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**SOUTH PACIFIC SWORDFISH DATA AVAILABLE FOR STOCK ASSESSMENTS**

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**WCPFC-SC7-2011/ST IP-04**

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## 1. INTRODUCTION

The Sixth WCPFC Scientific Committee (SC6) meeting, held in Nuku'alofa, Tonga, noted in respect to future assessments

“353. For future assessments:

...

*iii. The SC recommends that a review of the data holdings relating to swordfish in the South Pacific together with the resolution of any outstanding data issues be undertaken during 2011 and reported to SC7. If the data for the assessments are deemed sufficient, SC7 can make a recommendation to conduct the swordfish assessment during 2012, with presentation to SC8.”*

This document provides a breakdown (inventory) of South Pacific swordfish data available to the WCPFC to conduct a stock assessment and updates the previous data summary provided in Campbell (2008). The full inventory is provided in Annex 1 and key features of these data and important data gaps are described below. We also indicate additional sources of data outside of WCPFC holdings, which are currently held by SPC, which could be of use for a stock assessment.

## 2. SUMMARY OF WCPFC HOLDINGS

### 2.1 CATCHES

From 1970 to the late 1990s swordfish catches slowly increased from 2,500mt to 5,000 mt which a couple of years slightly higher (Figure 1). With the development of the Australian fishery at that time and then the New Zealand fishery shortly after catches increased to just under 10,000mt by 2003. In 2004 the Spanish fleet began to operate in the south Pacific and catches jumped dramatically to around 15,000 mt. This later jump was also due, to a much lesser extent, by an increase in catches from Chinese-Taipei.

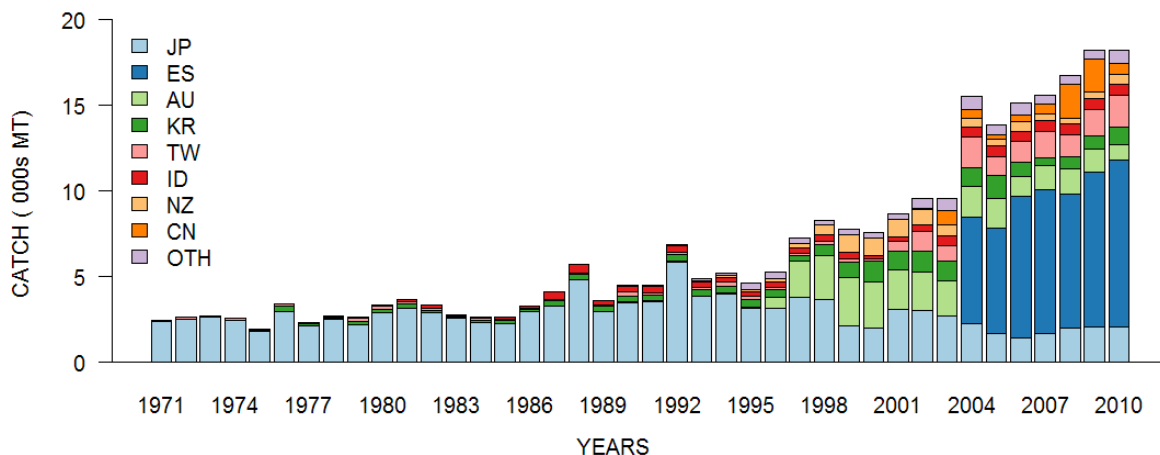
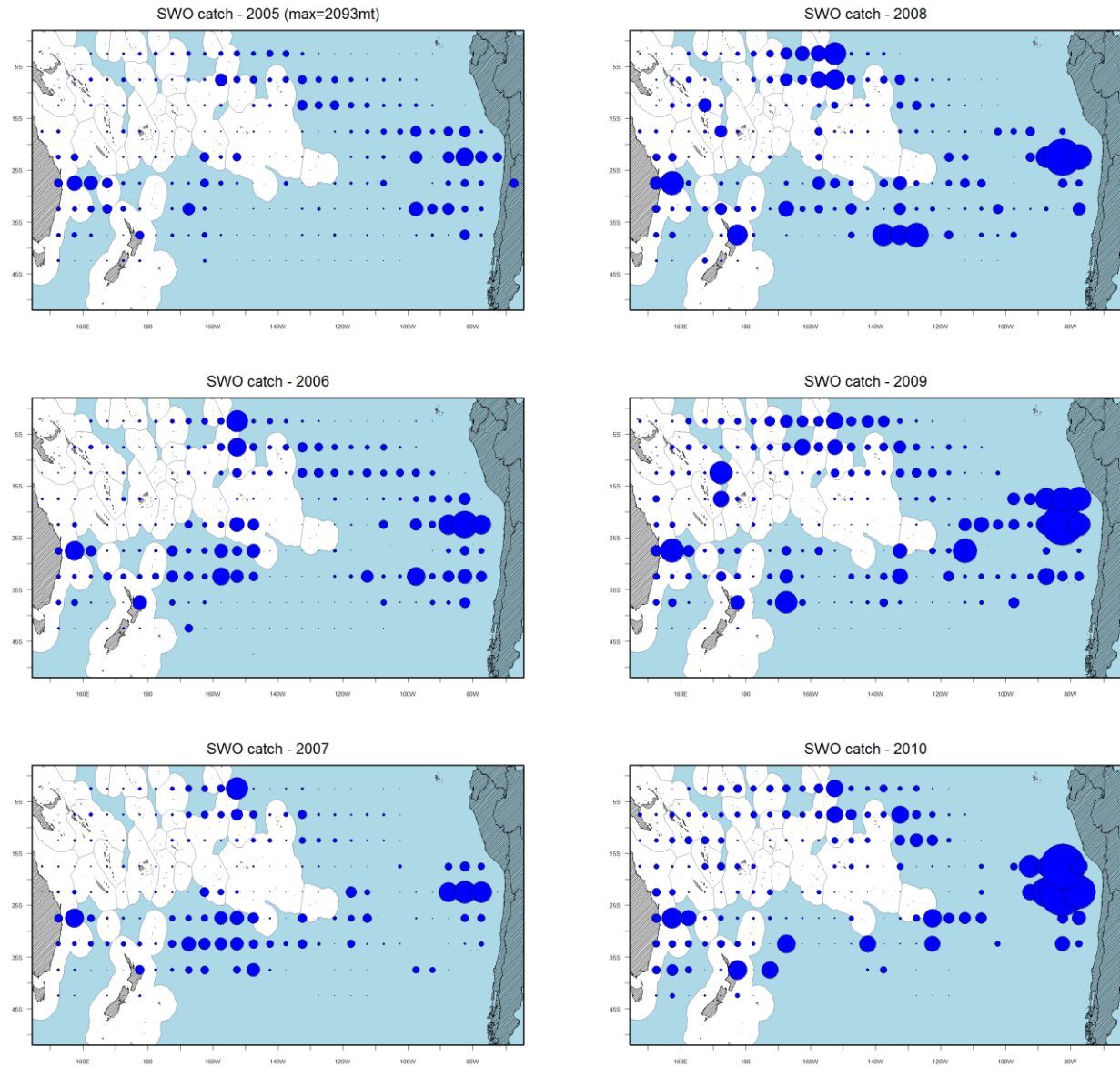


Figure 1: South Pacific swordfish catches (MT) by flag from 1970 to 2010.

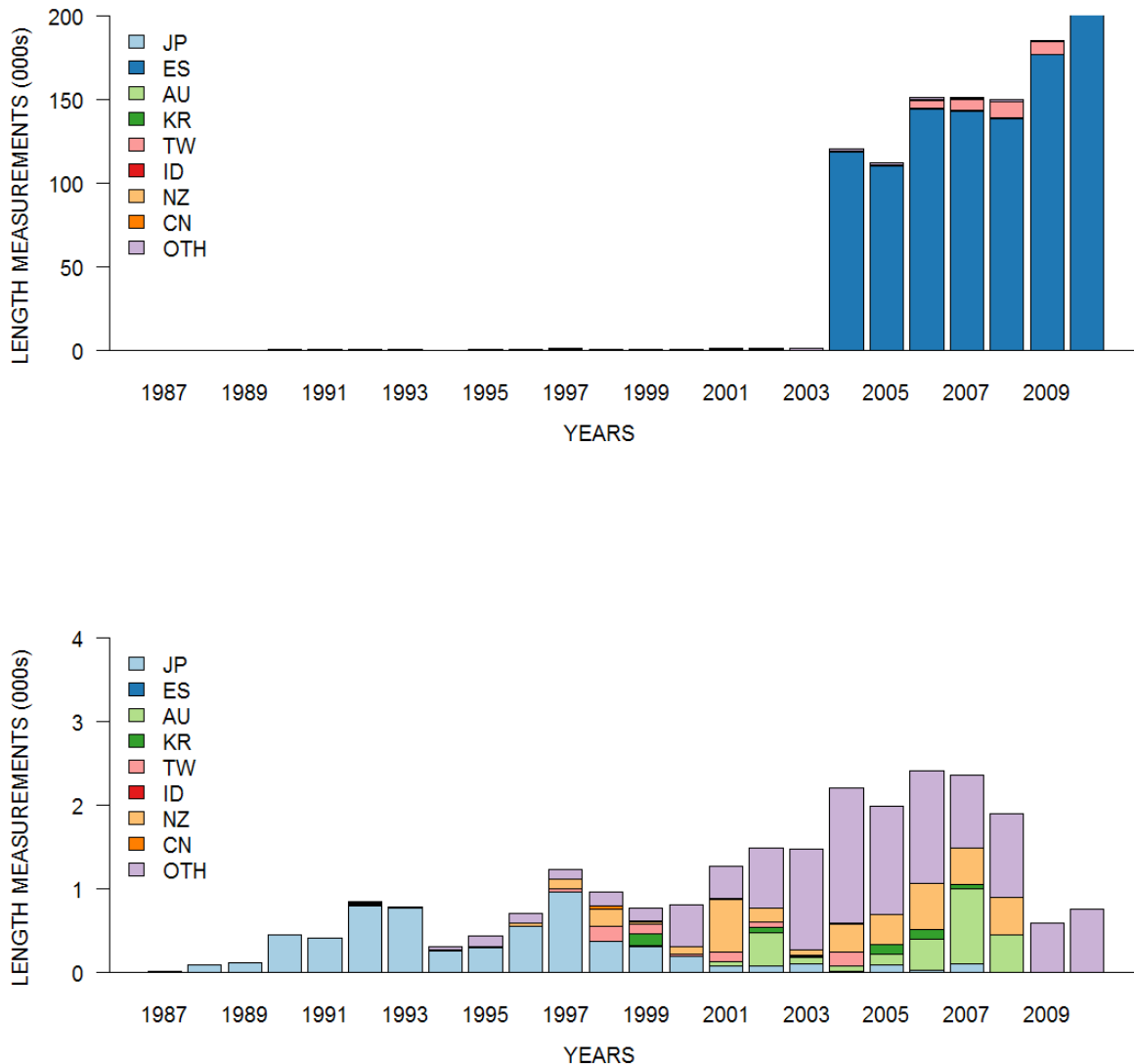


**Figure 2: Spatial distribution of recent south Pacific swordfish catches - the largest circle represents an annual catch of 2093mt. Note that data for 2010 are likely to be incomplete.**

The spatial distributions of recent (2005-2010) catches are presented in Figure 2. There are four main areas of catches 1) the far eastern Pacific Ocean off Chile and Peru; 2) the south central Pacific Ocean region south of the Cook Islands and French Polynesia; 3) coastal waters of New Zealand and Australia; and 4) the equatorial Pacific Ocean between 160 W and 130 W. Catches in regions 1 and 2 are dominated by the Spanish flagged vessels, catches in region 3 is primarily dominated by New Zealand and Australia flagged vessels, but there are also catches from Spanish flagged vessels, and region 4 is dominated by catches from the traditional distant water fleets of Japan, Korea, and Taiwan, where swordfish are taken as bycatch in the tropical tuna target fishery. The previous WCPFC assessments (Kolody et al, 2009) have focussed on fishing activities in regions 2 (south central Pacific) and 3 (southwest Pacific Ocean).

## 2.2 LENGTH DATA

The length data holdings for swordfish in the south Pacific are characterised by a large number of recent samples that have been collected at 5cm resolution. A comparison of total length samples and those length samples collected at 1cm resolution are provided in Figure 3.



**Figure 3: Total (top) number of swordfish length measurements by year and flag and the numbers that were measured at 1cm intervals (bottom).**

All of the samples from Spanish flagged vessels are provided at 5 cm resolution as are most of the recent samples from Chinese-Taipei flagged vessels. Most of the finer resolution data in recent years comes from observer programmes operating in the EEZs of Pacific Island Countries and Territories (PICTs).

If all length data is considered, then length samples are available for a very high (> 70% in most years) proportion of the catch records, but this drops to around 40% in recent years if only 1 cm resolution data are considered and fall even lower in 2009-2010 due to other data gaps mentioned later (Figure 5).

### 2.3 WEIGHT DATA

Weight frequency data available to WCPFC are presented in Figure 4. Most of the available data is from New Zealand and represents a high proportion of their total catch and other data is available for Pacific Island flagged fleets.



Figure 4: Total number of swordfish weight measurements by year and flag in WCPFC holdings.

#### 2.4 CATCH PER UNIT EFFORT DATA

Previous assessments have indicated the critical need for operational level CPUE data in order to derive abundance indices for swordfish (Kolody et al. 2009). The percentage of the total swordfish catch for which operational level data are available (to the WCPFC) is shown in Figure 5. This peaked at around 50% in the late 1990s/early 2000s during the development of the Australian and New Zealand fisheries. With the expansion of the Spanish and Chinese-Taipei fleets the level dropped off to below 20%. Essentially there is no operational level CPUE data for non-PICT fleets available to the WCPFC.

A further complication with the Spanish flagged vessels is that the aggregate catch and effort data submitted to WCPFC does not contain catches of any other species as required by WCPFC data provision rules. This has been pointed out in recent data gap papers (OFP 2010).

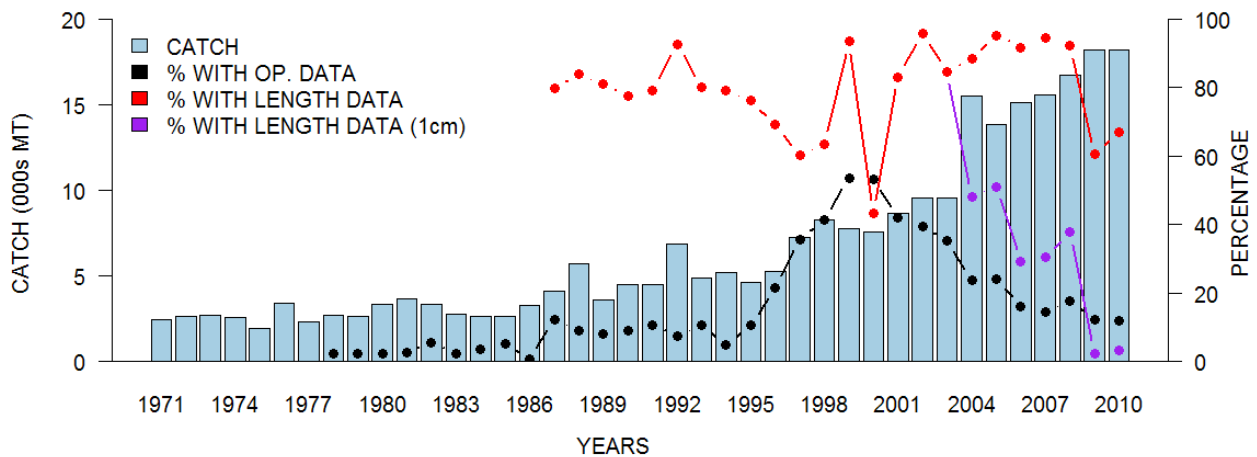


Figure 5: Total south Pacific swordfish catches (MT - blue bars) and the percentage of the catch records for which operational level CPUE data (black line), any size measurement (red line), and size measured at 1cm resolution (purple line) are available.

## 2.5 DATA GAPS IN WCPFC HOLDINGS

There are some other gaps in the WCPFC holdings due to data either: a) data not yet being imported into the WCPFC databases; b) data that exist within SPC holdings but have not yet been authorised for release to the WCPFC; or c) data exist but have not been provided to either WCPFC or SPC:

- Length data from the Australian and New Zealand longline fisheries (collected by observers) for 2009 and 2010 have been provided but have yet to be loaded into the WCPFC databases due to changes in data structures;
- Processor measured and recorded dressed weights (trunked) pertaining to swordfish landed at various ports within the Australian Eastern Tuna and Billfish Fishery operating off eastern Australia have been collected since mid-1997. Weights for 307,470 individual fish have been collected so far (Campbell et al 2011). Provision of these data to WCPFC would not be inconsistent with the WCPFC data provision rules;
- Dressed weight data held at NRIFSF, Japan pertaining to individual swordfish sampled from longline fleets operating across the southern WCPO. Provision of these data to WCPFC would not be inconsistent with the WCPFC data provision rules;
- SPC holds considerable amounts of operational level data for foreign flagged vessels fishing in SPC member EEZs (e.g. Japanese vessels operating in the waters of New Zealand and Australia) which have not yet been authorised for release to the WCPFC;
- Distant-water fishing nations hold finer scale catch and effort data than that provided to the WCPFC and in the past these data have often been made available to stock assessment teams for specific analyses; and
- SPC holds considerable amounts of observer data for longline vessels fishing in the WCPFC. Some of these data are available to the WCPFC, but most are not. Data not available to the WCPFC are for trips that are not classified as RoP trips and for historical data for which authorisation to release has not been provided by the coastal state.

## 3 TAGGING DATA

There is no requirement to provide tagging data to WCPFC, but the information collected from these studies on the movement dynamics and habitat preferences of swordfish also provides a greater understanding of stock structure and assists in the interpretation of catch rates. A summary of the projects that have placed

pop-off satellite (PSAT) tags on broadbill swordfish within populations occurring across the south Pacific is provided in Table 1.

**Table 1: Summary of tag releases and reporting rates for smart tags placed on broadbill swordfish in the southern Pacific Ocean.**

Region	Year	# Deployed	# Reporting	Duration	Reference
Western Tasman Sea	2006	10	8	2 - 302 days	Evans (2010)
	2007	14	11	2 - 181 days	
	2008	28	25	2 - 364 days	
	2009	5	4	2 - 17 days 9	
New Zealand EEZ	2006	12	11	9 - 234 days	Holdsworth et al (2010)
	2007	1	1	203 days	
	2008	5	4	3 - 209 days	
	2009	1	1	21 days 9	
South-east Pacific	2007	21	19	3 – 166 days	Abascal et al (2010)
South-central Pacific (Cook Islands)	2009	8	6	8 – 352 days	Pamela Maru (pers. comm.)
	2010	1	1	29 days	
	late 2011	11	na	na	

#### 4 STOCK ASSESSMENT IMPLICATIONS

Two of the key concerns of previous stock assessments were the paucity of operational level data and the low resolution length measurements (Kolody et al, 2009). Given the large absolute size of swordfish it is not clear that length data at a 5cm resolution would not be sufficient to estimate gear selectivity and potentially even trends in the sizes of individuals in the catch. The previous concerns related primarily to the inability of the MULTIFAN-CL modelling software to incorporate size data at different resolutions and therefore to include the Spanish data, collected at 5cm resolution, would require aggregating all other size data to 5cm as well. Modification to MULTIFAN-CL will be necessary to more optimally use the data at the finest possible resolution – but this is not a data gap.

Cooperation from coastal and flag states and the assessment group will be necessary to maximise the amount of operational level data available for any assessment, as their current exists considerable operational level CPUE data that is not within WCPFC, and in many instances, SPC holdings. The lack of both operational level CPUE data, and bycatch information within the aggregate data for the Spanish flagged vessels is likely to make the estimation of reliable abundance indices difficult, especially to support a south central Pacific Ocean assessment.

#### 5 REFERENCES

- Abascal, F.J., Mejuto, J., Quintans, M., Ramos-Cartelle, A., 2010. Horizontal and vertical movements of swordfish in the Southeast Pacific. *ICES Journal of Marine Science*, 67, 466-474
- Campbell, R., 2008. Data summary pertaining to the catch of swordfish by longline fleets operating in the southern WCPO. Information paper SA-IP-3 presented to the fourth regular session of the Scientific Committee for the Western Central Pacific Fisheries Commission, held 11-22 August 2008, Port Moresby, Papua-New Guinea.
- Campbell, R., Williams, K., Williams, D. 2011. Summary of size data collected from the Eastern Tuna and Billfish Fishery and associated indicators. Information paper presented to the meeting of the Tropical Tuna Resource Assessment Group, held 8 June 2011, Sydney.
- Evans, K., 2010. Investigation of local movement and regional migration behaviour of broadbill swordfish targeted by the eastern tuna and billfish fishery. Final report for project 2006/809, Australian Fisheries Management Authority, Canberra.

- Holdsworth, J.C., Sippel, T.J., Saul, P.J., 2010. Movement of broadbill swordfish from New Zealand tagged with pop-up satellite archival tags. New Zealand Fisheries Assessment Report 2010/4
- Kolody, D., Campbell, R., Davies, N., 2009. South-West Pacific Swordfish (*Xiphias gladius*) Stock Assessment 1952-2007. Information paper GN-IP-02 presented to the fifth regular session of the Scientific Committee for the Western Central Pacific Fisheries Commission, held 10-19 August 2009, Port Vila, Vanuatu.
- OFP 2010. Scientific data available to the Western and Central Pacific Fisheries Commission. Working paper ST-WP-1 presented to the fifth regular session of the Scientific Committee for the Western Central Pacific Fisheries Commission, held 10-19 August 2009, Port Vila, Vanuatu.



**Annex 1. Inventory of South Pacific swordfish data available to the WCPFC.**

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA	
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples
L	AU	1985	0			0	0				0			0	0
L	AU	1986	0	5x5	MON	1	1				0			0	0
L	AU	1987	14	5x5	MON	30	153				0			0	0
L	AU	1988	13	5x5	MON	25	110				0			0	0
L	AU	1989	14	5x5	MON	42	958				0			0	0
L	AU	1990	23	5x5	MON	49	526				0			0	0
L	AU	1991	59	5x5	MON	52	862				0			0	0
L	AU	1992	49	5x5	MON	63	1000	5x5	MON	1	15			0	0
L	AU	1993	33	5x5	MON	49	941				0			0	0
L	AU	1994	38	5x5	MON	67	743				0			0	0
L	AU	1995	69	5x5	MON	104	762				0			0	0
L	AU	1996	639	5x5	MON	102	1823				0			0	0
L	AU	1997	2126	5x5	MON	128	4108				0			0	0
L	AU	1998	2560	5x5	MON	150	6531				0			0	0
L	AU	1999	2806	5x5	MON	163	7727	5x5	MON	1	13			0	0
L	AU	2000	2696	5x5	MON	167	7329				0			0	0
L	AU	2001	2267	5x5	MON	171	7452	5x5	MON	1	52			0	0
L	AU	2002	2275	5x5	MON	183	7897	5x5	MON	1	398			0	0
L	AU	2003	2039	5x5	MON	177	7609	5x5	MON	1	88			0	0
L	AU	2004	1784	5x5	MON	170	6523	5x5	MON	1	63			0	0
L	AU	2005	1730	5x5	MON	146	7060	5x5	MON	1	134			0	0
L	AU	2006	1136	5x5	MON	136	3792	5x5	MON	1	372			0	0
L	AU	2007	1353	5x5	MON	137	3573	5x5	MON	1	898			0	0
L	AU	2008	1483	5x5	MON	109	3918	5x5	MON	1	446			0	0
L	AU	2009	1315	5x5	MON	129	3633				0			0	0
L	AU	2010	942	5x5	MON	140	3226				0			0	0
L	BZ	1998	0	5x5	MON	10	0				0			0	0
L	BZ	1999	0	5x5	MON	22	0				0			0	0
L	BZ	2000	0	5x5	MON	2	0				0			0	0

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA	
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples
L	BZ	2001	0	5x5	MON	29	0				0			0	0
L	BZ	2002	0	5x5	MON	62	0				0			0	0
L	BZ	2003	0	5x5	MON	37	0				0			0	0
L	BZ	2004	0	5x5	MON	7	0				0			0	0
L	BZ	2005	0	5x5	MON	2	0				0			0	0
L	BZ	2007	0	5x5	MON	17	0				0			0	0
L	BZ	2008	0	5x5	MON	10	0				0			0	0
L	BZ	2009	0	5x5	MON	7	0				0			0	0
L	BZ	2010	0	5x5	MON	1	0				0			0	0
L	CK	1994	22	5x5	MON	15	105				0			0	0
L	CK	1995	28	5x5	MON	24	199	5x5	MON	1	4			0	0
L	CK	1996	9	5x5	MON	12	59	5x5	MON	1	14			0	0
L	CK	1997	0	5x5	MON	1	1				0			0	0
L	CK	2001	0	5x5	MON	3	8				0			0	0
L	CK	2002	13	5x5	MON	35	155	5x5	MON	1	1			0	1
L	CK	2003	164	5x5	MON	76	979	5x5	MON	1	415	10x20	MON	12	125
L	CK	2004	170	5x5	MON	73	1139				0			0	84
L	CK	2005	97	5x5	MON	71	841	5x5	MON	1	1			0	0
L	CK	2006	98	5x5	MON	98	752				0			0	0
L	CK	2007	36	5x5	MON	89	503				0			0	1
L	CK	2008	17	5x5	MON	70	253	5x5	MON	1	32			0	0
L	CK	2009	11	5x5	MON	66	200				0			0	0
L	CK	2010	29	5x5	MON	57	332				0			0	0
L	CN	1990	0			0	0				0			0	0
L	CN	1993	0			0	0				0			0	0
L	CN	1994	0			0	0				0			0	0
L	CN	1995	0			0	0				0			0	0
L	CN	1996	0	5x5	MON	1	0	5x5	MON	1	8			0	3
L	CN	1997	0			0	0				0			0	0
L	CN	1998	0			0	0	5x5	MON	1	38			0	38
L	CN	1999	0			0	0	5x5	MON	1	6			0	6

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA	
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples
L	CN	2000	5			0	0	5x5	MON	1	3			0	6
L	CN	2001	5			0	0	5x5	MON	1	13			0	0
L	CN	2002	70	5x5	MON	26	0			1	0	10x20	MON	2	9
L	CN	2003	877	5x5	MON	146	0				0			0	6
L	CN	2004	512	5x5	MON	169	0	5x5	MON	1	14			0	0
L	CN	2005	256	5x5	MON	101	0	5x5	MON	1	6			0	0
L	CN	2006	339	5x5	MON	89	0				0			0	0
L	CN	2007	558	5x5	MON	101	0	5x5	MON	1	5			0	1
L	CN	2008	2001	5x5	MON	75	0	5x5	MON	1	4			0	0
L	CN	2009	1895	5x5	MON	184	0				0			0	0
L	CN	2010	640	5x5	MON	304	0				0			0	0
L	ES	2004	6250	5x5	MON	160	0	5x5	MON	5	118572			0	0
L	ES	2005	6133	5x5	MON	141	0	5x5	MON	5	110448			0	0
L	ES	2006	8256	5x5	MON	127	0	5x5	MON	5	144264			0	0
L	ES	2007	8430	5x5	MON	146	0	5x5	MON	5	142815			0	0
L	ES	2008	7847	5x5	MON	137	0	5x5	MON	5	138485			0	0
L	ES	2009	9058	5x5	MON	121	0	5x5	MON	5	176822			0	0
L	ES	2010	9728	5x5	MON	87	0	5x5	MON	5	206403			0	0
L	FJ	1989	0	5x5	MON	5	15				0			0	0
L	FJ	1990	2	5x5	MON	2	7				0			0	0
L	FJ	1991	7	5x5	MON	20	46				0			0	0
L	FJ	1992	10	5x5	MON	37	124				0			0	0
L	FJ	1993	15	5x5	MON	31	114				0			0	0
L	FJ	1994	0	5x5	MON	58	362	5x5	MON	1	1			0	0
L	FJ	1995	211	5x5	MON	41	428	5x5	MON	1	39			0	0
L	FJ	1996	167	5x5	MON	59	342	5x5	MON	1	3			0	0
L	FJ	1997	78	5x5	MON	118	680	5x5	MON	1	5			0	0
L	FJ	1998	92	5x5	MON	148	853	5x5	MON	1	5			0	190
L	FJ	1999	104	5x5	MON	146	1103	5x5	MON	1	18			0	270
L	FJ	2000	118	5x5	MON	207	1376				0			0	327
L	FJ	2001	115	5x5	MON	251	1677				0			0	6

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA	
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples
L	FJ	2002	170	5x5	MON	344	1934	5x5	MON	1	3	10x20	MON	2	595
L	FJ	2003	160	5x5	MON	352	2168	5x5	MON	1	205	10x20	MON	5	552
L	FJ	2004	261	5x5	MON	313	2031	5x5	MON	1	724	10x20	MON	18	8
L	FJ	2005	177	5x5	MON	327	2723	5x5	MON	1	442	10x20	MON	3	8
L	FJ	2006	210	5x5	MON	252	1669	5x5	MON	1	260			0	7
L	FJ	2007	86	5x5	MON	200	976	5x5	MON	1	208			0	0
L	FJ	2008	82	5x5	MON	144	466	5x5	MON	1	115			0	0
L	FJ	2009	97	5x5	MON	279	1924	5x5	MON	1	47			0	0
L	FJ	2010	154	5x5	MON	218	1449	5x5	MON	1	104			0	0
L	FM	1995	0	5x5	MON	1	3				0			0	0
L	FM	2002	0			0	0	5x5	MON	1	1			0	0
L	ID	1978	61	5x5	MON	36	15				0			0	0
L	ID	1979	64	5x5	MON	36	6				0			0	0
L	ID	1980	74	5x5	MON	36	88				0			0	0
L	ID	1981	91	5x5	MON	36	321				0			0	0
L	ID	1982	181	5x5	MON	36	448				0			0	0
L	ID	1983	53	5x5	MON	36	58				0			0	0
L	ID	1984	84	5x5	MON	36	33				0			0	0
L	ID	1985	124	5x5	MON	36	3				0			0	0
L	ID	1986	123	5x5	MON	36	0				0			0	0
L	ID	1987	465	5x5	MON	36	17				0			0	0
L	ID	1988	489	5x5	MON	36	58				0			0	0
L	ID	1989	258	5x5	MON	36	31				0			0	0
L	ID	1990	277	5x5	MON	36	37				0			0	0
L	ID	1991	350	5x5	MON	36	20				0			0	0
L	ID	1992	386	5x5	MON	36	3				0			0	0
L	ID	1993	298	5x5	MON	36	20				0			0	0
L	ID	1994	277	5x5	MON	36	0				0			0	0
L	ID	1995	295	5x5	MON	36	0				0			0	0
L	ID	1996	351	5x5	MON	36	0				0			0	0
L	ID	1997	293	5x5	MON	36	0				0			0	0

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA	
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples
L	ID	1998	363	5x5	MON	36	0				0			0	0
L	ID	1999	375	5x5	MON	36	0				0			0	0
L	ID	2000	193	5x5	MON	36	0				0			0	0
L	ID	2001	249	5x5	MON	36	0				0			0	0
L	ID	2002	388	5x5	MON	36	0				0			0	0
L	ID	2003	573	5x5	MON	36	0				0			0	0
L	ID	2004	579	5x5	MON	8	20				0			0	0
L	ID	2005	653	5x5	MON	12	32				0			0	0
L	ID	2006	629			0	0				0			0	0
L	ID	2007	623			0	0				0			0	0
L	ID	2008	654	5x5	MON	15	63				0			0	0
L	ID	2009	640			0	0				0			0	0
L	ID	2010	640			0	0				0			0	0
L	JP	1960	0	5x5	MON	351	0				0			0	0
L	JP	1961	0	5x5	MON	486	0				0			0	0
L	JP	1962	0	5x5	MON	617	0				0			0	0
L	JP	1963	0	5x5	MON	948	0				0			0	0
L	JP	1964	0	5x5	MON	814	0				0			0	0
L	JP	1965	0	5x5	MON	796	0				0			0	0
L	JP	1966	0	5x5	MON	1006	0				0			0	0
L	JP	1967	0	5x5	MON	887	0				0			0	0
L	JP	1968	0	5x5	MON	782	0				0			0	0
L	JP	1969	0	5x5	MON	794	0				0			0	0
L	JP	1970	0	5x5	MON	798	0				0			0	0
L	JP	1971	2402	5x5	MON	649	0				0			0	0
L	JP	1972	2528	5x5	MON	621	0				0			0	0
L	JP	1973	2633	5x5	MON	624	0				0			0	0
L	JP	1974	2437	5x5	MON	668	0				0			0	0
L	JP	1975	1829	5x5	MON	536	0				0			0	0
L	JP	1976	2947	5x5	MON	735	0				0			0	0
L	JP	1977	2108	5x5	MON	698	0				0			0	0

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA	
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples
L	JP	1978	2483	5x5	MON	726	0				0			0	0
L	JP	1979	2211	5x5	MON	702	0				0			0	0
L	JP	1980	2883	5x5	MON	802	0				0			0	0
L	JP	1981	3145	5x5	MON	825	0				0			0	0
L	JP	1982	2918	5x5	MON	813	0				0			0	0
L	JP	1983	2568	5x5	MON	737	0				0			0	0
L	JP	1984	2312	5x5	MON	750	0				0			0	0
L	JP	1985	2242	5x5	MON	740	0				0			0	0
L	JP	1986	2971	5x5	MON	752	0				0			0	0
L	JP	1987	3287	5x5	MON	729	0	5x5	MON	1	12			0	0
L	JP	1988	4785	5x5	MON	698	0	5x5	MON	1	97			0	0
L	JP	1989	2931	5x5	MON	660	0	5x5	MON	1	115			0	0
L	JP	1990	3493	5x5	MON	628	0	5x5	MON	1	445			0	0
L	JP	1991	3559	5x5	MON	648	0	5x5	MON	1	407			0	0
L	JP	1992	5863	5x5	MON	642	0	5x5	MON	1	793			0	0
L	JP	1993	3827	5x5	MON	705	0	5x5	MON	1	773			0	0
L	JP	1994	3993	5x5	MON	695	0	5x5	MON	1	261			0	0
L	JP	1995	3146	5x5	MON	665	0	5x5	MON	1	297			0	0
L	JP	1996	3140	5x5	MON	561	0	5x5	MON	1	546			0	5
L	JP	1997	3765	5x5	MON	526	0	5x5	MON	1	968			0	0
L	JP	1998	3681	5x5	MON	569	0	5x5	MON	1	370			0	0
L	JP	1999	2135	5x5	MON	446	0	5x5	MON	1	306			0	0
L	JP	2000	2016	5x5	MON	497	0	5x5	MON	1	193			0	0
L	JP	2001	3092	5x5	MON	541	0	5x5	MON	1	80			0	0
L	JP	2002	2986	5x5	MON	588	0	5x5	MON	1	74			0	9
L	JP	2003	2725	5x5	MON	605	0	5x5	MON	1	99			0	4
L	JP	2004	2228	5x5	MON	506	0	5x5	MON	1	9	10x20	MON	5	0
L	JP	2005	1662	5x5	MON	456	0	5x5	MON	1	85			0	0
L	JP	2006	1436	5x5	MON	462	0	5x5	MON	1	31			0	0
L	JP	2007	1665	5x5	MON	256	0	5x5	MON	1	106			0	0
L	JP	2008	1981	5x5	MON	215	0	5x5	MON	1	3			0	0

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA	
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples
L	JP	2009	2049	5x5	MON	247	0				0			0	0
L	JP	2010	2049	5x5	MON	211	0				0			0	0
L	KI	2003	0	5x5	MON	4	22				0			0	0
L	KR	1960	0			0	0				0			0	0
L	KR	1961	0			0	0				0			0	0
L	KR	1962	0			0	0				0			0	0
L	KR	1963	0			0	0				0			0	0
L	KR	1964	0			0	0				0			0	0
L	KR	1965	0			0	0				0			0	0
L	KR	1966	0			0	0				0			0	0
L	KR	1967	0			0	0				0			0	0
L	KR	1968	0			0	0				0			0	0
L	KR	1969	0			0	0				0			0	0
L	KR	1970	0			0	0				0			0	0
L	KR	1971	0			0	0				0			0	0
L	KR	1972	0			0	0				0			0	0
L	KR	1973	0			0	0				0			0	0
L	KR	1974	0			0	0				0			0	0
L	KR	1975	14	5x5	MON	67	0				0			0	0
L	KR	1976	304	5x5	MON	214	0				0			0	0
L	KR	1977	112	5x5	MON	274	0				0			0	0
L	KR	1978	96	5x5	MON	312	0				0			0	0
L	KR	1979	142	5x5	MON	291	0				0			0	0
L	KR	1980	184	5x5	MON	413	0				0			0	0
L	KR	1981	234	5x5	MON	482	0				0			0	0
L	KR	1982	114	5x5	MON	337	0				0			0	0
L	KR	1983	64	5x5	MON	284	0				0			0	0
L	KR	1984	104	5x5	MON	292	0				0			0	0
L	KR	1985	183	5x5	MON	365	0				0			0	0
L	KR	1986	134	5x5	MON	333	0				0			0	0
L	KR	1987	294	5x5	MON	354	0				0			0	0

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA		
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples	
L	KR	1988	349	5x5	MON	352	0					0			0	0
L	KR	1989	314	5x5	MON	332	0					0			0	0
L	KR	1990	357	5x5	MON	377	0					0			0	0
L	KR	1991	327	5x5	MON	438	0					0			0	0
L	KR	1992	401	5x5	MON	444	0	5x5	MON	1		8			0	0
L	KR	1993	359	5x5	MON	427	0					0			0	0
L	KR	1994	426	5x5	MON	293	0					0			0	0
L	KR	1995	425	5x5	MON	374	0					0			0	0
L	KR	1996	477	5x5	MON	365	0					0			0	0
L	KR	1997	338	5x5	MON	328	0					0			0	0
L	KR	1998	633	5x5	MON	279	0	5x5	MON	1		1			0	0
L	KR	1999	908	5x5	MON	292	0	5x5	MON	1		138			0	0
L	KR	2000	1175	5x5	MON	262	0					0			0	0
L	KR	2001	1101	5x5	MON	262	0					0			0	0
L	KR	2002	1234	5x5	MON	421	0	5x5	MON	1		56	10x20	MON	8	0
L	KR	2003	1134	5x5	MON	429	0	5x5	MON	1		4			0	0
L	KR	2004	1068	5x5	MON	325	0					0			0	0
L	KR	2005	1371	5x5	MON	354	0	5x5	MON	1		111			0	0
L	KR	2006	815	5x5	MON	332	0	5x5	MON	1		115			0	0
L	KR	2007	466	5x5	MON	315	0	5x5	MON	1		46			0	0
L	KR	2008	643	5x5	MON	275	0					0			0	0
L	KR	2009	772	5x5	MON	263	0					0			0	0
L	KR	2010	1004	5x5	MON	290	0					0			0	0
L	MH	1993	0			0	0	5x5	MON	1		3			0	3
L	NC	1983	2	5x5	MON	5	26					0			0	0
L	NC	1984	6	5x5	MON	13	65					0			0	0
L	NC	1985	6	5x5	MON	20	70					0			0	0
L	NC	1986	14	5x5	MON	24	133					0			0	0
L	NC	1987	17	5x5	MON	38	186					0			0	0
L	NC	1988	5	5x5	MON	21	56					0			0	0
L	NC	1989	7	5x5	MON	25	63					0			0	0



GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA	
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples
L	NC	1990	13	5x5	MON	29	127				0			0	0
L	NC	1991	15	5x5	MON	25	76				0			0	0
L	NC	1992	9	5x5	MON	26	63				0			0	0
L	NC	1993	9	5x5	MON	28	76	5x5	MON	1	6			0	0
L	NC	1994	8	5x5	MON	11	30	5x5	MON	1	15	10x20	MON	27	26
L	NC	1995	10	5x5	MON	30	74	5x5	MON	1	12	10x20	MON	68	59
L	NC	1996	10	5x5	MON	22	65	5x5	MON	1	8	10x20	MON	15	1
L	NC	1997	9	5x5	MON	23	79	5x5	MON	1	19	10x20	MON	20	3
L	NC	1998	26	5x5	MON	41	286	5x5	MON	1	12	10x20	MON	29	1
L	NC	1999	17	5x5	MON	39	220	5x5	MON	1	7			0	0
L	NC	2000	40	5x5	MON	50	275	5x5	MON	1	223	10x20	MON	3	192
L	NC	2001	41	5x5	MON	50	176	5x5	MON	1	181	10x20	MON	11	137
L	NC	2002	46	5x5	MON	47	133	5x5	MON	1	62	10x20	MON	10	57
L	NC	2003	48	5x5	MON	46	124	5x5	MON	1	116	10x20	MON	76	217
L	NC	2004	17	5x5	MON	56	194	5x5	MON	1	80			0	65
L	NC	2005	12	5x5	MON	44	148	5x5	MON	1	29			0	22
L	NC	2006	10	5x5	MON	46	115	5x5	MON	1	30			0	15
L	NC	2007	19	5x5	MON	48	171	5x5	MON	1	39			0	36
L	NC	2008	15	5x5	MON	51	163	5x5	MON	1	50			0	39
L	NC	2009	7	5x5	MON	41	97	5x5	MON	1	42			0	22
L	NC	2010	8	5x5	MON	28	58	5x5	MON	1	45	10x20	MON	2	11
L	NU	2005	1	5x5	MON	15	27				0			0	0
L	NU	2006	2	5x5	MON	9	17				0			0	0
L	NU	2007	2	5x5	MON	18	48	5x5	MON	1	1			0	0
L	NU	2008	0	5x5	MON	5	5				0			0	0
L	NU	2009	0	5x5	MON	1	1				0			0	0
L	NU	2010	1			0	0				0			0	0
L	NZ	1987	0			0	0				0			0	0
L	NZ	1988	0			0	0				0			0	0
L	NZ	1989	12			0	0				0			0	0
L	NZ	1990	80	5x5	MON	6	13				0			0	0

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA		
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples	
L	NZ	1991	42	5x5	MON	19	96					0			0	0
L	NZ	1992	29	5x5	MON	24	103	5x5	MON	1	14				0	0
L	NZ	1993	93	5x5	MON	47	347					0			0	0
L	NZ	1994	94	5x5	MON	48	533	5x5	MON	1	8				0	0
L	NZ	1995	108	5x5	MON	52	522	5x5	MON	1	15				0	0
L	NZ	1996	182	5x5	MON	51	785	5x5	MON	1	41				0	0
L	NZ	1997	282	5x5	MON	44	863	5x5	MON	1	120				0	0
L	NZ	1998	564	5x5	MON	65	1917	5x5	MON	1	210				0	0
L	NZ	1999	1004	5x5	MON	86	3252	5x5	MON	1	32				0	0
L	NZ	2000	975	5x5	MON	95	3551	5x5	MON	1	90				0	0
L	NZ	2001	1027	5x5	MON	78	4909	5x5	MON	1	625				0	0
L	NZ	2002	920	5x5	MON	104	4917	5x5	MON	1	169				0	0
L	NZ	2003	635	5x5	MON	77	3866	5x5	MON	1	61				0	0
L	NZ	2004	538	5x5	MON	67	2837	5x5	MON	1	335				0	4
L	NZ	2005	348	5x5	MON	68	1786	5x5	MON	1	357				0	0
L	NZ	2006	581	5x5	MON	77	2160	5x5	MON	1	553				0	2726
L	NZ	2007	392	5x5	MON	76	1750	5x5	MON	1	437				0	4843
L	NZ	2008	347	5x5	MON	52	1281	5x5	MON	1	447				0	4460
L	NZ	2009	418	5x5	MON	56	1845					0			0	5280
L	NZ	2010	535	5x5	MON	61	1987					0			0	8837
L	PF	1990	1			0	0					0			0	0
L	PF	1991	7			0	0					0			0	0
L	PF	1992	24	5x5	MON	29	92	5x5	MON	1	8	10x20	MON	13		0
L	PF	1993	64	5x5	MON	21	34			1	0	10x20	MON	1		15
L	PF	1994	72	5x5	MON	60	344					0			0	17
L	PF	1995	61	5x5	MON	86	528					0			0	87
L	PF	1996	84	5x5	MON	73	501	5x5	MON	1	3	10x20	MON	19		247
L	PF	1997	56	5x5	MON	73	540	5x5	MON	1	12	10x20	MON	12		85
L	PF	1998	58	5x5	MON	51	554	5x5	MON	1	33	10x20	MON	20		12
L	PF	1999	66	5x5	MON	98	573	5x5	MON	1	40	10x20	MON	26		0
L	PF	2000	47	5x5	MON	93	804	5x5	MON	1	65	10x20	MON	19		0

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA	
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples
L	PF	2001	79	5x5	MON	89	919	5x5	MON	1	30	10x20	MON	5	0
L	PF	2002	70	5x5	MON	84	890	5x5	MON	1	31	10x20	MON	3	0
L	PF	2003	117	5x5	MON	100	1129	5x5	MON	1	39	10x20	MON	1	2
L	PF	2004	86	5x5	MON	117	915	5x5	MON	1	92	10x20	MON	13	0
L	PF	2005	79	5x5	MON	124	746	5x5	MON	1	148	10x20	MON	17	74
L	PF	2006	83	5x5	MON	106	728	5x5	MON	1	347	10x20	MON	32	14
L	PF	2007	68	5x5	MON	84	534	5x5	MON	1	277	10x20	MON	7	149
L	PF	2008	80	5x5	MON	94	524	5x5	MON	1	287	10x20	MON	1	315
L	PF	2009	76	5x5	MON	95	608	5x5	MON	1	306	10x20	MON	1	300
L	PF	2010	88	5x5	MON	88	481	5x5	MON	1	192			0	134
L	PG	1993	0			0	0				0			0	0
L	PG	1994	1	5x5	MON	3	3				0			0	0
L	PG	1995	0	5x5	MON	1	1				0			0	0
L	PG	1996	0	5x5	MON	3	6	5x5	MON	1	12			0	0
L	PG	1997	2	5x5	MON	11	19				0			0	0
L	PG	1998	4	5x5	MON	26	86				0			0	0
L	PG	1999	6	5x5	MON	41	152	5x5	MON	1	36			0	0
L	PG	2000	12	5x5	MON	72	544	5x5	MON	1	81			0	0
L	PG	2001	22	5x5	MON	60	425	5x5	MON	1	125	10x20	MON	3	1
L	PG	2002	22	5x5	MON	73	568	5x5	MON	1	322			0	172
L	PG	2003	30	5x5	MON	59	354	5x5	MON	1	176			0	22
L	PG	2004	73	5x5	MON	53	229	5x5	MON	1	212			0	0
L	PG	2005	98	5x5	MON	50	246	5x5	MON	1	384			0	0
L	PG	2006	80	5x5	MON	39	173	5x5	MON	1	223			0	0
L	PG	2007	82	5x5	MON	41	188	5x5	MON	1	66			0	0
L	PG	2008	81	5x5	MON	49	250	5x5	MON	1	61			0	0
L	PG	2009	79	5x5	MON	61	316				0			0	0
L	PG	2010	93	5x5	MON	72	494				0			0	0
L	PH	2002	0	5x5	MON	1	0				0			0	0
L	PH	2003	0	5x5	MON	3	0				0			0	0
L	SB	1973	0			0	0				0			0	0

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA	
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples
L	SB	1976	1			0	0				0			0	0
L	SB	1977	1			0	0				0			0	0
L	SB	1978	1			0	0				0			0	0
L	SB	1979	2			0	0				0			0	0
L	SB	1980	3			0	0				0			0	0
L	SB	1981	1	5x5	MON	5	11				0			0	0
L	SB	1982	1	5x5	MON	17	42				0			0	0
L	SB	1983	2	5x5	MON	8	15				0			0	0
L	SB	1984	1	5x5	MON	13	18				0			0	0
L	SB	1985	1	5x5	MON	9	23				0			0	0
L	SB	1995	3	5x5	MON	6	8				0			0	0
L	SB	1996	19	5x5	MON	22	60	5x5	MON	1	5			0	0
L	SB	1997	7	5x5	MON	44	227	5x5	MON	1	21			0	16
L	SB	1998	7	5x5	MON	31	105	5x5	MON	1	30	10x20	MON	1	17
L	SB	1999	5	5x5	MON	40	201	5x5	MON	1	13			0	15
L	SB	2000	5	5x5	MON	33	87	5x5	MON	1	26			0	27
L	SB	2001	2	5x5	MON	24	55	5x5	MON	1	17			0	0
L	SB	2002	3	5x5	MON	31	106	5x5	MON	1	84			0	0
L	SB	2003	3	5x5	MON	27	173	5x5	MON	1	52			0	0
L	SB	2004	3	5x5	MON	32	116	5x5	MON	1	9			0	0
L	SB	2005	0	5x5	MON	1	2				0			0	0
L	SB	2010	63			0	0				0			0	0
L	SN	2006	0	5x5	MON	24	0				0			0	0
L	SN	2007	0	5x5	MON	53	0				0			0	0
L	TO	1979	0			0	6				0			0	0
L	TO	1982	5	5x5	MON	6	16				0			0	0
L	TO	1983	5	5x5	MON	5	19				0			0	0
L	TO	1984	6			0	0				0			0	0
L	TO	1985	6	5x5	MON	6	28				0			0	0
L	TO	1986	6	5x5	MON	13	40				0			0	0
L	TO	1987	8	5x5	MON	10	22				0			0	0

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA	
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples
L	TO	1988	7	5x5	MON	8	20				0			0	0
L	TO	1989	6	5x5	MON	20	65				0			0	0
L	TO	1990	5	5x5	MON	16	48				0			0	0
L	TO	1991	5	5x5	MON	18	46				0			0	0
L	TO	1992	6	5x5	MON	22	61				0			0	0
L	TO	1993	8	5x5	MON	7	26				0			0	0
L	TO	1994	10	5x5	MON	26	89				0			0	0
L	TO	1995	12			0	0	5x5	MON	1	3			0	5
L	TO	1996	15	5x5	MON	4	6	5x5	MON	1	13	10x20	MON	13	17
L	TO	1997	17	5x5	MON	16	23	5x5	MON	1	15	10x20	MON	2	2
L	TO	1998	21	5x5	MON	22	44	5x5	MON	1	31	10x20	MON	1	0
L	TO	1999	27	5x5	MON	28	85	5x5	MON	1	10	10x20	MON	8	14
L	TO	2000	29	5x5	MON	39	236	5x5	MON	1	59	10x20	MON	25	30
L	TO	2001	44	5x5	MON	49	285	5x5	MON	1	13	10x20	MON	1	4
L	TO	2002	42	5x5	MON	64	303	5x5	MON	1	143	10x20	MON	33	99
L	TO	2003	25	5x5	MON	53	286	5x5	MON	1	107			0	98
L	TO	2004	10	5x5	MON	47	212	5x5	MON	1	325	10x20	MON	3	298
L	TO	2005	18	5x5	MON	47	317	5x5	MON	1	238			0	225
L	TO	2006	21	5x5	MON	51	295	5x5	MON	1	298			0	267
L	TO	2007	31	5x5	MON	43	238	5x5	MON	1	257	10x20	MON	4	244
L	TO	2008	28	5x5	MON	36	210	5x5	MON	1	443	10x20	MON	1	161
L	TO	2009	22	5x5	MON	29	133	5x5	MON	1	185			0	141
L	TO	2010	26	5x5	MON	22	61	5x5	MON	1	373			0	368
L	TV	2005	0	5x5	MON	1	1				0			0	0
L	TW	1963	0			0	0				0			0	0
L	TW	1964	3			0	0				0			0	0
L	TW	1965	3			0	0				0			0	0
L	TW	1966	35			0	0				0			0	0
L	TW	1967	50	5x5	MON	29	0				0			0	0
L	TW	1968	106	5x5	MON	92	0				0			0	0
L	TW	1969	31	5x5	MON	58	0				0			0	0

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA		
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples	
L	TW	1970	40	5x5	MON	133	0					0			0	0
L	TW	1971	49	5x5	MON	218	0					0			0	0
L	TW	1972	76	5x5	MON	214	0					0			0	0
L	TW	1973	94	5x5	MON	200	0					0			0	0
L	TW	1974	119	5x5	MON	150	0					0			0	0
L	TW	1975	92	5x5	MON	199	0					0			0	0
L	TW	1976	146	5x5	MON	87	0					0			0	0
L	TW	1977	84	5x5	MON	137	0					0			0	0
L	TW	1978	29	5x5	MON	184	0					0			0	0
L	TW	1979	217	5x5	MON	265	0					0			0	0
L	TW	1980	178	5x5	MON	315	0					0			0	0
L	TW	1981	161	5x5	MON	310	0					0			0	0
L	TW	1982	93	5x5	MON	214	0					0			0	0
L	TW	1983	72	5x5	MON	143	0					0			0	0
L	TW	1984	121	5x5	MON	167	0					0			0	0
L	TW	1985	72	5x5	MON	107	0					0			0	0
L	TW	1986	36	5x5	MON	80	0					0			0	0
L	TW	1987	38	5x5	MON	95	0					0			0	0
L	TW	1988	60	5x5	MON	75	0					0			0	0
L	TW	1989	76	5x5	MON	66	0					0			0	0
L	TW	1990	246	5x5	MON	75	0					0			0	0
L	TW	1991	124	5x5	MON	63	0					0			0	0
L	TW	1992	88	5x5	MON	32	0					0			0	0
L	TW	1993	164	5x5	MON	101	0					0			0	0
L	TW	1994	217	5x5	MON	183	0					0			0	0
L	TW	1995	194	5x5	MON	79	0					0			0	0
L	TW	1996	103	5x5	MON	109	0					0			0	0
L	TW	1997	134	5x5	MON	133	0	5x5	MON	1	33				0	15
L	TW	1998	191	5x5	MON	98	0	5x5	MON	1	176				0	25
L	TW	1999	182	5x5	MON	133	0	5x5	MON	1	103	10x20	MON	12		15
L	TW	2000	162	5x5	MON	208	0	5x5	MON	1	25				0	69

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA	
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples
L	TW	2001	573	5x5	MON	253	0	5x5	MON	1	117			0	0
L	TW	2002	1119	5x5	MON	208	0	5x5	MON	1	61	10x20	MON	4	9
L	TW	2003	877	5x5	MON	677	0	5x5	MON	1	16			0	10
L	TW	2004	1778	5x5	MON	473	0	5x5	MON	1	148	10x20	MON	15	0
L	TW	2005	1084	5x5	MON	454	0	5x5	MON	1	1			0	0
L	TW	2006	1211	5x5	MON	413	0	5x5	MON	5	25	10x20	QTR	4755	0
L	TW	2007	1544	5x5	MON	340	0			5	0	10x20	QTR	6278	0
L	TW	2008	1282	5x5	MON	330	0	5x5	MON	5	12	10x20	QTR	9528	0
L	TW	2009	1520	5x5	MON	407	0	5x5	MON	5	3	10x20	QTR	7877	0
L	TW	2010	1872	5x5	MON	210	0			5	0	10x20	QTR	2445	14
L	US-AS	1988	0			0	0				0			0	0
L	US-AS	1991	0			0	0				0			0	0
L	US-AS	1993	0			0	0				0			0	0
L	US-AS	1994	0			0	0				0			0	0
L	US-AS	1995	0			0	0				0			0	0
L	US-AS	1996	1			0	0				0			0	0
L	US-AS	1997	2			0	0				0			0	0
L	US-AS	1998	2			0	0				0			0	0
L	US-AS	1999	0			0	0				0			0	0
L	US-AS	2000	1			0	0				0			0	0
L	US-AS	2001	0			0	0			1	0	10x20	MON	1	0
L	US-AS	2002	0			0	0	5x5	MON	1	5			0	2
L	US-AS	2003	0			0	0	5x5	MON	1	1			0	0
L	US-AS	2004	0	5x5	MON	47	0	5x5	MON	1	1			0	1
L	US-AS	2005	8	5x5	MON	36	0				0			0	0
L	US-AS	2006	38	5x5	MON	41	0			1	0	10x20	MON	139	0
L	US-AS	2007	13	5x5	MON	43	0				0			0	0
L	US-AS	2008	7	5x5	MON	35	0				0			0	0
L	US-AS	2009	11	5x5	MON	33	0				0			0	0
L	US-AS	2010	19	5x5	MON	34	0				0			0	0
L	US-HW	2002	0	5x5	MON	4	0				0			0	0

GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA		
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples	
L	US-HW	2003	0	5x5	MON	2	0					0			0	0
L	US-HW	2004	0	5x5	MON	1	0	5x5	MON	1	11				0	0
L	US-MC	1998	0	5x5	MON	4	0				0				0	0
L	US-MC	2008	0	5x5	MON	2	0				0				0	0
L	US-MC	2009	0	5x5	MON	7	0				0				0	0
L	US-MC	2010	0	5x5	MON	9	0				0				0	0
L	VU	1987	0			0	3				0				0	0
L	VU	1995	2	5x5	MON	12	25				0				0	0
L	VU	1996	3	5x5	MON	27	59				0				0	0
L	VU	1997	1	5x5	MON	11	27				0				0	0
L	VU	1998	0	5x5	MON	4	5				0				0	0
L	VU	2000	0	5x5	MON	9	30				0				0	0
L	VU	2001	0	5x5	MON	36	103				0				0	0
L	VU	2002	174	5x5	MON	149	579			1	0	10x20	MON	13	40	
L	VU	2003	155	5x5	MON	134	530	5x5	MON	1	5	10x20	MON	1	88	
L	VU	2004	171	5x5	MON	430	2524	5x5	MON	1	118	10x20	MON	5	0	
L	VU	2005	142	5x5	MON	314	2375	5x5	MON	1	30	10x20	MON	5	0	
L	VU	2006	176	5x5	MON	353	2620				0				0	0
L	VU	2007	185	5x5	MON	336	2171				0				0	0
L	VU	2008	193	5x5	MON	329	2059	5x5	MON	1	2				0	1
L	VU	2009	205	5x5	MON	406	2802	5x5	MON	1	13				0	0
L	VU	2010	302	5x5	MON	253	1454	5x5	MON	1	32				0	10
L	WS	1993	7			0	0				0				0	0
L	WS	1994	17			0	0				0				0	0
L	WS	1995	49			0	0				0				0	0
L	WS	1996	49			0	0				0				0	0
L	WS	1997	114			0	0				0				0	0
L	WS	1998	95	5x5	MON	19	45				0				0	0
L	WS	1999	124	5x5	MON	16	47				0				0	0
L	WS	2000	123	5x5	MON	1	1				0				0	0
L	WS	2001	27	5x5	MON	1	1	5x5	MON	1	1				0	0



GEAR	FLAG	YEAR	ANNUAL CATCH ESTIMATE	AGGREGATE DATA			OPERATIONAL DATA	LENGTH DATA						WEIGHT DATA	
				AREA	TIME	Catch Recs	Catch Recs	AREA	TIME	Size intv.	Samples	AREA	TIME	Samples	Samples
L	WS	2002	14	5x5	MON	7	7	5x5	MON	1	1			0	2
L	WS	2003	12	5x5	MON	2	3				0			0	0
L	WS	2004	4	5x5	MON	2	3	5x5	MON	1	2			0	0
L	WS	2005	1	5x5	MON	4	4			1	0	10x20	MON	2	0
L	WS	2006	3	5x5	MON	2	2	5x5	MON	1	1	10x20	MON	7	0
L	WS	2007	5	5x5	MON	9	17	5x5	MON	1	4			0	0
L	WS	2008	6	5x5	MON	1	1				0			0	0
L	WS	2009	5	5x5	MON	3	3	5x5	MON	1	1			0	0
L	WS	2010	7	5x5	MON	10	16	5x5	MON	1	10			0	0