

Statistics of the main purse seine fleets fishing in the Indian Ocean (1981-2007)

by

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Résumé

Ce document présente un résumé des principales activités des flottilles de senneurs espagnols, français, italien, seychellois et NEI relevant de l'UE dans l'océan Indien depuis 1981 : efforts, prises par espèces et type de pêche (bancs sur objet, bancs libre et combinés), captures par unité d'effort, échantillonnages et poids moyen de la capture des principales espèces.

Depuis 2002, les données des flottilles européennes (Espagne et France) sont collectées dans le cadre du « Règlement sur la Collecte des Données » de l'UE (DCR, Reg. 1543/2000 et 1639/2001).

Abstract

This document presents a summary of the statistics of French, Spanish, Italian, Seychelles and EU related NEI purse seine fleets fishing in the Indian Ocean since 1981: effort, catch by species and fishing type (log and free swimming schools), catch per unit of effort, sampling and mean weights for the main species.

Since 2002, data from the European fleet (France and Spain) are collected within the framework of the EU "Data Collection Regulation" (DCR, Reg. 1543/2000 and 1639/2001).

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Table 1a : Number of purse seiners according to their GRT category and total carrying capacity

Year	50-400	401-600	601-800	801-1200	1201-2000	> 2000	Total	Carrying capacity	Supplies	VAS *
1981	1	0	0	1	0	0	2	129		
1982	1	1	0	2	0	0	4	820		
1983	1	6	0	5	0	0	12	3 729		
1984	1	14	8	19	5	0	47	23 642		
1985	1	13	8	19	7	0	48	29 209		
1986	0	9	7	16	3	0	35	25 562		
1987	1	6	7	15	6	0	35	25 942		
1988	1	6	7	18	8	0	40	31 550		
1989	1	6	8	20	9	0	44	37 204		
1990	0	7	8	20	11	0	46	34 525		
1991	0	4	6	20	9	0	39	33 781	NA	NA
1992	0	4	3	21	11	0	39	35 061	NA	NA
1993	0	4	3	21	13	1	42	39 521	NA	NA
1994	0	4	4	20	13	1	42	40 113	NA	NA
1995	0	4	4	20	13	1	42	42 153	NA	NA
1996	0	3	5	21	17	1	47	45 384	NA	NA
1997	0	3	4	23	27	1	58	56 796	NA	NA
1998	0	3	5	20	25	0	53	54 669	NA	NA
1999	0	2	5	20	25	0	52	51 875	10	10
2000	1	1	4	19	23	2	50	52 740	11	13
2001	1	1	3	21	22	2	50	53 519	7	9
2002	0	1	4	20	21	3	49	55 410	8	9
2003	0	0	2	18	20	4	44	52 177	8	9
2004	2	0	3	17	21	5	48	51 717	15	
2005	2	0	3	17	20	6	48	56 431	13	
2006	0	0	3	18	22	8	51	65 605	13	
2007	0	0	3	18	22	8	51	66 302	13	

*Vessel associated with supply

Table 1b : Number of purse seiners according to their flag

Year	France	Spain	Ivory Coast	Panama	Seychelle	Malta	St Vincent	Iran	Italy	Belize	Dutch Antillas	Total
1981	2											2
1982	4											4
1983	12											12
1984	26	14	7	1		1						49
1985	26	16	6	1		1						50
1986	22	12	1	1		1						37
1987	21	14		1		1						37
1988	21	18		1		2						42
1989	21	21		1		2						45
1990	21	21		3		2						47
1991	18	17		3		1						39
1992	17	18		3		1						39
1993	17	19		4		2				4		46
1994	17	18		3						4		42
1995	17	19		3		1				4		44
1996	17	22		3				1		4		47
1997	19	23		4	5		4		1	5	4	65
1998	16	20		2	5			1	1	4	4	53
1999	15	20		2	5			1	1	4	4	52
2000	15	17		1	6			1	1	5	5	51
2001	19	17		1	10				1	5	4	57
2002	18	18		1	7			3	1		4	52
2003	14	18		1	11				1	1	4	50
2004	15	20		1	13			1	1		1	52
2005	16	20			11				1			48
2006	18	22			10				1			51
2007	19	21			10				1			51

Table 2 : Fishing effort expressed as carrying capacity (GRT), fishing days and searching days

Year	Carrying capacity	Fishing days	Searching days
1981	129	84	0
1982	820	256	221
1983	3 729	1 461	1 142
1984	23 642	8 041	6 502
1985	29 209	9 929	8 302
1986	25 562	8 597	6 907
1987	25 942	8 246	6 484
1988	31 550	9 135	7 244
1989	37 204	10 880	9 030
1990	34 525	10 628	8 880
1991	33 781	9 767	7 985
1992	35 061	9 944	8 162
1993	39 521	11 109	9 342
1994	40 113	11 061	9 228
1995	42 153	11 848	10 004
1996	45 384	12 380	10 510
1997	56 796	14 883	12 930
1998	54 669	14 648	12 667
1999	51 875	13 339	11 363
2000	52 740	12 635	10 657
2001	53 519	12 911	10 978
2002	55 410	12 864	10 851
2003	52 177	11 312	9 202
2004	51 717	11 803	9 552
2005	56 431	12 938	10 245
2006	65 605	14 361	11 650
2007	66 302	14 859	12 618

Table 3 : Total number of one degree squares explored, with at least one set, with catches and with an effort greater than 1 and 5 fishing days

Year	Number of one degree squares				
	Explored	With at least one set	With catches	With an effort > 1 fishing day	With an effort > 5 fishing days
1981	66	24	23	65	8
1982	114	47	40	55	11
1983	224	112	101	142	60
1984	611	322	300	400	223
1985	509	405	383	431	336
1986	440	337	327	371	267
1987	435	357	342	363	256
1988	459	352	340	370	263
1989	479	387	369	405	281
1990	496	425	412	427	313
1991	486	416	403	403	294
1992	498	438	429	436	333
1993	498	411	407	430	304
1994	564	477	467	485	349
1995	537	457	453	468	329
1996	679	535	527	553	399
1997	769	591	571	631	421
1998	1 007	785	773	823	547
1999	810	643	628	640	424
2000	781	588	568	592	389
2001	598	518	508	516	389
2002	736	599	578	582	428
2003	639	523	510	513	350
2004	649	505	487	512	341
2005	637	525	505	510	365
2006	735	609	591	596	410
2007	712	589	574	598	420

Table 4 : Number of sets (total, positives and null) by fishing mode, and % of log sets.

Years	Combined			Log schools			Free swimming schools			% Log
	Total	Positives	Null	Total	Positives	Null	Total	Positives	Null	
1981	43	33	10	0	0	0	0	0	0	
1982	143	105	38	72	63	9	71	42	29	50%
1983	1 068	766	302	548	467	81	520	299	221	51%
1984	5 894	3 491	2 403	1 588	1 332	256	4 306	2 159	2 147	27%
1985	6 993	4 289	2 704	2 245	2 015	230	4 748	2 274	2 474	32%
1986	7 221	3 904	3 317	2 366	1 996	370	4 855	1 908	2 947	33%
1987	8 446	4 940	3 506	3 315	2 749	566	5 131	2 191	2 940	39%
1988	9 377	5 638	3 739	2 693	2 415	278	6 684	3 223	3 461	29%
1989	9 013	5 590	3 423	3 672	3 222	450	5 341	2 368	2 973	41%
1990	8 967	5 911	3 056	3 123	2 846	277	5 844	3 065	2 779	35%
1991	7 803	5 493	2 310	3 419	3 199	220	4 384	2 294	2 090	44%
1992	8 793	6 227	2 566	3 444	3 246	198	5 349	2 981	2 368	39%
1993	9 059	6 350	2 709	3 701	3 441	260	5 358	2 909	2 449	41%
1994	9 817	7 051	2 766	4 313	3 949	364	5 504	3 102	2 402	44%
1995	9 799	7 343	2 456	5 164	4 790	374	4 635	2 553	2 082	53%
1996	10 053	7 733	2 320	5 007	4 670	337	5 046	3 063	1 983	50%
1997	10 334	8 509	1 825	6 842	6 398	444	3 492	2 111	1 381	66%
1998	10 698	8 300	2 398	6 676	6 130	546	4 022	2 170	1 852	62%
1999	10 286	8 062	2 224	5 945	5 557	388	4 341	2 505	1 836	58%
2000	10 311	8 132	2 179	5 824	5 341	483	4 487	2 791	1 696	56%
2001	10 290	7 845	2 445	5 246	4 956	290	5 044	2 889	2 155	51%
2002	10 308	8 356	1 952	6 112	5 840	272	4 196	2 516	1 680	59%
2003	9 999	7 402	2 597	4 790	4 460	330	5 209	2 942	2 267	48%
2004	11 122	7 703	3 419	4 602	4 295	307	6 520	3 408	3 112	41%
2005	13 281	9 579	3 702	5 923	5 550	373	7 358	4 029	3 329	45%
2006	13 421	9 818	3 603	6 621	6 157	464	6 800	3 661	3 139	49%
2007	12 200	8 709	3 491	6 538	5 823	715	5 662	2 886	2 776	54%

Table 5 : Set size distribution according to the fishing mode
(log schools, free swimming schools and combined)

Catch	0.1 10	10.1 20	20.1 30	30.1 40	40.1 50	50.1 60	60.1 70	70.1 80	80.1 90	90.1 100	>100
Log schools											
1981											
1982	24	18	9	0	3	2	1	0	4	1	1
1983	113	125	83	35	26	22	24	15	6	4	14
1984	252	298	185	137	113	73	48	57	38	33	98
1985	437	425	279	203	149	117	73	65	47	38	182
1986	368	415	315	195	152	140	76	64	51	37	183
1987	533	677	428	313	174	148	107	64	62	40	203
1988	330	504	394	264	208	147	95	85	80	51	256
1989	613	725	504	381	267	178	106	97	70	57	224
1990	442	647	520	368	239	144	95	100	65	50	176
1991	480	694	564	406	296	203	138	89	90	59	176
1992	489	709	545	383	268	207	159	94	81	65	246
1993	520	754	544	398	300	226	153	133	95	70	248
1994	502	852	692	505	354	247	167	129	103	72	324
1995	661	924	783	563	434	273	236	179	144	126	467
1996	777	1 063	774	573	363	280	195	159	121	94	271
1997	1 249	1 527	1 047	800	493	330	227	189	110	103	319
1998	1 291	1 579	1 096	715	410	292	182	165	96	56	248
1999	743	1 047	844	640	464	364	337	236	159	118	604
2000	726	1 067	819	594	423	336	236	219	185	109	625
2001	781	1 151	819	597	370	290	201	154	119	94	377
2002	742	1 199	890	664	484	371	278	224	180	122	685
2003	541	801	592	482	377	290	228	193	144	100	709
2004	608	856	744	503	329	289	196	165	112	70	420
2005	816	1 243	877	635	462	348	267	216	142	88	455
2006	998	1348	962	679	467	371	228	191	156	132	625
2007	1 461	1 599	976	583	362	232	145	127	75	38	225
Free swimming school											
1981											
1982	17	9	4	6	5	1	0	0	0	0	0
1983	38	43	44	28	28	40	14	14	18	4	28
1984	477	462	338	196	196	120	91	75	53	35	116
1985	641	569	314	212	134	117	85	68	40	29	94
1986	431	397	260	181	158	103	71	64	48	26	169
1987	478	464	312	206	152	101	109	84	69	43	173
1988	608	661	496	351	262	176	138	117	96	71	246
1989	437	466	336	218	162	134	102	69	78	55	311
1990	639	662	493	371	216	180	112	96	52	44	199
1991	428	391	340	252	208	134	120	78	49	69	223
1992	584	638	508	366	248	166	123	85	58	48	157
1993	493	541	445	313	245	175	129	108	78	80	301
1994	545	624	479	289	204	203	157	104	95	73	326
1995	447	509	411	264	216	163	102	95	82	45	219
1996	597	714	498	336	247	156	107	85	90	45	188
1997	439	484	346	227	178	112	84	68	30	24	117
1998	480	519	350	226	164	101	76	58	36	30	129
1999	559	577	402	247	186	110	95	71	60	38	159
2000	585	670	419	268	208	173	92	88	55	42	190
2001	601	607	439	294	218	181	131	85	72	43	215
2002	444	503	378	263	223	153	92	79	66	57	257
2003	340	491	396	310	230	214	155	110	101	77	518
2004	402	581	480	392	266	224	161	138	137	83	544
2005	574	857	653	475	316	244	208	130	106	79	387
2006	673	963	657	389	280	195	127	93	65	54	165
2007	651	790	521	307	195	110	80	74	34	32	92

Table 5 (continuation) : Set size distribution according to the fishing mode
(log schools, free swimming schools and combined)

Catch	0.1 10	10.1 20	20.1 30	30.1 40	40.1 50	50.1 60	60.1 70	70.1 80	80.1 90	90.1 100	>100
Combined											
1981											
1982	41	27	13	6	8	3	1	0	4	1	1
1983	151	168	127	63	54	62	38	29	24	8	42
1984	729	760	523	333	309	193	139	132	91	68	214
1985	1 078	994	593	415	283	234	143	126	80	67	276
1986	799	812	575	376	310	243	147	128	99	63	352
1987	1 011	1 141	740	519	326	249	216	148	131	83	376
1988	938	1 165	890	615	470	323	233	202	176	122	502
1989	1 050	1 191	840	599	429	312	208	166	148	112	535
1990	1 081	1 309	1 013	739	455	324	207	196	117	94	375
1991	908	1 085	904	658	504	337	258	167	139	128	399
1992	1 073	1 347	1 053	749	516	373	282	179	139	113	403
1993	1 013	1 295	989	711	545	401	282	241	173	150	549
1994	1 047	1 476	1 171	794	558	450	324	233	198	145	650
1995	1 108	1 433	1 194	827	650	436	338	274	226	171	686
1996	1 374	1 777	1 272	909	610	436	302	244	211	139	459
1997	1 688	2 011	1 393	1 027	671	442	311	257	140	127	436
1998	1 771	2 098	1 446	941	574	393	258	223	132	86	377
1999	1 302	1 624	1 246	887	650	474	432	307	219	156	763
2000	1 311	1 737	1 238	862	631	509	328	307	240	151	815
2001	1 382	1 758	1 258	891	588	471	332	239	191	137	592
2002	1 186	1 702	1 268	927	707	524	370	303	246	179	942
2003	881	1 292	988	792	607	504	383	303	245	177	1 227
2004	1 010	1 437	1 224	895	595	513	357	303	249	153	964
2005	1 390	2 100	1 530	1 110	778	592	475	346	248	167	842
2006	1 671	2 311	1 619	1 068	747	566	355	284	221	186	790
2007	2 112	2 389	1 497	890	557	342	225	201	109	70	317

Table 6: Catches by species (metric tons) and effort (as searching days and positive sets number) according to the fishing mode (log schools, free swimming schools and combined)

Year	YFT	SKJ	BET	ALB	Others	Total	Searching days	Positive sets number
Log schools								
1981	62	123	10	0	0	195	0	
1982	391	912	8	0	0	1 311	221	63
1983	3 444	7 715	212	0	0	11 371	1 142	467
1984	10 673	29 062	2 102	7	0	41 844	6 502	1 332
1985	22 836	44 617	4 793	20	0	72 266	8 302	2 015
1986	24 213	41 851	7 642	0	0	73 706	6 907	1 996
1987	34 862	41 002	8 318	4	0	84 186	6 484	2 749
1988	30 161	61 375	8 079	0	0	99 615	7 244	2 415
1989	33 298	68 931	6 943	0	0	109 172	9 030	3 222
1990	26 367	66 223	5 558	157	0	98 305	8 880	2 846
1991	21 331	80 219	8 655	55	25	110 285	7 985	3 199
1992	29 130	83 465	6 805	15	0	119 415	8 162	3 246
1993	31 119	89 003	6 443	10	0	126 575	9 342	3 441
1994	31 285	105 837	10 083	90	1	147 296	9 228	3 949
1995	66 374	113 108	19 132	53	0	198 667	10 004	4 790
1996	51 829	93 898	18 430	97	1	164 255	10 510	4 670
1997	72 926	105 462	28 573	196	1	207 158	12 930	6 398
1998	49 773	110 758	18 988	138	0	179 657	12 667	6 130
1999	75 634	137 777	30 391	108	18	243 928	11 363	5 557
2000	71 946	145 755	20 117	123	1 025	238 966	10 657	5 341
2001	42 406	131 650	15 580	240	506	190 382	10 978	4 956
2002	56 505	191 914	22 898	16	1 152	272 485	10 851	5 840
2003	72 132	155 079	12 657	6	308	240 181	9 202	4 460
2004	46 321	120 329	16 142	2	339	183 133	9 552	4 295
2005	59 422	146 073	13 990	20	786	220 289	10 245	5 550
2006	67 772	188 324	13 644	0	859	270 598	11 650	6 157
2007	40 625	108 682	15 641	7	256	165 210	14 859	5 823
Free swimming schools								
1981	137	40	0	0	0	177	0	
1982	637	115	0	0	0	752	221	42
1983	7 061	1 651	6	0	0	8 718	1 142	299
1984	45 783	12 822	1 459	551	0	60 615	6 502	2 159
1985	42 936	10 649	1 367	706	0	55 658	8 302	2 274
1986	44 397	18 632	2 309	179	0	65 517	6 907	1 908
1987	43 473	27 290	4 364	235	0	75 362	6 484	2 191
1988	82 619	21 447	5 733	266	0	110 065	7 244	3 223
1989	50 760	46 250	3 054	6	0	100 070	9 030	2 368
1990	74 703	21 709	4 931	160	0	101 503	8 880	3 065
1991	72 756	11 763	4 340	2 189	13	91 061	7 985	2 294
1992	62 042	19 103	1 521	3 241	1	85 908	8 162	2 981
1993	71 694	27 847	5 922	1 279	1	106 743	9 342	2 909
1994	67 338	38 655	3 684	2 483	1	112 161	9 228	3 102
1995	57 724	27 438	3 783	1 202	0	90 147	10 004	2 553
1996	60 671	31 100	3 325	1 429	1 286	97 811	10 510	3 063
1997	43 948	17 956	2 171	1 765	208	66 048	12 930	2 111
1998	39 420	21 315	5 956	1 238	1	67 930	12 667	2 170
1999	44 544	31 173	5 196	433	813	82 159	11 363	2 505
2000	58 771	25 038	5 402	1 039	1 754	92 004	10 657	2 791
2001	72 033	25 279	3 902	991	18	102 223	10 978	2 889
2002	73 682	20 259	4 045	687	4 227	102 900	10 851	2 516
2003	128 337	29 340	6 970	1 478	80	166 204	9 202	2 942
2004	159 825	17 577	3 500	233	179	181 314	9 552	3 408
2005	116 113	41 871	8 151	149	62	166 345	10 245	4 029
2006	80 112	32 563	5 846	1 360	116	119 997	11 650	3 661
2007	52 398	23 635	5 564	708	37	82 342	14 859	2 886

Table 6 (continuation): Catches by species (metric tons) and effort (as fishing days and positive sets number) according to the fishing mode (log schools, free swimming schools and combined)

Year	YFT	SKJ	BET	ALB	Others	Total	Searching days	Positive sets number
Combined								
1981	199	163	10	0	0	372	0	33
1982	1 028	1 027	8	0	0	2 063	221	105
1983	10 505	9 366	218	0	0	20 089	1 142	766
1984	56 456	41 884	3 561	558	0	102 459	6 502	3 491
1985	65 772	55 266	6 160	726	0	127 924	8 302	4 289
1986	68 610	60 483	9 951	179	0	139 223	6 907	3 904
1987	78 335	68 292	12 682	239	0	159 548	6 484	4 940
1988	112 780	82 822	13 812	266	0	209 680	7 244	5 638
1989	84 058	115 181	9 997	6	0	209 242	9 030	5 590
1990	101 070	87 932	10 489	317	0	199 808	8 880	5 911
1991	94 087	91 983	12 994	2 243	40	201 347	7 985	5 493
1992	91 172	102 569	8 326	3 256	0	205 323	8 162	6 227
1993	102 814	116 850	12 365	1 289	0	233 318	9 342	6 350
1994	98 623	144 492	13 767	2 574	1	259 457	9 228	7 051
1995	124 098	140 546	22 916	1 254	0	288 814	10 004	7 343
1996	112 501	124 998	21 755	1 526	1 286	262 066	10 510	7 733
1997	116 875	123 418	30 744	1 961	208	273 206	12 930	8 509
1998	89 193	132 073	24 945	1 376	0	247 587	12 667	8 300
1999	120 179	168 950	35 587	542	829	326 087	11 363	8 062
2000	130 717	170 793	25 519	1 162	2 779	330 970	10 657	8 132
2001	114 439	156 929	19 482	1 230	525	292 605	10 978	7 845
2002	130 187	212 173	26 943	703	5 379	375 386	10 851	8 356
2003	200 469	184 419	19 626	1 484	387	406 386	9 202	7 402
2004	206 146	137 906	19 641	235	519	364 447	9 552	7 703
2005	175 534	187 944	22 140	169	847	386 635	10 245	9 579
2006	147 884	220 887	19 490	1 360	975	390 595	11 650	9 818
2007	93 023	132 317	21 205	714	293	247 552	14 859	8 709

Table 7: Catches by species (metric tons) and efforts (fishing days and positive sets number) according to the FAO area (51 and 57)

Year	YFT	SKJ	BET	ALB	Others	Total	Fishing days	Positive sets number
West (FAO 51)								
1981	199	163	10	0	0	372	87	33
1982	1 028	1 027	8	0	0	2 063	263	105
1983	10 505	9 366	218	0	0	20 089	1 475	766
1984	56 456	41 884	3 561	558	0	102 459	8 065	2 889
1985	65 772	55 266	6 160	726	0	127 924	9 964	2 892
1986	68 610	60 483	9 951	179	0	139 223	8 615	2 671
1987	78 335	68 292	12 682	239	0	159 548	8 283	3 031
1988	112 780	82 822	13 812	266	0	209 680	9 183	3 177
1989	84 058	115 181	9 997	6	0	209 242	10 917	2 550
1990	101 070	87 932	10 489	317	0	199 808	10 659	3 035
1991	94 087	91 983	12 994	2 243	40	201 347	9 766	5 493
1992	91 172	102 569	8 326	3 256	0	205 323	9 944	6 227
1993	102 814	116 850	12 365	1 289	0	233 318	11 109	6 350
1994	98 623	144 492	13 767	2 574	1	259 457	11 061	7 051
1995	124 098	140 546	22 916	1 254	0	288 814	11 848	7 343
1996	112 443	124 769	21 706	1 526	1 286	261 730	12 340	7 722
1997	114 885	122 151	30 446	1 961	208	269 651	14 763	8 431
1998	75 683	119 771	18 190	1 369	0	215 013	12 496	7 280
1999	119 625	168 194	35 389	542	828	324 578	13 218	8 020
2000	130 610	170 587	25 477	1 162	2 778	330 614	12 587	8 111
2001	114 439	156 929	19 482	1 230	525	292 605	12 911	7 845
2002	130187	212173	26943	703	5379	375386	12862	8356
2003	200 469	184 419	19 626	1 484	387	406 386	11 312	7 402
2004	206 135	137 848	19 629	235	519	364 366	11 793	7 699
2005	175 534	187 944	22 140	169	847	386 635	12 938	9 579
2006	147 523	219 941	19 031	1 360	975	388 830	14 292	9 769
2007	93 019	132 296	21 199	714	293	247 522	14 846	8 703
East (FAO 57)								
1981	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0
1984	1	2	0	0	0	3	34	1
1985	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	1	0
1992	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0
1996	58	228	49	0	1	336	40	11
1997	1 990	1 267	298	0	0	3 554	120	78
1998	13 533	12 298	6 737	7	0	32 574	2 152	1 020
1999	554	757	197	0	0	1 508	120	42
2000	112	200	44	0	0	356	48	21
2001	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	2	0
2003	0	0	0	0	0	0	0	0
2004	11	58	13	0	0	81	9	4
2005	0	0	0	0	0	0	0	0
2006	361	945	459	0	0	1 765	69	49
2007	4	21	5	0	0	30	13	6

Table 8: Catch per unit of effort (as tons per searching days and by positive set) according to the fishing mode (log schools, free swimming schools and combined)

Year	CPUE (tons per searching day)						CPUE (tons per positive set)					
	YFT	SKJ	BET	ALB	Others	Total	YFT	SKJ	BET	ALB	Others	Total
Log schools												
1981	0.71	1.41	0.11	0.00	0.00	2.24						
1982	1.49	3.47	0.03	0.00	0.00	4.98	6.21	14.48	0.13	0.00	0.00	20.81
1983	2.33	5.23	0.14	0.00	0.00	7.71	7.37	16.52	0.45	0.00	0.00	24.35
1984	1.33	3.61	0.26	0.00	0.00	5.20	8.01	21.82	1.58	0.01	0.00	31.41
1985	2.30	4.49	0.48	0.00	0.00	7.28	11.33	22.14	2.38	0.01	0.00	35.86
1986	2.82	4.87	0.89	0.00	0.00	8.57	12.13	20.97	3.83	0.00	0.00	36.93
1987	4.23	4.97	1.01	0.00	0.00	10.21	12.68	14.92	3.03	0.00	0.00	30.62
1988	3.30	6.72	0.88	0.00	0.00	10.90	12.49	25.41	3.35	0.00	0.00	41.25
1989	3.06	6.34	0.64	0.00	0.00	10.03	10.33	21.39	2.15	0.00	0.00	33.88
1990	2.48	6.23	0.52	0.01	0.00	9.25	9.26	23.27	1.95	0.06	0.00	34.54
1991	2.18	8.21	0.89	0.01	0.00	11.29	6.67	25.08	2.71	0.02	0.01	34.47
1992	2.93	8.39	0.68	0.00	0.00	12.01	8.97	25.71	2.10	0.00	0.00	36.79
1993	2.80	8.01	0.58	0.00	0.00	11.39	9.04	25.87	1.87	0.00	0.00	36.78
1994	2.83	9.57	0.91	0.01	0.00	13.32	7.92	26.80	2.55	0.02	0.00	37.30
1995	5.60	9.55	1.61	0.00	0.00	16.77	13.86	23.61	3.99	0.01	0.00	41.48
1996	4.19	7.58	1.49	0.01	0.00	13.27	11.10	20.11	3.95	0.02	0.00	35.17
1997	4.90	7.09	1.92	0.01	0.00	13.92	11.40	16.48	4.47	0.03	0.00	32.38
1998	3.40	7.56	1.30	0.01	0.00	12.26	8.12	18.07	3.10	0.02	0.00	29.31
1999	5.67	10.33	2.28	0.01	0.00	18.29	13.61	24.79	5.47	0.02	0.00	43.90
2000	5.69	11.54	1.59	0.01	0.08	18.91	13.47	27.29	3.77	0.02	0.19	44.74
2001	3.28	10.20	1.21	0.02	0.04	14.75	8.56	26.56	3.14	0.05	0.10	38.41
2002	4.39	14.92	1.78	0.00	0.09	21.18	9.68	32.86	3.92	0.00	0.20	46.66
2003	6.38	13.71	1.12	0.00	0.03	21.23	16.17	34.77	2.84	0.00	0.07	53.85
2004	3.92	10.19	1.37	0.00	0.03	15.52	10.78	28.02	3.76	0.00	0.08	42.64
2005	5.80	14.26	1.37	0.00	0.08	21.50	10.71	26.32	2.52	0.00	0.14	39.69
2006	5.82	16.17	1.17	0.00	0.07	23.23	11.01	30.59	2.22	0.00	0.14	43.95
2007	2,73	7,31	1,05	0,00	0,02	11,12	6,98	18,66	2,69	0,00	0,04	28,37
Free swimming school												
1981	1.57	0.46	0.00	0.00	0.00	2.03						
1982	2.42	0.44	0.00	0.00	0.00	2.86	15.17	2.74	0.00	0.00	0.00	17.90
1983	4.79	1.12	0.00	0.00	0.00	5.91	23.62	5.52	0.02	0.00	0.00	29.16
1984	5.69	1.59	0.18	0.07	0.00	7.54	21.21	5.94	0.68	0.26	0.00	28.08
1985	4.32	1.07	0.14	0.07	0.00	5.61	18.88	4.68	0.60	0.31	0.00	24.48
1986	5.16	2.17	0.27	0.02	0.00	7.62	23.27	9.77	1.21	0.09	0.00	34.34
1987	5.27	3.31	0.53	0.03	0.00	9.14	19.84	12.46	1.99	0.11	0.00	34.40
1988	9.04	2.35	0.63	0.03	0.00	12.05	25.63	6.65	1.78	0.08	0.00	34.15
1989	4.67	4.25	0.28	0.00	0.00	9.20	21.44	19.53	1.29	0.00	0.00	42.26
1990	7.03	2.04	0.46	0.02	0.00	9.55	24.37	7.08	1.61	0.05	0.00	33.12
1991	7.45	1.20	0.44	0.22	0.00	9.32	31.72	5.13	1.89	0.95	0.01	39.70
1992	6.24	1.92	0.15	0.33	0.00	8.64	20.81	6.41	0.51	1.09	0.00	28.82
1993	6.45	2.51	0.53	0.12	0.00	9.61	24.65	9.57	2.04	0.44	0.00	36.69
1994	6.09	3.49	0.33	0.22	0.00	10.14	21.71	12.46	1.19	0.80	0.00	36.16
1995	4.87	2.32	0.32	0.10	0.00	7.61	22.61	10.75	1.48	0.47	0.00	35.31
1996	4.90	2.51	0.27	0.12	0.10	7.90	19.81	10.15	1.09	0.47	0.42	31.93
1997	2.95	1.21	0.15	0.12	0.01	4.44	20.82	8.51	1.03	0.84	0.10	31.29
1998	2.69	1.46	0.41	0.08	0.00	4.64	18.17	9.82	2.74	0.57	0.00	31.30
1999	3.34	2.34	0.39	0.03	0.06	6.16	17.78	12.44	2.07	0.17	0.32	32.80
2000	4.65	1.98	0.43	0.08	0.14	7.28	21.06	8.97	1.94	0.37	0.63	32.96
2001	5.58	1.96	0.30	0.08	0.00	7.92	24.93	8.75	1.35	0.34	0.01	35.38
2002	5.73	1.57	0.31	0.05	0.33	8.00	29.29	8.05	1.61	0.27	1.68	40.90
2003	11.35	2.59	0.62	0.13	0.01	14.69	43.62	9.97	2.37	0.50	0.03	56.49
2004	13.54	1.49	0.30	0.02	0.02	15.36	46.90	5.16	1.03	0.07	0.05	53.20
2005	11.33	4.09	0.80	0.01	0.01	16.24	28.82	10.39	2.02	0.04	0.02	41.29
2006	6.88	2.80	0.50	0.12	0.01	10.30	21.88	8.89	1.60	0.37	0.03	32.78
2007	3,53	1,59	0,37	0,05	0,00	5,54	18,16	8,19	1,93	0,25	0,01	28,53

Table 8 (continuation): Catch per unit of effort (as tons per searching days and by positive set) according to the fishing mode
(log schools, free swimming schools and combined)

Year	CPUE (tons per searching day)						CPUE (tons per positive set)					
	YFT	SKJ	BET	ALB	Others	Total	YFT	SKJ	BET	ALB	Others	Total
Combined												
1981	2.29	1.87	0.11	0.00	0.00	4.28	6.03	4.94	0.30	0.00	0.00	11.27
1982	3.91	3.90	0.03	0.00	0.00	7.84	9.79	9.78	0.08	0.00	0.00	19.65
1983	7.12	6.35	0.15	0.00	0.00	13.62	13.71	12.23	0.28	0.00	0.00	26.23
1984	7.02	5.21	0.44	0.07	0.00	12.74	16.17	12.00	1.02	0.16	0.00	29.35
1985	6.62	5.57	0.62	0.07	0.00	12.88	15.34	12.89	1.44	0.17	0.00	29.83
1986	7.98	7.04	1.16	0.02	0.00	16.19	17.57	15.49	2.55	0.05	0.00	35.66
1987	9.50	8.28	1.54	0.03	0.00	19.35	15.86	13.82	2.57	0.05	0.00	32.30
1988	12.35	9.07	1.51	0.03	0.00	22.95	20.00	14.69	2.45	0.05	0.00	37.19
1989	7.73	10.59	0.92	0.00	0.00	19.23	15.04	20.60	1.79	0.00	0.00	37.43
1990	9.51	8.27	0.99	0.03	0.00	18.80	17.10	14.88	1.77	0.05	0.00	33.80
1991	9.63	9.42	1.33	0.23	0.00	20.62	17.13	16.75	2.37	0.41	0.01	36.66
1992	9.17	10.31	0.84	0.33	0.00	20.65	14.64	16.47	1.34	0.52	0.00	32.97
1993	9.26	10.52	1.11	0.12	0.00	21.00	16.19	18.40	1.95	0.20	0.00	36.74
1994	8.92	13.06	1.24	0.23	0.00	23.46	13.99	20.49	1.95	0.37	0.00	36.80
1995	10.47	11.86	1.93	0.11	0.00	24.38	16.90	19.14	3.12	0.17	0.00	39.33
1996	9.09	10.10	1.76	0.12	0.10	21.17	14.55	16.16	2.81	0.20	0.17	33.89
1997	7.85	8.29	2.07	0.13	0.01	18.36	13.74	14.50	3.61	0.23	0.02	32.11
1998	6.09	9.02	1.70	0.09	0.00	16.90	10.75	15.91	3.01	0.17	0.00	29.83
1999	9.01	12.67	2.67	0.04	0.06	24.45	14.91	20.96	4.41	0.07	0.10	40.45
2000	10.35	13.52	2.02	0.09	0.22	26.19	16.07	21.00	3.14	0.14	0.34	40.70
2001	8.86	12.15	1.51	0.10	0.04	22.66	14.59	20.00	2.48	0.16	0.07	37.30
2002	10.12	16.49	2.09	0.05	0.42	29.18	15.58	25.39	3.22	0.08	0.64	44.92
2003	17.72	16.30	1.73	0.13	0.03	35.93	27.08	24.91	2.65	0.20	0.05	54.90
2004	17.47	11.68	1.66	0.02	0.04	30.88	26.76	17.90	2.55	0.03	0.07	47.31
2005	17.13	18.34	2.16	0.02	0.08	37.74	18.32	19.62	2.31	0.02	0.09	40.36
2006	12.69	18.96	1.67	0.12	0.08	33.53	15.06	22.50	1.99	0.14	0.10	39.78
2007	6,26	8,90	1,43	0,05	0,02	16,66	10,68	15,19	2,43	0,08	0,03	28,42

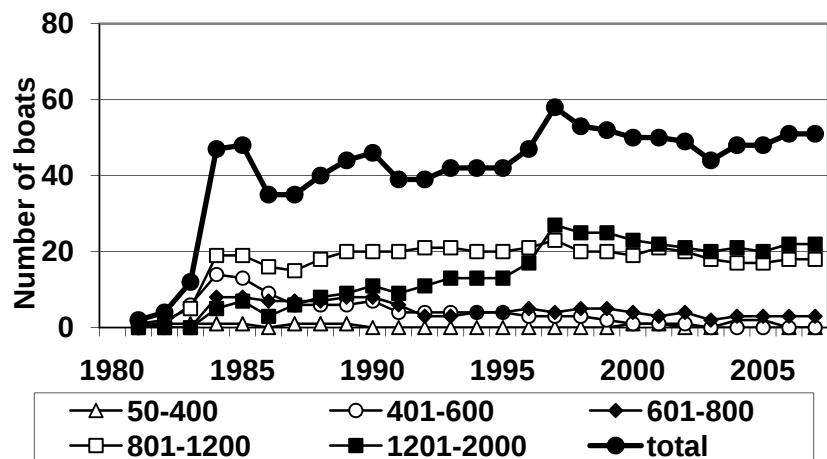
Table 9: Number of samples and number of measured fishes by species for all
“European purse seiner fleets” in the Indian Ocean

Year	Sample number	Number of measured fishes				
		Yellowfin	Skipjack	Bigeye	Albacore	Total
1981						
1982	58	1 561	1 639			3 200
1983	70	1 515	2 132			3 647
1984	215	11 224	9 228	434		20 886
1985	458	23 608	28 257	4 283		56 148
1986	436	15 372	25 690	3 556		44 618
1987	508	23 460	36 685	4 304		64 449
1988	805	46 658	40 220	10 309	48	97 235
1989	541	37 377	45 409	5 442		88 228
1990	585	49 424	35 297	10 351	136	95 208
1991	598	64 456	48 508	20 599	1 656	135 219
1992	514	72 538	69 496	18 461	2 467	162 962
1993	380	58 013	46 789	14 882	858	120 542
1994	325	53 958	61 161	13 305	2 433	130 857
1995	429	106 815	115 979	36 528	2 112	261 434
1996	295	85 028	53 721	32 301	2 355	173 405
1997	202	55 369	26 332	28 684	685	111 070
1998	170	12 426	27 429	4 363	59	44 277
1999	205	17 173	49 757	5 893	184	73 007
2000	294	21 201	35 625	4 743	388	61 957
2001	850	80 389	32 790	21 509	2 031	136 719
2002	1 028	93 219	43 147	24 079	449	160 894
2003	1 909	133 716	40 890	18 519	3 010	196 135
2004	1 220	128 894	41 394	23 314	373	193 975
2005	1 745	186 465	85 804	26 727	635	307 216
2006	1 737	183 032	91 194	25 198	1 545	313 283
2007	1 382	134 583	79 078	42 215	915	263 498

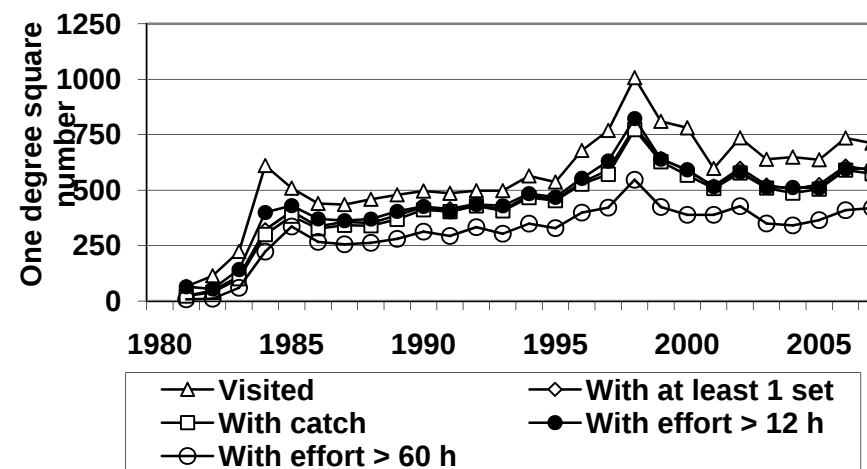
Table 10: Mean weight by species according to the fishing mode (combined, log schools and free swimming schools) of all “European purse seiner fleets” in the Indian Ocean

Species	YFT			SKJ			BET			ALB		
Year	Log	Free	Total	Log	Free	Total	Log	Free	Total	Log	Free	Total
1981												
1982	3.9	36.1	8.5									
1983	5.1	35.0	12.1	2.5	2.5	2.5						
1984	5.5	25.7	15.1	2.8	3.0	2.9	4.5	13.0	6.1			
1985	4.2	26.8	9.3	3.0	3.3	3.0	4.9	7.4	5.3			
1986	11.5	20.1	15.9	3.2	3.5	3.3	6.0	10.6	6.7			
1987	10.2	27.6	15.7	3.3	4.2	3.6	5.5	5.9	5.6			
1988	5.1	30.6	13.1	2.9	2.9	2.9	3.8	5.5	4.4			
1989	7.3	16.2	10.9	3.2	3.2	3.2	3.8	5.1	4.1			
1990	5.9	19.6	12.3	2.7	3.1	2.8	4.2	16.0	6.4			
1991	7.9	37.3	20.2	2.8	2.7	2.8	5.4	23.5	7.2	31.3	31.4	31.4
1992	9.8	34.2	19.1	3.0	3.0	3.0	5.3	13.5	5.9	30.3	30.1	30.1
1993	10.7	39.6	21.7	2.7	3.0	2.8	4.3	23.6	7.1	30.5	31.4	31.4
1994	6.9	40.3	15.8	2.5	3.3	2.7	4.7	33.5	6.1	30.5	30.4	30.4
1995	9.6	27.2	13.7	2.4	3.0	2.5	5.3	22.8	6.1	29.3	28.9	28.9
1996	5.3	28.6	9.5	2.4	3.2	2.5	4.8	11.9	5.3	28.3	30.4	30.2
1997	4.7	28.8	6.9	2.3	3.2	2.4	3.7	13.6	3.9	27.4	27.1	27.1
1998	7.1	14.7	9.2	2.6	2.6	2.6	5.1	9.6	5.8	28.5	29.3	29.2
1999	4.3	17.4	6.0	2.5	2.5	2.5	4.8	8.1	5.1	28.3	25.4	25.9
2000	6.0	25.3	9.1	3.0	3.3	3.0	4.7	14.5	5.4	27.8	25.9	26.1
2001	4.7	30.2	10.1	2.6	3.9	2.7	3.7	17.4	4.4	26.6	26.4	26.5
2002	3.8	34.5	7.5	2.4	3.3	2.4	3.8	27.5	4.3	26.8	27.8	27.8
2003	5.8	35.1	12.5	3.0	4.1	3.1	4.5	28.6	6.4	25.3	27.3	27.3
2004	4.7	39.2	14.6	2.6	3.7	2.7	5.0	27	5.8	27.8	27.7	27.7
2005	5.8	36.2	13.1	2.9	3.3	3.0	4.8	31.3	7.0	27.2	30.7	30.2
2006	4.9	34.3	9.1	3.0	3.8	3.1	4.7	33.0	6.3		28.6	28.6
2007	5.4	36.7	10.5	2.4	3.0	2.5	3.6	32.8	4.7	25.5	28.9	28.9

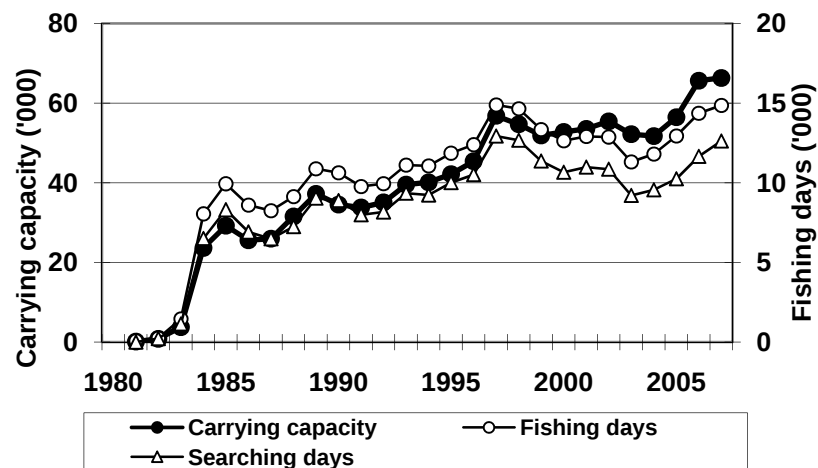
1 a – Purse seiners number according to their GRT category



1 b – Number of one degree squares visited



1 c – Carrying capacity, fishing and searching days



1 d – Number of sets (log and free) and percentage log sets

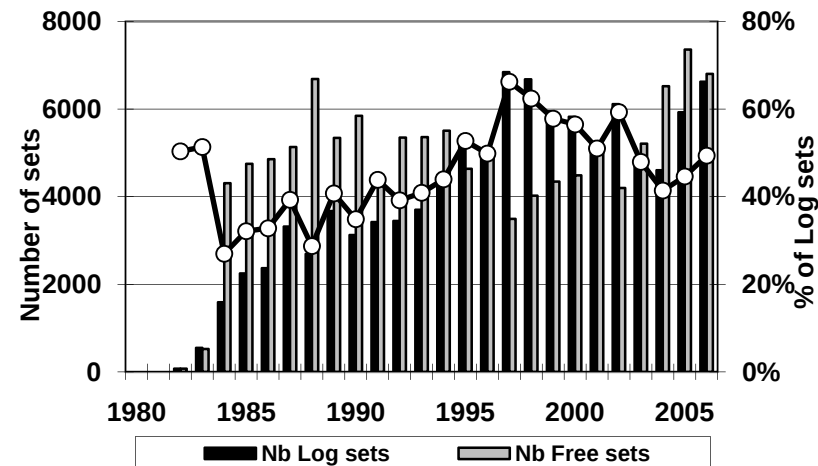


Figure 1: Fishing effort of the European and associated fleet :
Purse seiners number by GRT category (1 a); Number of one degree squares visited for different levels of effort (1 b);
Carrying capacity, fishing and searching days (1 c); Number of log and free schools sets and percentage of log sets (1 d)

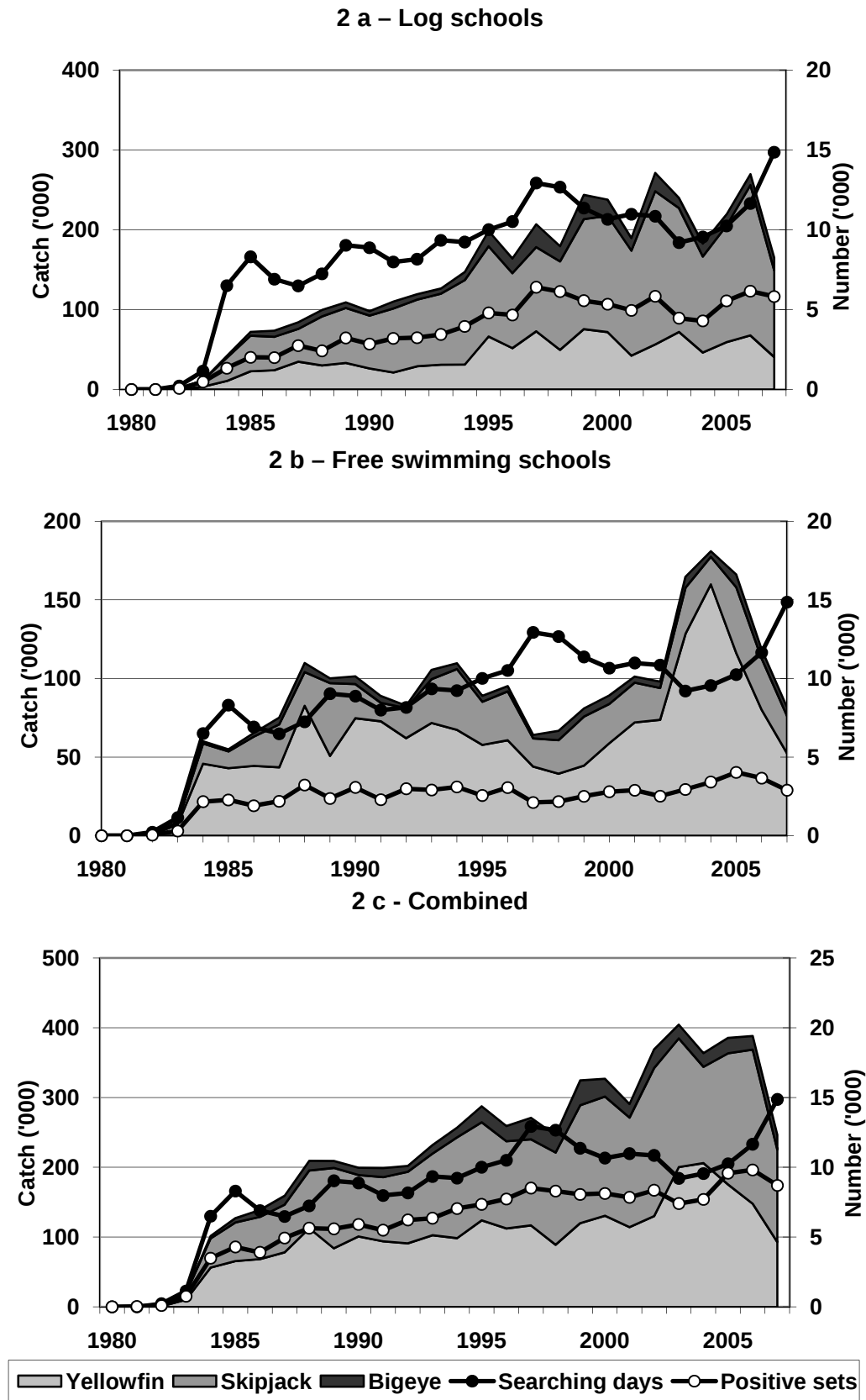


Figure 2 : Catches by species and fishing effort according to the fishing mode

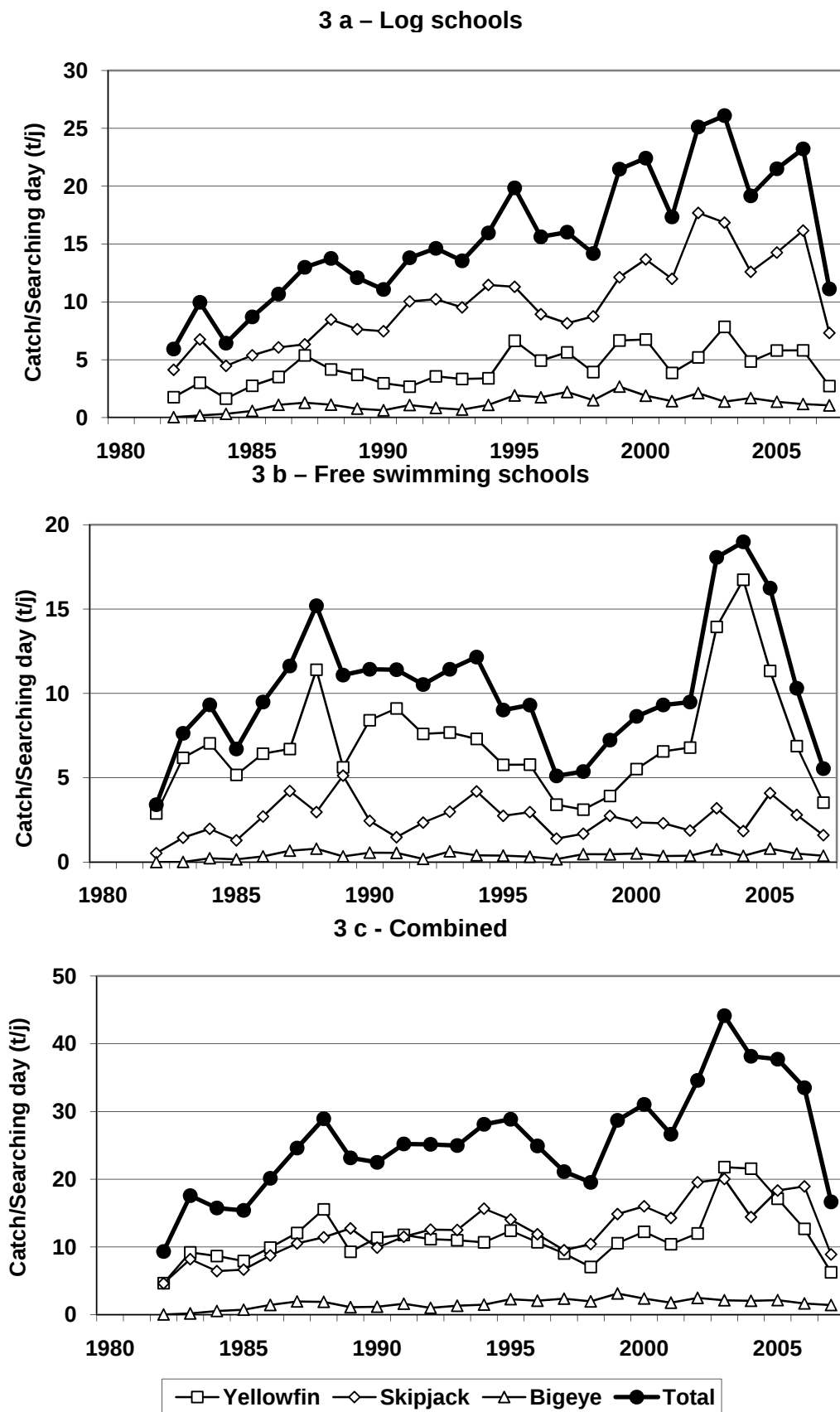


Figure 3 : Catches per unit of effort (tons by searching day) according to the fishing mode

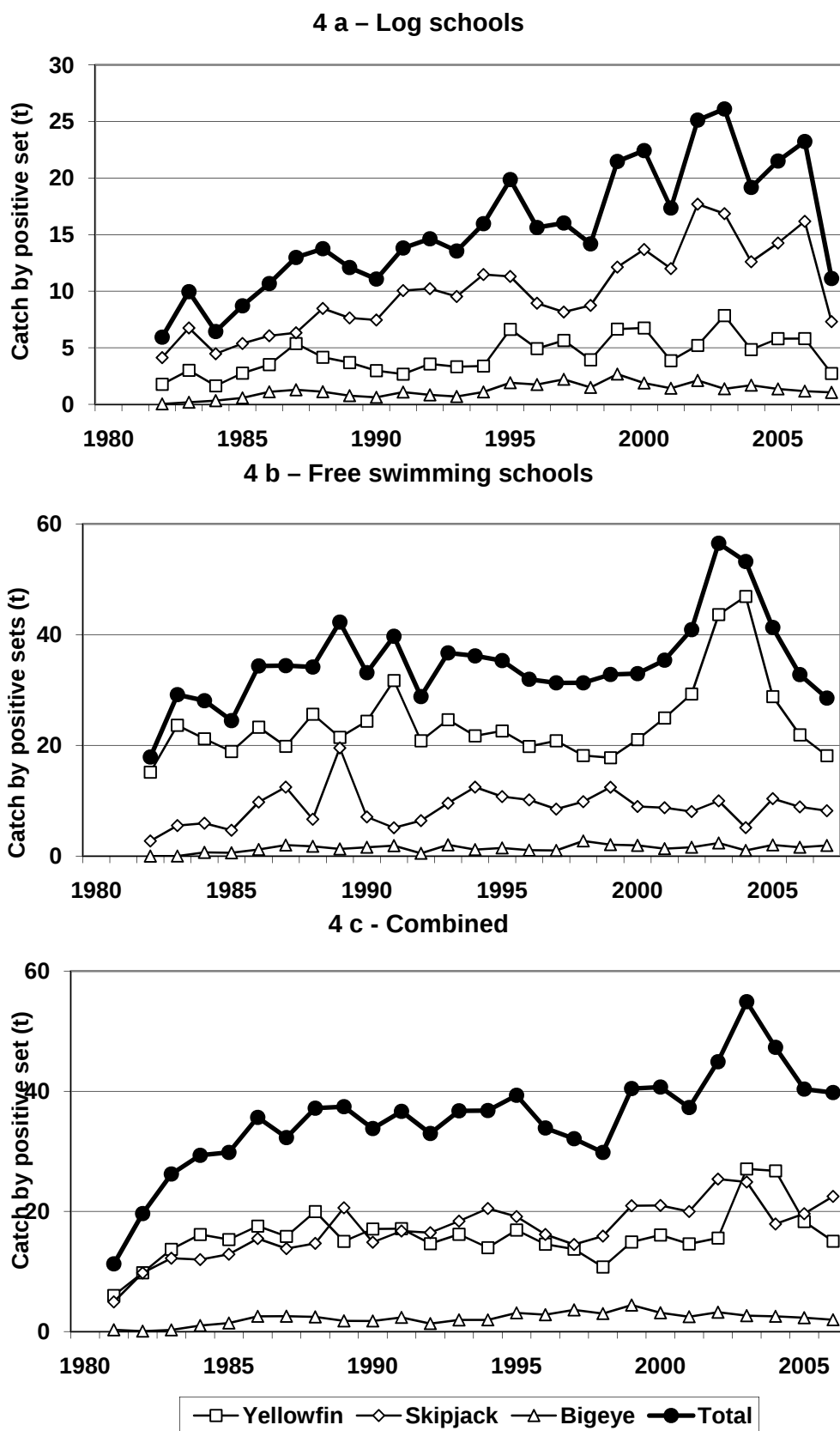


Figure 4 : Catches per unit of effort (tons by positive set) according to the fishing mode

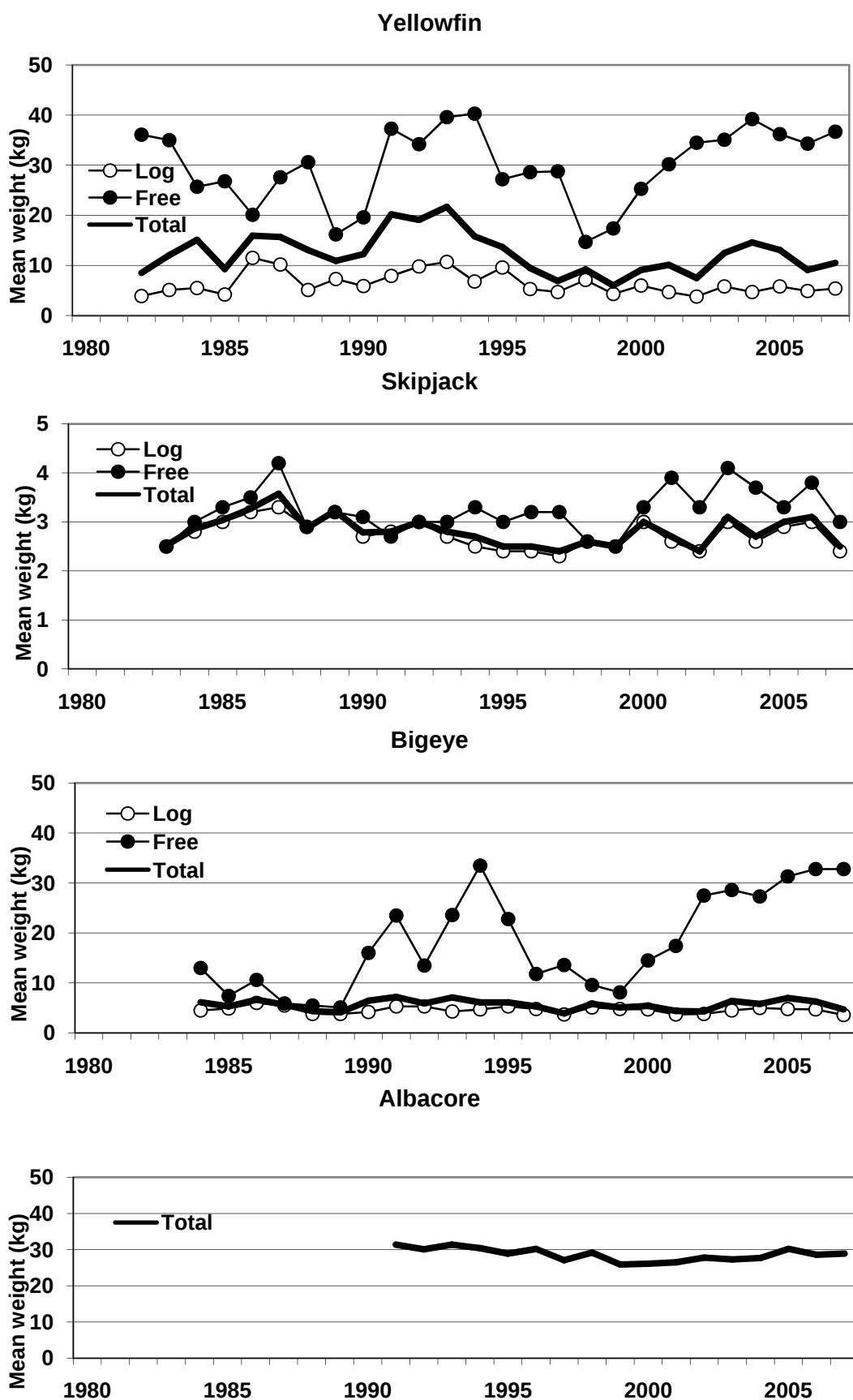


Figure 5 : Mean weights of catches by species and fishing mode

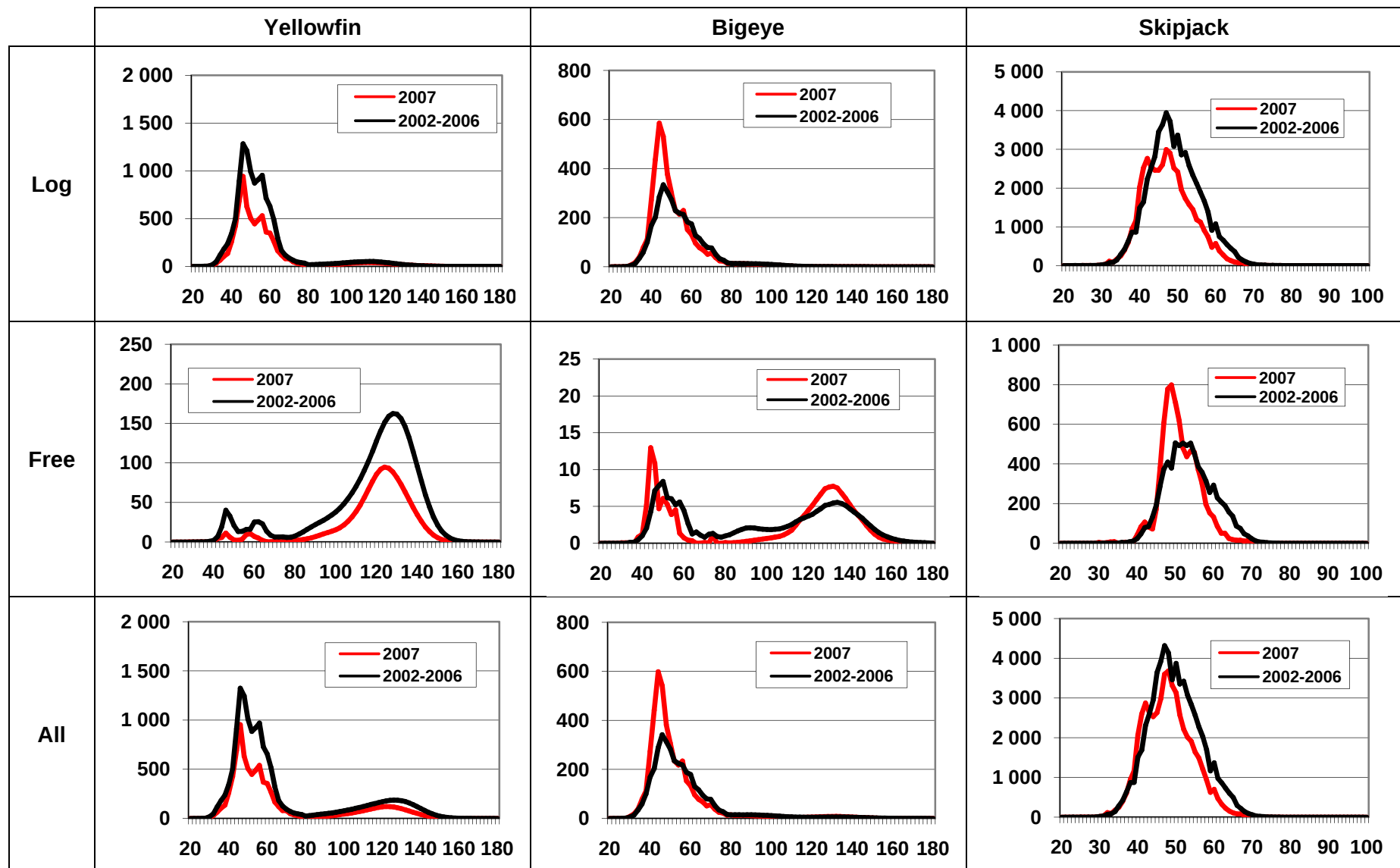


Figure 6a: Size distribution (in numbers) of the main purse seine fleets catches by species in 2007 and for the average 2002-2006 period

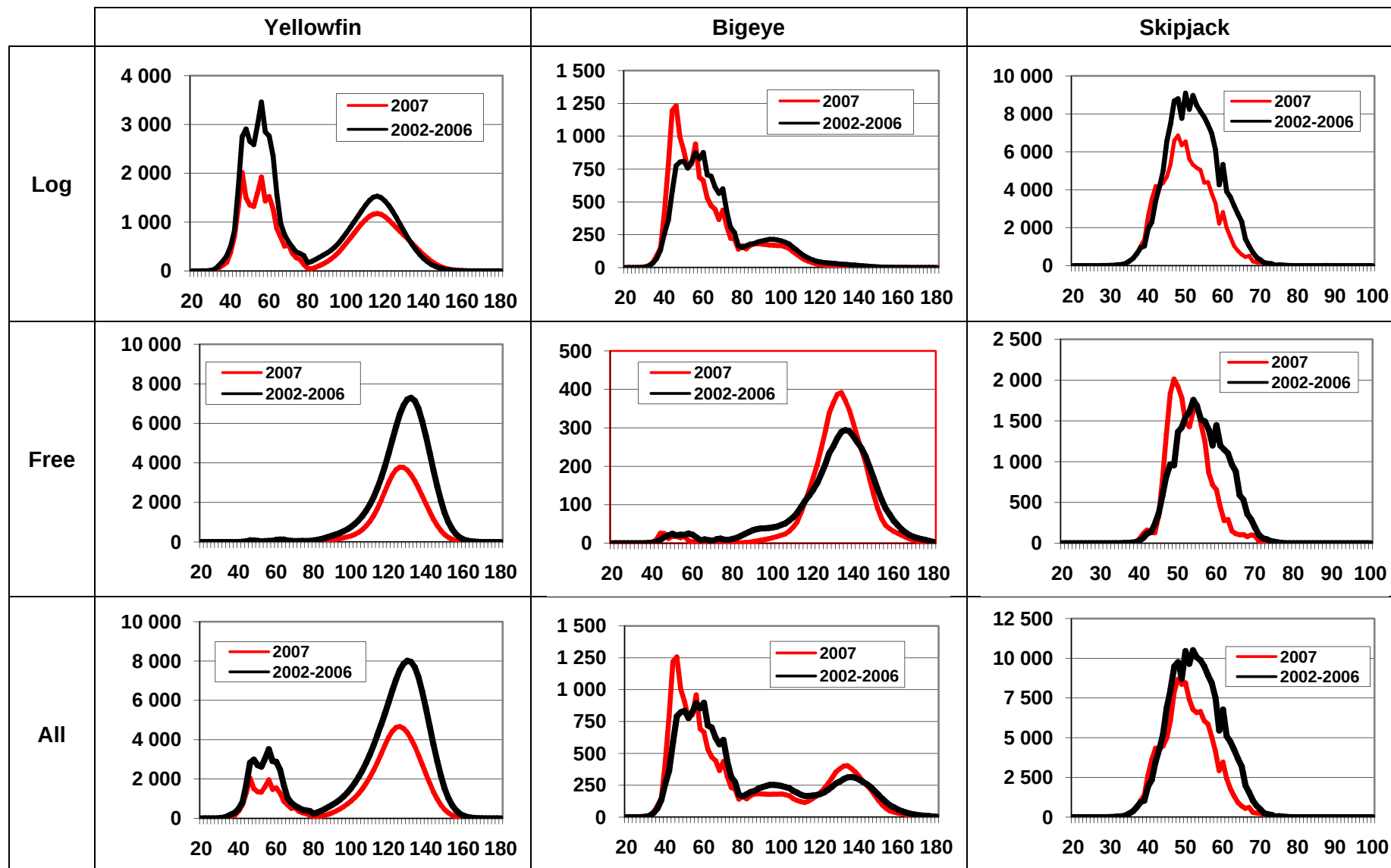


Figure 6b: Size distribution (in weight) of the main purse seine fleets catches by species in 2007 and for the average 2002-2006 period

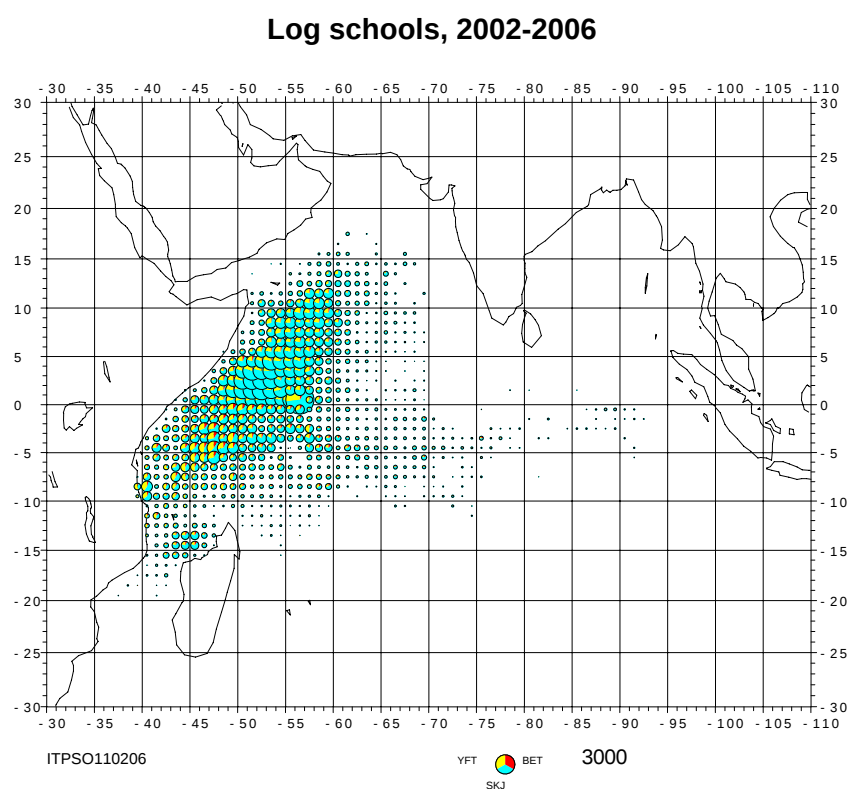
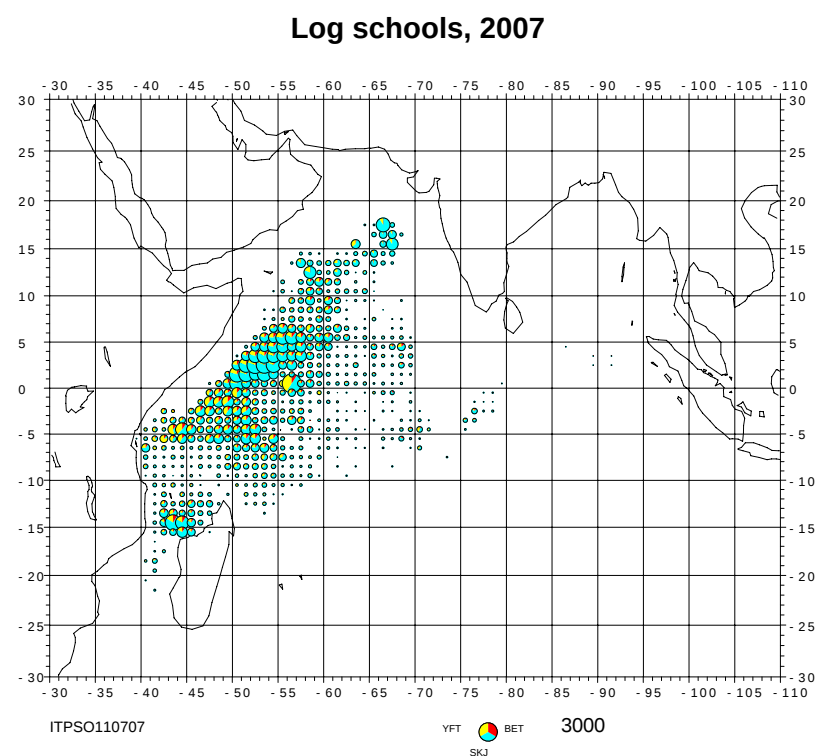
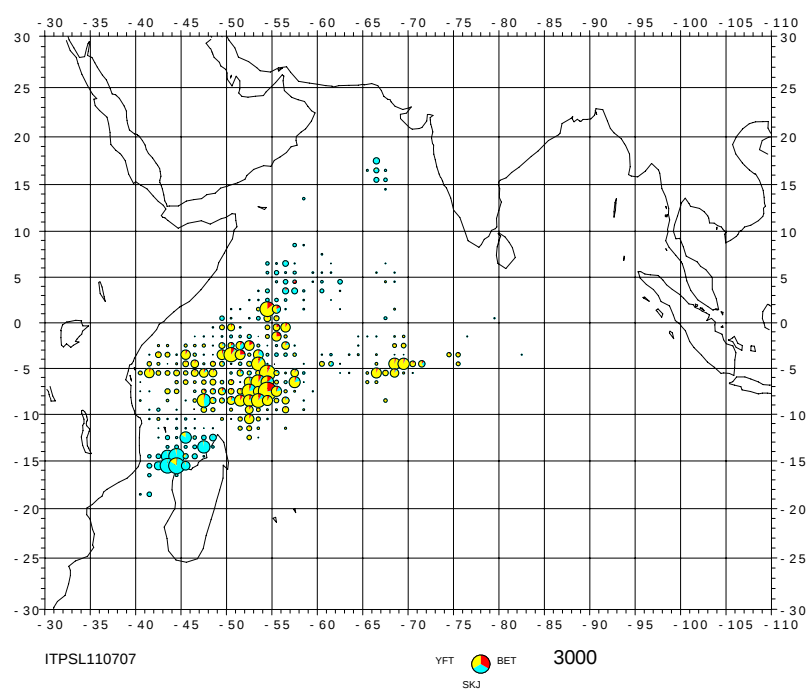


Figure 6a: Spatial distribution of the main purse seine fleets fleet catches on log schools in 2007 and for the average situation over the period 2002-2006

Free swimming schools, 2007



Free swimming schools, 2002-2006

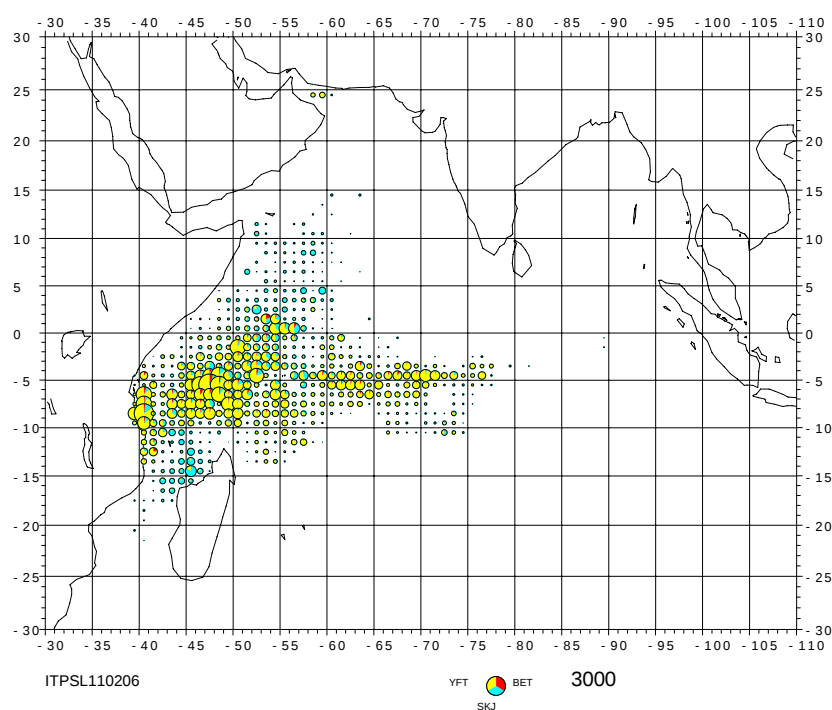


Figure 6b: Spatial distribution of the main purse seine fleets fleet catches on free swimming schools in 2007 and for the average situation over the period 2002-2006

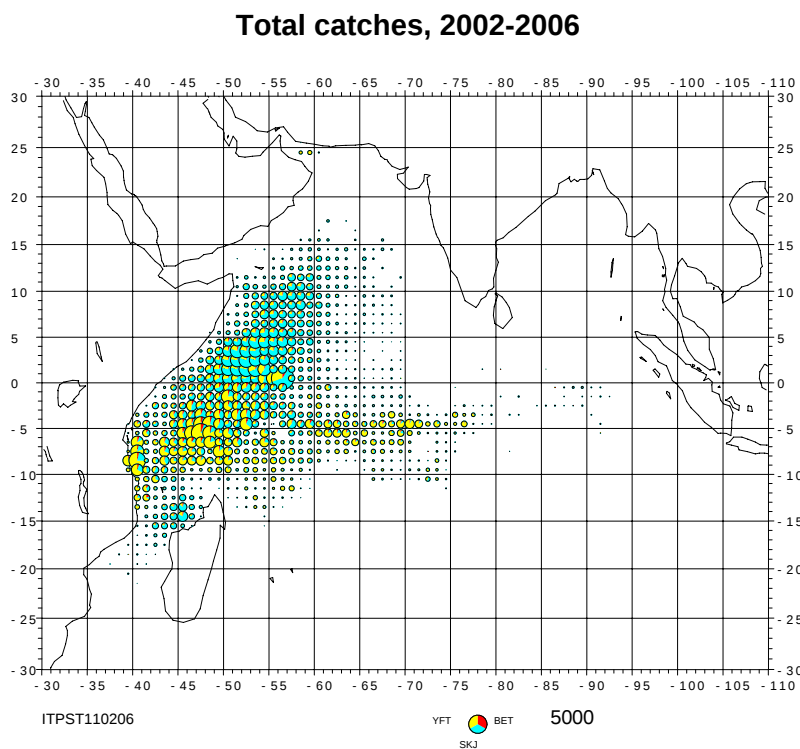
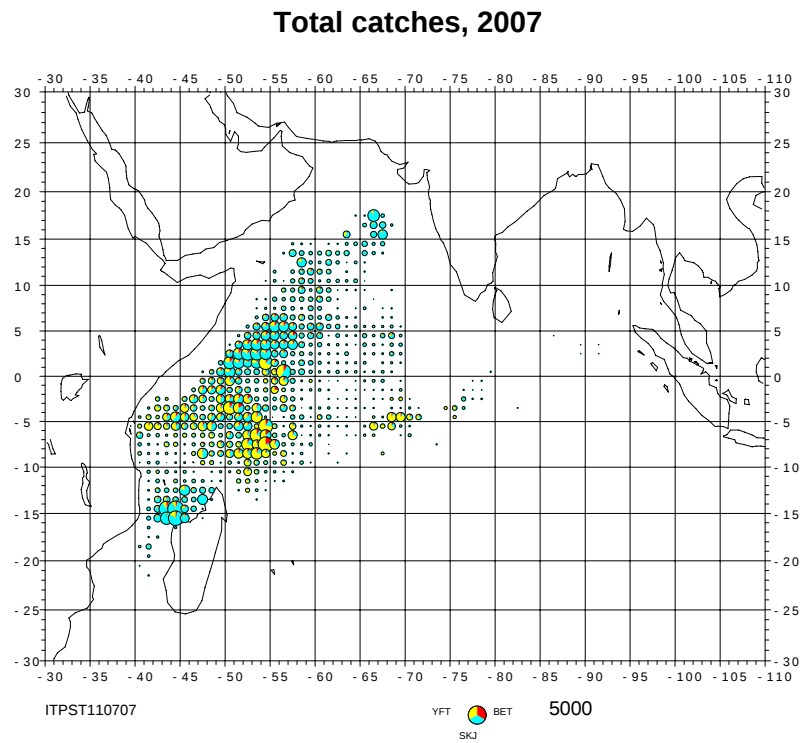


Figure 7a: Spatial distribution of the main purse seine fleets fleet total catches in 2007 and for the average situation over the period 2002-2006

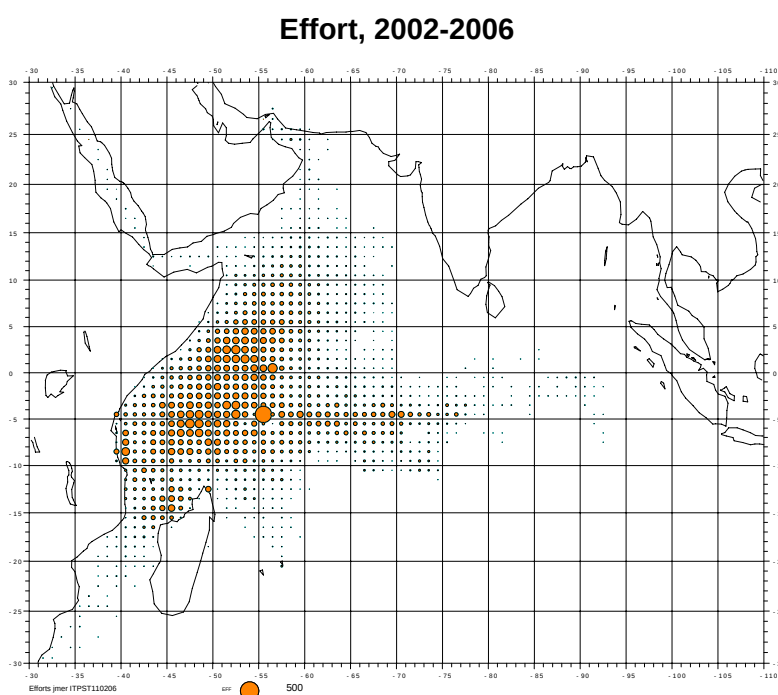
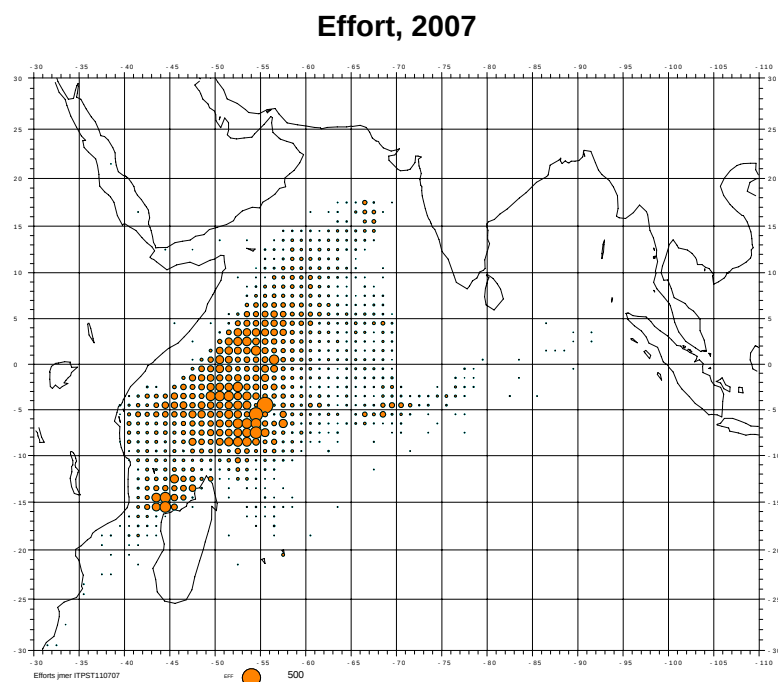


Figure 7b: Spatial distribution of the main purse seine fleets fleet total effort (fishing days) in 2007 and for the average situation over the period 2002-2006