan-2012	0333.683S	15452.503E	4	5	1407	1440	1	0	115	0	116
22	9	21-Jan-2012	0335.591S	15447.417E	2	1	1506	1515	0	0	5	0	5
23	10	21-Jan-2012	0336.865S	15446.092E	3	1	1525	1650	523	5	743	0	1271
24	11	22-Jan-2012	0342.756S	15444.926E	3	1	0630	0655	28	1	67	0	96
25	12	22-Jan-2012	0343.415S	15443.322E	3	1	0715	0725	52	4	53	0	109
26	13	22-Jan-2012	0339.422S	15437.586E	3	1	0818	0830	27	0	30	0	57
27	14	22-Jan-2012		15430.699E	3	1	0956	1000	0	0	36	0	36
28	15	22-Jan-2012		15427.770E	3	1	1030	1035	0	0	67	0	67
29	16	22-Jan-2012	0401.688S	15423.281E	3	5	1120	1235	15	81	515	0	611
30	17	22-Jan-2012		15420.416E	2	1	1317	1320	1	0	189	0	190
31	18	22-Jan-2012	0411.391S	15415.717E	2	1	1416	1420	0	0	40	0	40
33	19	23-Jan-2012		15449.900E	2	2	0815	0930	515	43	323	0	881
34	20	23-Jan-2012	0449.681S	15454.874E	2	1	1012	1018	6	0	70	0	76
35	21	23-Jan-2012		15456.024E	2	1	1028	1038	0	0	212	0	212
36	22	23-Jan-2012	0447.961S	15500.949E	2	1	1119	1130	0	0	156	0	156
37	23	23-Jan-2012		15503.140E	2	2	1208	1410	1406	331	551	0	2288
38	24	23-Jan-2012	0452.853S	15514.177E	2	1	1625	1635	26	0	93	0	119
39	25	24-Jan-2012		15505.825E	1	2	0830	0900	194	43	92	0	329
40	26	24-Jan-2012		15510.831E	2	2	0942	1145	497	131	874	0	1502
44	27	25-Jan-2012		15458.204E	3	2	1018	1109	164	132	211	0	507
45	28	25-Jan-2012	0455.830S	15449.984E	2	2	1200	1230	14	8	142	0	164
48	29	27-Jan-2012		15233.293E	2	5	0955	1005	6	0	23	0	29
50	30	27-Jan-2012		15223.624E	2	1	1327	1335	58	1	118	0	177
51	31	27-Jan-2012	0507.620S	15210.526E	2	1_	1605	1630	2	0	13	0	15
53	32	28-Jan-2012	0612.627S	15111.011E	2	7	1037	1100	4	0	25	0	29
54	33	28-Jan-2012	0612.365S	15059.551E	4	1	1243	1252	34	0	32	0	66
57	34	29-Jan-2012	0619.267S	15055.870E	3	1	1040	1044	0	0	1	0	1
58	35	29-Jan-2012	0616.597S	15048.511E	2	1	1207	1315	633	1	29	0	663
59	36	29-Jan-2012	0618.593S	15043.251E	2	1	1358	1432	564	0	32	0	596
61	37	29-Jan-2012	0617.340S	15030.080E	2	1	1625	1635	0	0	1	0	1
63	38	30-Jan-2012	0606.992S	15059.304E	3	1	1347	1355	16	0	88	0	104

REPORT 3 : TAG SCHOOL SUMMARY

Event	Tagged				Sch			TAG TOTALS					
no	sch no.	Date	Lat	Lon	type	Assoc.	Start	Stop	YFT	BET	SKJ	ОТН	TOTAL
64	39	30-Jan-2012	0606.716S	15056.300E	4	1	1436	1452	13	0	320	0	333
67	40	01-Feb-2012	0736.820S	14809.413E	4	1	0924	0937	119	0	15	0	134
68	41	01-Feb-2012	0738.353S	14759.828E	3	1	1040	1115	31	0	80	0	111
70	42	01-Feb-2012	0728.434S	14754.642E	3	1	1241	1307	5	0	6	0	11
73	43	02-Feb-2012	0727.879S	14730.186E	4	1	1638	1647	1	0	0	0	1
78	44	03-Feb-2012	0740.527S	14754.133E	1	1	1245	1255	0	0	3	0	3
82	45	04-Feb-2012	0736.942S	14806.222E	1	1	0745	0804	3	0	97	0	100
83	46	04-Feb-2012	0736.118S	14755.424E	1	1	0948	1030	9	0	217	0	226
86	47	05-Feb-2012	0738.227S	14755.875E	2	1	0710	0740	21	0	381	0	402
88	48	05-Feb-2012	0739.116S	14758.453E	2	1	0830	0842	3	0	127	0	130
89	49	05-Feb-2012	0733.500S	14759.993E	4	1	0920	0925	0	0	1	0	1
90	50	05-Feb-2012	0725.174S	14752.788E	4	1	1117	1139	0	0	233	0	233
91	51	05-Feb-2012	0729.762S	14747.799E	1	1	1228	1253	110	0	202	0	312
92	52	06-Feb-2012	0725.996S	14750.500E	4	1	0836	0842	0	0	58	0	58
95	53	07-Feb-2012	0728.700S	14756.571E	2	1	0742	0753	7	0	6	0	13
96	54	07-Feb-2012	0730.720S	14754.640E	2	1	0812	0815	0	0	1	0	1
98	55	07-Feb-2012	0700.170S	14720.388E	3	5	1240	1250	1	0	1	0	2
							CRUISE 1	TOTALS	5372	844	8390	0	14606
							PROJECT	TOTALS	5372	844	8390	0	14606

#### **APPENDIX 1**

#### **DAILY LOG EXTRACTS - PNGTP-2 Cruise 1**

#### January 17th

Cast off with great relief 1300 hrs, after blessing by Anglican father (Noro Seafarers Chaplain) and last minute preparations - remaining passports (6) only arrived 1000 hrs and clearance 1130 hrs. 32 souls onboard, with 9 new crew. Headed for Ropa for baiting with ETA 1800 hrs; good weather with light north-easterly dropping off to calm. First fish trolled (small barracuda - good omen) and toksave with crew; anchored 1830 hrs in 41m off Ropa village, and light boat set; first haul 2030hrs for ~ 200 bkts, with 180 loaded - little priests, het, devisi; second haul delayed due to bait boat anchor line being cut by malcontents and boat drifting - hauled 2200 hrs for another 67 bkts, mostly anchovy mix; bait plank broke during hauling, spilling handlers into the water; must be a tevoro about, so opted to up anchor and out 2300 hrs, bound for PNG waters some 90 nm distant and 180 nm to TAO 5S.

## Jan 18<sup>th</sup>

Good passage in calm seas - passed Choiseul Bay 0630 hrs; area of fish4 nm inside Sols waters, mostly YF, with whales and baitfish but did not bite: checked Phils dFAD (or maybe anchored - Western Fisheries) but no signs around; crossed into PNG waters ~ 0930 hrs Sols time, then setting clocks back one hour; fished good rippling school of small SJ for 30 minutes 662 tagged, mostly Z tag SJ, with 7 YF; another lazy school after with no success; little seen until early afternoon when another rippler of small SJ - ~ 310 tagged (40 YF); two other schools with larger fish but went down on approach; third rippler of small fish 1550 hrs - slow biting but 179 tagged in numerous passes; F/M relentlessly chased a few more bird patches until dusk then finally threw in the towel; 1151 for the day, with 47 YF; SJ mostly 35-38cm, with few larger fish; numerous fish released damaged since only size 2.8 jigs available, no 2.2 which would have been appropriate, but none available in Noro - may be able to collect some in Lae on full moon. Headed for TAO 5S with still 3 tanks of good bait left - should arrive ~ 2130 hrs then will drift; a pretty good start to the trip.

## Jan 19<sup>th</sup>

Drifting from 2200 hrs previous night; few signs around buoy at that time; steamed back to buoy and started fishing 0515 hrs with some signs near buoy and SJ rippler nearby; good bite for 50 minutes before cried off - 840 tagged with 569 SJ, 210 YF and 61 BE; chased several other schools since, including one large area of fish with whales (5 or 6) - boiling and with loads of *punctifer* in the water, so no bite; school fished on noon but biting timid and just 19 SJ tagged; total now over 2,000 for first two days; intermittent rain and hoping for good fish close to coast mid-afternoon; alas, not to be - nothing seen on the long run into Buka where last time, there was abundant fish. Had to settle for 859 for the day (210 YF, 61 BE), making 2011 for the two days so far. In Buka Passage and across to Taiof island, anchoring 1600 hrs for baiting. First and only haul 2130 hrs for 1000 bkts or more - good anchovy mix (hiet,devis); 280 bkts loaded to fill up (320 total)

### Jan 20th

Bait survived well, in good condition; anchored 0700 hrs near Sohano awaiting Immigration officer from Moresby; alongside main wharf 0900 hrs; long wait for all clearance actors to arrive plane late and other imponderables; finally mostly done by 1130 hrs, with time for a quick shop; Mathilda onboard, crew list altered and signed, and cast off 1400 hrs; heading NE bound for TAO 2S, some 220 nm distant; full tanks (320bkts) and loaded for bear; nothing sighted until 1700 hr in rising seas - chased one fast school for 20mins but not caught, then another larger school reached just on dark; too late to interest fish in the beautiful bait and gave up 1810 hrs; steaming overnight towards TAO 2S in slight seas with NNW wind 10 kts;

### Jan 21st

Comfortable steam overnight - seven seiners seen during night and six in view at 0500 hrs (~3/30S 155/30E), with 11 in total on the radar; decided to turn back towards Nuguria 0715 hrs with wind freshening from NW and no signs of fish; in amongst seiners by 0915 hrs heading towards Nuguria where good fish last time; three schools (splashers) with whales nearby chummed - not biting, with ample natural bait in the water; a few tagged from another whale school by leading fish away, then another; more success closer to Sable Is but still with whales and limited biting; finally chanced upon a breezer with no birds or whales - just popped up; long steady bite for 1.5 hrs; mixed sizes SJ and YF (to 85 cm); 1271 tagged (523 YF, 5 BE); called off with 2 tanks left and headed for Nuguria entrance, 2 hours away, to bait; 1403 for the day, with 38% YF and 7 BE; anchored 1905 hrs near main village; soon inundated with village boats but all sorted amicably by the diplomatic THU. No warning had been given by Bougainville Fisheries of the visit but ended well; bait slow to gather, at various depths; first haul 2245 hrs with modest signs but a handy 123 bkts of sprats (silver and blue) and h/heads; will be enough for the morning bite, with 90 bkts still onboard from today; will bait at Nissan tomorrow night.

## Jan 22<sup>nd</sup>

Up anchor 0400 hrs then out for fishing near Sable Island; three "schools", mostly rippling fish over a wide area, fished but slow biting, with much natural bait and the odd whale; 262 tagged (107 YF, 5 BE), and two tanks used, before deciding to head for Nissan at about 0900 hrs; two schools of small SJ fished half way to Nissan (95 fish); further en route Nissan, four schools fished, one with significant numbers of small bigeye (81 out of 611 fish tagged); total 9 schools fished for the day, often in multiple passes, so much work for the team, but ended with 1208 tagged (999 SJ, 123 YF and 86 BE); final school just outside Nissan did not bite; 4622 for the cruise now (23% YF and BE) in four days fishing - useful; anchored in Nissan lagoon 1715 hrs and hopeful of good bait (gold anchovy) like last time; will fish towards Carterets and TAO 5S tomorrow; first net 2230 hrs for 157 bkts of anchovy mixed with a lot of large sardines (clupeoides) and Selaroides; some attempt to sift catch with large mesh net, second net on lightboat with new anchor 2330 hrs for 58 bkts of mostly anchovy - no sardine; will do third set 0200 hrs.

## Jan 23<sup>rd</sup>

Bait gathered very quickly - third net 0145 hrs for ~ 150 bkts of nice anchovy and Selaroides, with 125 loaded - full tanks; 0245 hrs headed for 785m seamount 40nm west of Carteret - 80nm to TAO 5S from there; SW-setting current slowing progress, wind shift to NE; nothing on first seamount and not until 0800 hrs when good log found - larger SJ away from it, then YF and BE around it; good bite for 1.5 hrs with 881 tagged (515 YF, 43 BE); three running schools between 1000 and 1130 hrs steaming towards Carteret - quick bite with between 100-200 fish from each, all SJ; small nipa palm butt with fish at noon proved a bonanza with 2290 tagged in two hours of fishing (1407 YF, 331 BE); good bigeye associated to the boat when paused for break to load tags etc - should have made more of that; mix of sizes but many Z tags; with just 2 tanks of bait left, considered returning to Buka but opted to head for Carteret and bait there; one running SJ school fished briefly on the way in and flirted with some MT near the passage; 3727 for the day, with 10% BE (374) and 52% YF (1954); over 8000 for the trip, in five full days fishing and four bonuses due, causing much celebration; anchored 1800 hrs in 32m, just inside the south entrance to Carteret - a long way from the village and no visitors; first haul 2230 hrs for 60 bkts of mixed bait and lightboat haul for just 10 bkts; will haul again 0400 hrs, before fishing locally in the morning then head to Buka; new moon today (23rd)

# Jan 24<sup>th</sup>

Net hauled 0400 hrs for 30 bkts (sprats, cardinals) then headed out for same area as yesterday, west of Carterets. First log school sighted at 0830 hrs and fished until 0900 hrs producing 98YF, 26 BE and 20 SJ from 38cm to 47cm; 200 Z tags and 139 P tags. Good log with flotsam around; mostly small YF and BE; short bite on several passes. Second school nearby fished from 0942

until 1145 hrs producing 87 SJ, 497 YF and 131 BE. Initially a log school which turned into a boat school after stopped throwing bait; long bite with mostly small fish (SJ, YF, BE) - lots of BE in bursts; Fisheries enforcement boat passed by and called in; also Malo filming from rubber ducky. Total for the day: 1831, 53% SKJ, 38% YFT and 10% BET, mostly Z tags. Steamed back to Buka, with some sighting en route for tomorrow; some birds from around 12nm out; anchored near Taiof 1615hrs in usual location for baiting, light boat anchored nearby; usual visitors soon to come around and demanding (almost) distribution of fish; bait again gathered rapidly - first haul at 2245hrs a huge one for ~ 1500 bkts, with just 240 loaded in the rest released. Total for the cruise: 10183.

### Jan 25<sup>th</sup>

Up anchor 0400 hrs and headed out past Buka to the east; first school just 6nm offshore but running and no bite; two more schools in same area, but all three mixed with larger YF and no bite; moving further offshore, then north to meet suspected current line/water mass boundary at  $\sim$  4/55S; two logs fished soon after, second an old dFAD but biting slow compared to yesterday in similar area; 507 on first log (164 YF, 132 BE) and 164 on second (14 YF, 8 BE and some big SJ); turned for home  $\sim$  1430 hrs - nothing seen on run down west coast of Buka; dropped THU in Buka, raided the ATM and anchored 1700 hrs in Taiof Is spot; 671 for the day, and 10854 for the trip; hauled 2145 hrs with good showing - usual large catch but overcrowded in net and mortality during loading; 260 bkts loaded with 60 left onboard (320 total); big day in Buka tomorrow with departures/arrivals, provisioning and hopefully 30 KI of water

### Jan 26th

Alongside port wharf 0615 hrs with THU waiting; bonus advances distributed efficaciously, Malo and Mathilda farewelled with Sols anthem, and BML, SJN arrived shortly after, as if by magic; shopping all morning, fuel taken, then just waiting for water; eventually, after much gnashing of teeth, 4 loads completed (~ 9 Kl each or 1,800 gallons, as far as we can judge) and finally cast off 1820 hrs; well cleared of fish, and ready to start all over again in Solomon Sea; bait mortality moderate after the handling misadventure last night but should suffice for a good start tomorrow in St Georges Channel; shopping (cameras etc) distributed and a happy crew as we set for the next adventure; should be fishing at 0600 hrs.

#### Jan 27th

Good passage overnight at 10kts plus; probably passed main current line (shiome) just before dawn; BUM trolled 0555 hrs - seamless delivery onboard; met an area with whales, fish and birds south of Cape St George but no answer to chumming; large SJ (to 75 cm) and smaller YF with very large whale shark (29 tagged, 6 YF); nothing else in area so turned and headed south along NB coast; calm in lee with NW wind; a second BUM at 1150 hrs amongst flotsam - 100 kgs +; quiet until 1330 hrs when a quick biting school of SJ/YF for 177 fish (58 YF, one BE) and two YF ATs ~ 60cm; with just 2 bait tanks left, decided to try quick baiting at Henry Reid Bay for a few hours, and began heading in at 1500 hrs (~ 2 hrs run); chased one reluctant school 1600 hrs - just 15 tagged (2 YF); anchored Henry Reid Bay in 35m 1815 hrs, near large logging carrier; major development ashore, water quite dirty, and strong current;

A modest 221 day for the day (66YF), 11,075 total and another bonus; little bait evident 2000 hrs - up anchor and headed south overnight.

### Jan 28th

Past Jacquinot Bay 0600 hrs and not far from Cape Dampier killing fields of last April, but flightly bird groups only; large marlin lost 0650 hrs (hook pulled); first school finally chummed 0830 hrs but timid and no bite; vertical log nearby with larger YF but also no bite; westerly blew up suddenly at around 1000 hrs, to ~25 kts whilst chasing good school - fishing almost impossible but 28 fished, mostly SJ and one YF AT (67 cm); opted to head for Fulleborne and only making 7.5 kts; wind then switched to NW but still rough; one school fished 1230 hr for 66 fish until bait ran out; YF(34) and SJ (32), including 3 ATs; wind easing slightly as heading for Fulleborne so went for Lindenhaven; numerous schools seen on the way in, which bodes well for tomorrow; wind eased more close to coast and anchored Lindenhaven 1730 hrs in calm conditions; canoe

invasion yielded some good vegs including chilli and emptied brine tank of fish; daily total 94 with 38 YF including 4 ATs; bait gathered on schedule - first and only haul 2130 hrs for 310 bkts of sardines (two spp), Decapterus, Duss acut, Rk .. good mix for YF tomorrow; will go out 0400 hrs. Jan 29<sup>th</sup>

# Jan 29th

Out through passage 0420 hrs; steamed 20 nm south then turned east; fishing out wide (20 nm) yielded just very small fish (< 30cm SJ) in large ripplers; fishing closer inside (10 nm) from 1130 hrs onwards; good school on noon - mostly YF 50-70cm, which stayed on the bite for over an hour with the very suitable bait - 663 tagged, with 633 YF; second school slightly inshore and several miles west for another good YF bite - 596 tagged, with 564 YF; bait running low so headed in, but no more fish seen on the way until close to Lindenhaven - one SJ tagged from a school near entrance; entered pass in driving rain and anchored 1715 hrs, with a swarm of canoes gathering; fish and veges exchanged, not without some fierce competition for favours; a good daily total 1261, of 1197 YF including 12 ATs; must surely be a record weight of YF tagged in a single day during the PTTP, approx 6 tonnes; cruise total now 12431, and 8 bonuses. Bait gathered early, with first net 2145 hrs for 355 bkts loaded and ~ 60 let go;

## Jan 30<sup>th</sup>

Out through passage 0500 hrs, and heading west initially; turned east 0650 hrs with freshening west wind (15-20 kts) and lumpy swell; wind then dropped away but came up again from NW ~1130 hrs; conditions difficult all afternoon and fish tagged from two schools close inshore towards Cape Dampier- nearly all small SJ, 437 total with 29 YF; headed for Fulleborne in 20-25 kt NW; attempted two more schools very close inshore, the second just outside Fulleborne Hbr; YF jumping but only MT poled (~ 6); anchored east arm Fulleborne 1745 hrs in 36m; wind continued all night unabated and forecasts suggest another two days of this at least; daily total 437, with 12,868 for the cruise.

## Jan 31st

Net hauled 0030 hrs for 36 bkts - strong current saw some bait missed; hauled again 0400 hrs for just 19 bkts; outside 0500 hrs headed for RD FADs then to Morobe coast; wind from west again early, with SW swell, then wind and swell shifted slightly towards NW, with winds increasing to 30 kts; making 6 kts only with ETA Mort Hbr maybe noon tomorrow; making less than 5 kts for much of the night so arrival maybe later.

## February 1st

Speed increased to 8 kts 0300 hrs and course changed to 200 to run side on; turned west ~ 0700hrs and became fishable as gradually moved into the lee; rippler of small SJ 0930 hrs many too small (< 30cm) but134 tagged (119 YF); two rippling schools of mixed SJ and YF between 1030 hrs and 1300 hrs - feeding on natural bait (punctifer ?) and hard to get to bitechased all over the shop - 111 tagged from one (31 YF) and 11 from another (5 YF, including one AT); bait mostly finished and headed for Morobe Hbr via Waria Patches; other schools seen on the way in; very good conditions here and should spend a few profitable days before going in to Lae, whilst the tempest rages outside; SJN top tagger for the day; 256 daily total (153 YF - 61%) to put us back on track; passed the 13,000 mark also (13,124); anchored Morobe Hbr 1720 hrs Trence Ako (bosun) condition worsened so BML and SHS took him to health clinic; chloramphenicol injection administered and advice to go to Lae since acute appendicitis diagnosed; nurse came to vessel for i/v then again for final injection 2300 hrs; meanwhile set lights (float stolen from light boat but recovered and opted not to reset); hauled 2130 hrs with herring on surface and signs below; proved to be mostly juvenile leatherskin (Chorinemus) and some Sard brachysoma; 260 bkts loaded and double gloves needed tomorrow for chummers; up anchor after final injection for Trence and dropping nurse at aid post; condition stabilized and ready to head for Lae, as helicopter not an option.

#### Feb 2<sup>nd</sup>

Anchor up and headed for Lae midnight; standing off Lae harbour 0730 hrs; difficult to raise Ports and no policy on medical emergency procedures; finally with Fisheries intervention, alongside Golden Shower 888, Customs arrived in Frabelle skiff 1000 hrs and cleared in, with Trence cleared ashore, left in Charmaine's capable and kind hands; surgery likely today or tomorrow at Lae IH (private); headed off 1100 hrs with 25 kts NW wind behind, and unusual bait; wind swung around to SE 15 kts early afternoon; very few sightings - one bird flock chummed then birds near new log, neither showing any interest in the chum; chummerds had been issued with special gloves to deal with spiny bait problem; broad area of YF and MT on the way in to Mort Harbour in about 200m - limited interest in the special bait, and just one YF tagged, avoiding the skunk; anchored Mort Harbour 1725 hrs but obliged to move out by traditional owners - no access to their inshore fishing area; few options left with few charted areas nearby in failing light so returned to Morobe Hbr, anchoring 2058 hrs and hoping for better bait.

### Feb 3<sup>rd</sup>

Net hauled 0130 hrs as moon going down; good showing on sounder near bottom and 262 bkts of small devisi loaded, a good change from the previous night but small weak bait; up anchor and out 0500 hrs; stiff NW wind most of the morning made fishing difficult; dropped gradually but still NW swell and often fighting north-setting current; fish hard to find with just 7 schools chummed all day and most flighty with little substance; 3 SJ from one brief bite, and ~ 30 MT and AT poled from a school late afternoon; kept searching until close to 1900 hrs, then went in, anchoring in same tired old spot (Morobe Hbr) 2000 hrs; total 3 fish for the day and two tanks of the small anchovy used to very little effect; discussed a move back to SNB via quick crossing to Arawe (110 nm at the time) but conservative counsel prevailed; likely to go into Lae early as we slowly strangle here on lack of fish and poor bait; agreed to at least fish wider out tomorrow;

# Feb 4<sup>th</sup>

Net hauled 0200 hrs with same good marks close to bottom; 160 bkts of small anchovy loaded (groundhog day), after ~ 20 kgs of trevally removed, and much let go; headed out 0330 hrs directly to 25nm out, where fish caught on first day, but 25 kts NW wind and fishing difficult; two good schools chased ~27 nm offshore, with one yielding 100 fish (2 YF); another on noon for 226 fish (9 YF); chased several schools after but no luck in the middle of the day; wind came again after dropping for a while, and out of bait so ran in towards the inevitable Morobe Harbour; cruise total now 13454, with 9 bonuses; hailed by dinghy at 1630 hrs reporting another dinghy sunk and 2 people in sea off Waria River clinging to fuel tanks; took two people onboard and heading out to search when persons reported found; anchored Morobe Hbr 1700 hrs; negotiations with local ward council lead to satisfactory resolution of baiting access - royalty of K1000 paid for 5 nights, and two councillors to come out tomorrow; breakdown of comms with local fisheries officer (Yaeng Haggai) in Lae but now seems OK;

## Feb 5<sup>th</sup>

Hauled 0300 hrs for 300 bkts of good mixed bait, with ~ 20 bkts let go; direct to fishing ground with three observers onboard; little wind but persistent swell from NW; fished 6 schools starting0700 hrs until bait ran out at 1300 hrs; 402, 103,1,233 and 276 fish from 5 schools in blue water 20-25nm from shore; 1042 total for the day, with 116 (11%) YF; SJ mostly 45-55 cm; returned to Morobe Hbr and anchored 1530 hrs, with brisk trading for local produce; 10th bonus today and not far from the 11th; cruise total 14496 and P tags now in the majority for the first time; YF/BE % still high at 43%;

# Feb 6th

Net hauled 0440 hrs for just 97 buckets, after removing 3 baskets of carangids; moon went down 0430 hrs but with good signs; had been better signs at midnight and before, with cloud, but did not haul - maybe a lesson learned; headed out 0545 hrs; d good weather, with light winds between SSW and NE, very sightings all day - disappointing; one school fished briefly 0830hrs for 58 SJ tagged; sea conditions had changed, with stronger current from Seand clean water much closer inshore .. and maybe fish as well; headed in after a long fruitless day, with daily total

58; anchored Morobe Hbr2000 hrs; resolved to leave baiting ground 0300 hrs, to be offshore at dawn and fish into Lae for 1500 hrs arrival and inwards clearance; hauled 2330 hrs for 43 bkts of anchovy under bright moon with little cloud;