

Statistics of the main purse seine fleets fishing in the Indian Ocean (1981-2010)

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), remplacé en 2008 par le « Cadre communautaire pour la collecte, la gestion et l'utilisation de données dans le secteur de la pêche et le soutien aux avis scientifiques sur la politique commune de la pêche » (DCF, Reg 199/2008 et 665/2008). Les données des autres flottilles sont collectées par la SFA.

Les traitements des données (corrections spécifiques et structure des tailles par espèces) sont réalisés collectivement pour l'ensemble des flottilles.

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), followed in 2008 by the "Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy" (DCF, Reg 199/2008 and 665/2008). Data from other fleets are collected by SFA (Seychelles Fishing Authority).

Data processing (species composition and size distribution) is done collectively for the whole fishery.

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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	19	26	0	52	51 671	6	7
2000	1	1	3	18	23	3	49	51 882	7	9
2001	1	1	3	20	21	3	49	54 411	5	5
2002	0	1	3	18	21	3	46	52 465	8	9
2003	0	0	2	18	20	4	44	51 751	8	9
2004	0	0	3	17	21	7	48	54 234	15	
2005	0	0	3	17	20	8	48	60 309	13	
2006	0	0	3	18	22	8	51	65 605	13	
2007	0	0	3	18	22	8	51	66 302	13	
2008	0	0	2	17	21	7	47	58 975	11	14
2009	0	0	0	16	20	7	43	47 925	11	14
2010	0	0	0	14	15	6	35	45 975	6	

*Supplies and Vessel associated with supply (according to the Spanish fleet document)

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
2008	19	17			10				1			47
2009	18	15			10				1			43
2010	13	13			9							35

* Including Mayotte since 2001

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

Year	Carrying capacity	Average carrying capacity	Fishing days	Searching days
1981	129	65	84	0
1982	820	205	256	221
1983	3 729	311	1 461	1 142
1984	23 642	503	8 041	6 502
1985	29 209	609	9 929	8 302
1986	25 562	730	8 597	6 907
1987	25 942	741	8 246	6 484
1988	31 550	789	9 135	7 244
1989	37 204	846	10 880	9 030
1990	34 525	751	10 628	8 880
1991	33 781	866	9 767	7 985
1992	35 061	899	9 944	8 162
1993	39 521	941	11 109	9 342
1994	40 113	955	11 061	9 228
1995	42 153	1 004	11 848	10 004
1996	45 384	966	12 380	10 510
1997	56 796	974	14 883	12 930
1998	54 669	1 027	14 648	12 667
1999	51 875	994	13 339	11 363
2000	52 740	1 059	12 635	10 657
2001	54 411	1 110	13 297	11 185
2002	52 465	1 141	12 035	9 979
2003	51 751	1 176	11 254	9 082
2004	54 234	1 130	11 799	9 464
2005	60 309	1 256	12 940	10 407
2006	65 605	1 286	14 341	11 776
2007	66 302	1 300	14 860	12 619
2008	58 975	1 255	12 619	10 514
2009	47 925	1 115	9 747	7 956
2010	45 975	1 314	9 182	7 381

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	629	525	515	537	399
2002	721	588	570	563	414
2003	639	523	509	513	351
2004	659	505	487	512	341
2005	637	525	505	510	365
2006	736	610	592	594	411
2007	711	587	573	598	418
2008	706	610	594	572	441
2009	835	644	633	640	419
2010	695	582	569	561	367

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	10 515	7 977	2 538	5 230	4 946	284	5 285	3 031	2 254	50%
2002	9 728	7 930	1 798	5 979	5 701	278	3 749	2 229	1 520	61%
2003	10 002	7 405	2 597	4 792	4 461	331	5 210	2 944	2 266	48%
2004	11 123	7 704	3 419	4 616	4 307	309	6 507	3 397	3 110	41%
2005	13 281	9 579	3 702	5 923	5 550	373	7 358	4 029	3 329	45%
2006	13 432	9 820	3 612	6 630	6 162	468	6 802	3 658	3 144	49%
2007	12 200	8 709	3 491	6 538	5 823	715	5 662	2 886	2 776	54%
2008	11 238	8 528	2 710	5 954	5 503	451	5 284	3 025	2 259	53%
2009	9 157	7 836	1 321	6 690	6 267	423	2 467	1 569	898	73%
2010	9 129	7 743	1 386	7 029	6 590	439	2 100	1 153	947	77%

Table 5: Set size distribution according to the fishing mode

Catch/set Year	Log schools										
	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
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	1 348	962	679	467	371	228	191	156	132	625
2007	1 461	1 599	976	583	362	232	145	127	75	38	225
2008	1 106	1 521	953	631	402	248	200	133	88	75	250
2009	1 213	1 626	1 063	688	465	310	208	185	116	67	325
2010	1 258	1 678	1 054	759	470	316	242	178	115	82	388

Table 5 (continuation): Set size distribution according to the fishing mode

Free swimming school											
Catch/set Year	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
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
2008	671	720	518	324	218	144	108	84	54	46	152
2009	311	390	270	158	132	91	52	40	25	19	81
2010	200	271	212	126	90	60	39	29	21	25	80

Table 5 (continuation): Set size distribution according to the fishing mode

Combined											
Catch Year	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
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
2008	1 777	2 241	1 471	955	620	392	308	217	142	121	402
2009	1 524	2 016	1 333	846	597	401	260	225	141	86	406
2010	1 458	1 949	1 266	885	560	376	281	207	136	107	468

Table 6: Catches by species (metric tons) and effort (as searching days and positive sets number) according to the fishing mode

Log schools								
Year	YFT	SKJ	BET	ALB	Others	Total	Searching days	Positive sets number
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	41 350	131 243	15 625	125	567	188 909	11 185	4 946
2002	54 456	189 264	22 209	16	1 279	267 224	9 979	5 701
2003	72 833	154 242	13 184	6	421	240 687	9 082	4 461
2004	47 120	120 195	16 902	2	617	184 835	9 464	4 307
2005	59 498	145 979	13 983	20	803	220 283	10 407	5 550
2006	68 379	188 082	14 351	0	930	271 742	11 776	6 162
2007	40 773	108 675	15 581	7	257	165 293	12 619	5 823
2008	39 377	119 219	16 971	35	304	175 907	10 514	5 503
2009	48 719	137 402	21 116	26	64	207 327	7 956	6 267
2010	69 895	139 813	17 832	42	56	227 638	7 381	6 590

Table 6 (continuation): Catches by species (metric tons) and effort (as searching days and positive sets number) according to the fishing mode

Free swimming schools								
Year	YFT	SKJ	BET	ALB	Others	Total	Searching days	Positive sets number
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	72 724	26 563	4 939	1 114	27	105 367	11 185	3 031
2002	68 332	18 448	4 741	696	94	92 311	9 979	2 229
2003	126 305	29 053	9 389	1 470	295	166 511	9 082	2 944
2004	157 643	17 541	5 298	238	311	181 031	9 464	3 397
2005	113 898	42 234	8 025	149	54	164 361	10 407	4 029
2006	80 412	32 908	5 851	1 358	116	120 644	11 776	3 658
2007	52 365	23 647	5 566	707	37	82 323	12 619	2 886
2008	73 360	14 779	9 610	1 355	10	99 113	10 514	3 025
2009	35 980	9 379	5 349	396	0	51 104	7 956	1 569
2010	31 350	8 787	3 827	166	0	44 129	7 381	1 153

Table 6 (continuation): Catches by species (metric tons) and effort (as searching days and positive sets number) according to the fishing mode

Combined								
Year	YFT	SKJ	BET	ALB	Others	Total	Searching days	Positive sets number
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	114 074	157 805	20 564	1 239	593	294 276	11 185	7 977
2002	122 788	207 712	26 950	712	1 372	359 535	9 979	7 930
2003	199 137	183 295	22 573	1 476	716	407 197	9 082	7 405
2004	204 763	137 736	22 200	240	928	365 866	9 464	7 704
2005	173 396	188 214	22 008	169	857	384 644	10 407	9 579
2006	148 791	220 989	20 202	1 358	1 046	392 386	11 776	9 820
2007	93 138	132 322	21 147	714	295	247 615	12 619	8 709
2008	112 737	133 997	26 581	1 391	314	275 020	10 514	8 528
2009	84 699	146 780	26 465	422	65	258 431	7 956	7 836
2010	101 245	148 600	21 658	207	56	271 766	7 381	7 743

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

West (FAO 51)								
Year	YFT	SKJ	BET	ALB	Others	Total	Fishing days	Positive sets number
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	114 074	157 805	20 564	1 239	22 597	316 280	13 297	7 977
2002	122 788	207 712	26 950	712	1 372	359 535	12 033	7 930
2003	199 137	183 295	22 573	1 476	738	407 219	11 254	7 405
2004	204 751	137 674	22 187	240	1 098	365 949	11 790	7 700
2005	173 396	188 214	22 008	169	857	384 644	12 938	9 579
2006	148 437	220 037	19 742	1 358	1 046	390 621	14 272	9 771
2007	93 135	132 301	21 142	714	295	247 585	14 847	8 703
2008	112 735	133 983	26 580	1 391	314	275 001	12 616	8 525
2009	84 175	145 429	26 137	422	64	256 227	9 645	7 756
2010	101 209	148 508	21 614	207	56	271 594	9 157	7 734

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

East (FAO 57)								
Year	YFT	SKJ	BET	ALB	Others	Total	Fishing days	Positive sets number
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	12	61	14	0	0	87	9	4
2005	0	0	0	0	0	0	0	0
2006	353	952	460	0	0	1 765	69	49
2007	4	21	5	0	0	30	13	6
2008	3	15	2	0	0	19	3	3
2009	524	1 351	328	0	0	2 204	102	80
2010	36	91	44	0	0	172	25	9

Table 8: Catch per unit of effort (as tons per searching days and by positive set) according to the fishing mode

Log schools												
Year	CPUE (tons per searching day)						CPUE (tons per positive set)					
	YFT	SKJ	BET	ALB	Others	Total	YFT	SKJ	BET	ALB	Others	Total
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	3.70	11.73	1.40	0.01	0.05	16.89	8.36	26.54	3.16	0.03	0.11	38.19
2002	5.46	18.97	2.23	0.00	0.13	26.78	9.55	33.20	3.90	0.00	0.22	46.87
2003	8.02	16.98	1.45	0.00	0.05	26.50	16.33	34.58	2.96	0.00	0.09	53.95
2004	4.98	12.70	1.79	0.00	0.07	19.53	10.94	27.91	3.92	0.00	0.14	42.92
2005	5.72	14.03	1.34	0.00	0.08	21.17	10.72	26.30	2.52	0.00	0.14	39.69
2006	5.81	15.97	1.22	0.00	0.08	23.08	11.10	30.52	2.33	0.00	0.15	44.10
2007	3.23	8.61	1.23	0.00	0.02	13.10	7.00	18.66	2.68	0.00	0.04	28.39
2008	3.75	11.34	1.61	0.00	0.03	16.73	7.16	21.66	3.08	0.01	0.06	31.97
2009	6.12	17.27	2.65	0.00	0.01	26.06	7.77	21.92	3.37	0.00	0.01	33.08
2010	9.47	18.94	2.42	0.01	0.01	30.84	10.61	21.22	2.71	0.01	0.01	34.54

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

Free swimming school												
Year	CPUE (tons per searching day)						CPUE (tons per positive set)					
	YFT	SKJ	BET	ALB	Others	Total	YFT	SKJ	BET	ALB	Others	Total
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	6.50	2.37	0.44	0.10	0.00	9.42	23.99	8.76	1.63	0.37	0.01	34.76
2002	6.85	1.85	0.48	0.07	0.01	9.25	30.66	8.28	2.13	0.31	0.04	41.41
2003	13.91	3.20	1.03	0.16	0.03	18.33	42.90	9.87	3.19	0.50	0.10	56.56
2004	16.66	1.85	0.56	0.03	0.03	19.13	46.41	5.16	1.56	0.07	0.09	53.29
2005	10.94	4.06	0.77	0.01	0.01	15.79	28.27	10.48	1.99	0.04	0.01	40.79
2006	6.83	2.79	0.50	0.12	0.01	10.24	21.98	9.00	1.60	0.37	0.03	32.98
2007	4.15	1.87	0.44	0.06	0.00	6.52	18.14	8.19	1.93	0.24	0.01	28.52
2008	6.98	1.41	0.91	0.13	0.00	9.43	24.25	4.89	3.18	0.45	0.00	32.76
2009	4.52	1.18	0.67	0.05	0.00	6.42	22.93	5.98	3.41	0.25	0.00	32.57
2010	4.25	1.19	0.52	0.02	0.00	5.98	27.19	7.62	3.32	0.14	0.00	38.27

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

Combined												
Year	CPUE (tons per searching day)						CPUE (tons per positive set)					
	YFT	SKJ	BET	ALB	Others	Total	YFT	SKJ	BET	ALB	Others	Total
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	10.20	14.11	1.84	0.11	0.05	26.31	14.30	19.78	2.58	0.16	0.07	36.89
2002	12.30	20.81	2.70	0.07	0.14	36.03	15.48	26.19	3.40	0.09	0.17	45.34
2003	21.93	20.18	2.49	0.16	0.08	44.84	26.89	24.75	3.05	0.20	0.10	54.99
2004	21.64	14.55	2.35	0.03	0.10	38.66	26.58	17.88	2.88	0.03	0.12	47.49
2005	16.66	18.09	2.11	0.02	0.08	36.96	18.10	19.65	2.30	0.02	0.09	40.15
2006	12.64	18.77	1.72	0.12	0.09	33.32	15.15	22.50	2.06	0.14	0.11	39.96
2007	7.38	10.49	1.68	0.06	0.02	19.62	10.69	15.19	2.43	0.08	0.03	28.43
2008	10.72	12.74	2.53	0.13	0.03	26.16	13.22	15.71	3.12	0.16	0.04	32.25
2009	10.65	18.45	3.33	0.05	0.01	32.48	10.81	18.73	3.38	0.05	0.01	32.98
2010	13.72	20.13	2.93	0.03	0.01	36.82	13.08	19.19	2.80	0.03	0.01	35.10

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

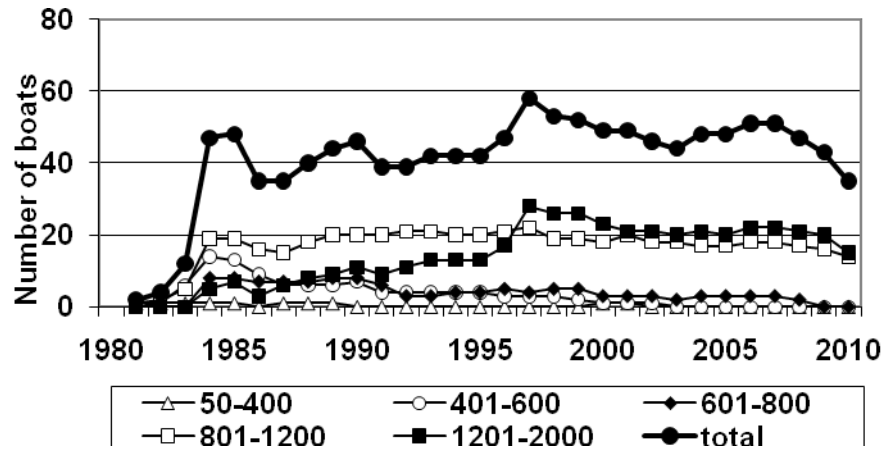
Year	Sample number	Number of measured fishes				
		Yellowfin	Skipjack	Bigeye	Albacore	Total *
1981						
1982	58	1 561	1 639			3 200
1983	70	1 515	2 132			3 647
1984	215	11 224	9 228	434		20 886
1985	458	23 608	28 257	4 283		56 148
1986	436	15 372	25 690	3 556		44 618
1987	508	23 460	36 685	4 304		64 449
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
2008	1 583	163 079	81 377	47 355	2 194	305 224
2009	1 250	14 3920	79 002	40 104	717	268 156
2010	1 359	13 1386	66 386	30 763	138	234 852

* Including other species of minor tuna (little tuna, frigate tuna, euthynus)

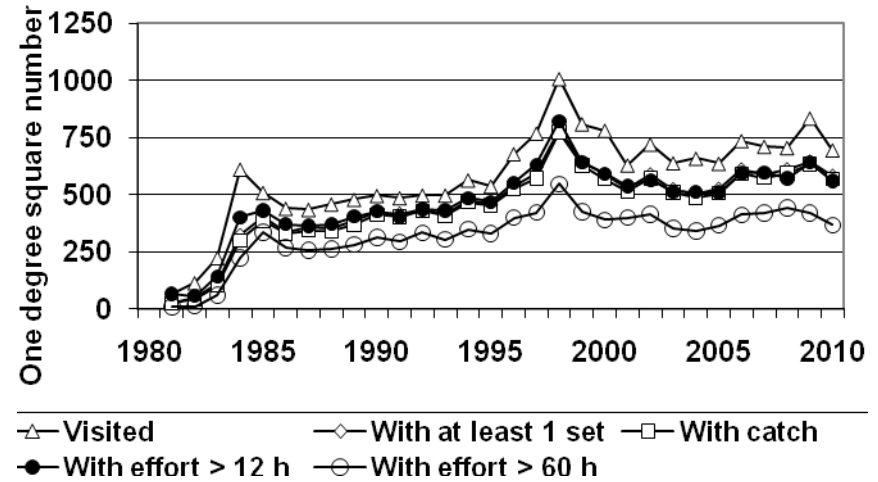
Table 10: Mean weight by species according to the fishing mode (combined. log schools and free swimming schools) of all “European purse seiner fleets” in the Indian Ocean

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	29.7	10.1	2.6	3.8	2.7	3.7	20.3	4.6	19.7	26.5	25.6
2002	3.7	36.4	7.6	2.3	3.3	2.4	3.8	33.0	4.5	30.0	27.9	27.9
2003	5.9	35.3	12.5	3.0	4.1	3.1	4.5	31.8	6.9	25.3	27.4	27.4
2004	4.8	39.4	14.9	2.5	3.7	2.6	4.9	28.3	6.2	27.8	27.8	27.8
2005	5.9	36.3	13.1	2.9	3.3	3.0	4.8	31.5	7.0	27.2	30.8	30.4
2006	4.9	34.5	9.1	3.0	3.8	3.1	4.7	32.3	6.3		28.6	28.6
2007	5.5	36.7	10.6	2.4	3.0	2.5	3.6	32.8	4.7	25.5	28.8	28.8
2008	4.0	35.4	9.4	2.0	2.7	2.1	3.2	31.4	4.7	26.8	27.6	27.5
2009	4.2	27.0	6.8	2.4	2.4	2.4	3.8	17.3	4.5	25.3	29.5	29.3
2010	4,5	22,9	6,0	2,3	2,4	2,3	3,7	15,5	4,3	25,0	26,1	25,9

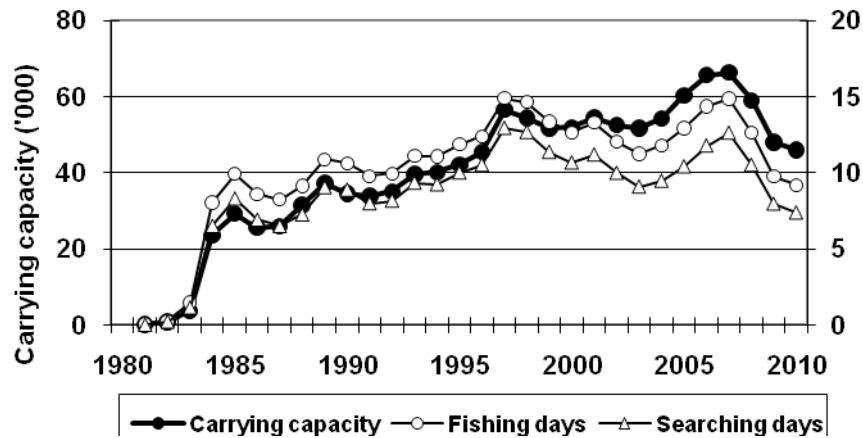
1 a – Purse seiners number according to their GRT category



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

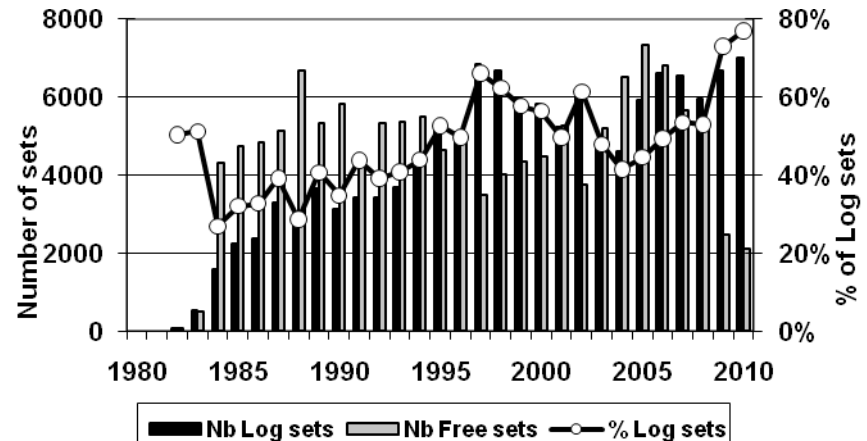
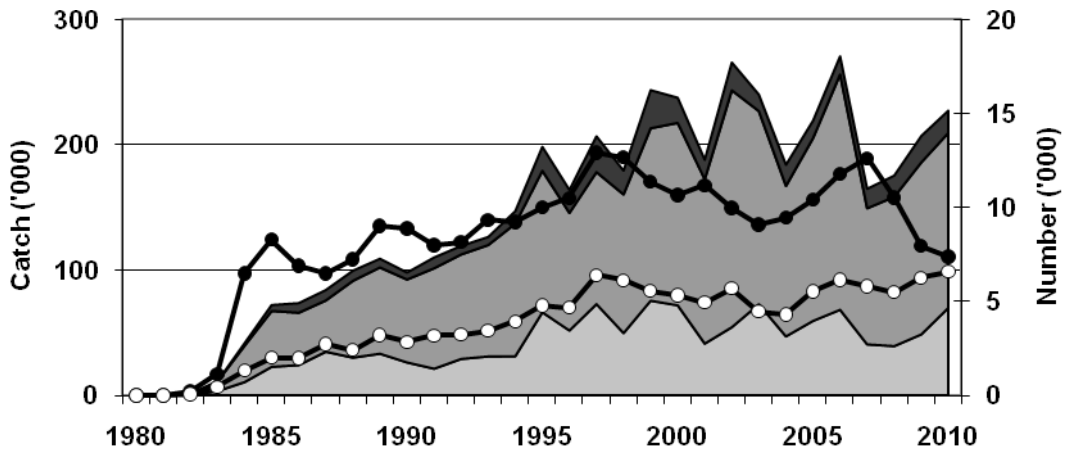
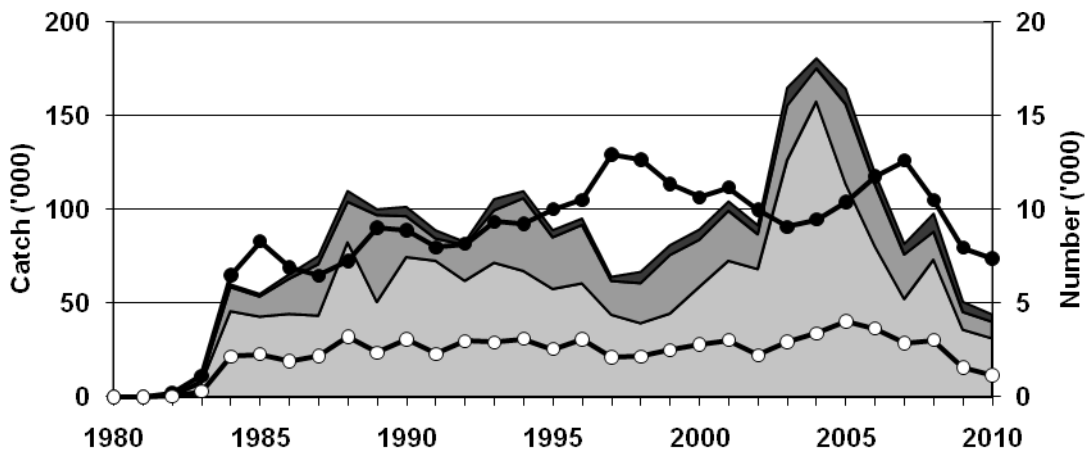


Figure 1: Fishing effort of the European and associated fleet :
 Purse seiners number by GRT category (1 a); Number of one degree squares visited for different levels of effort (1 b);
 Carrying capacity, fishing and searching days (1 c); Number of log and free schools sets and percentage of log sets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

2 a – Log schools



2 b – Free swimming schools



2 c - Combined

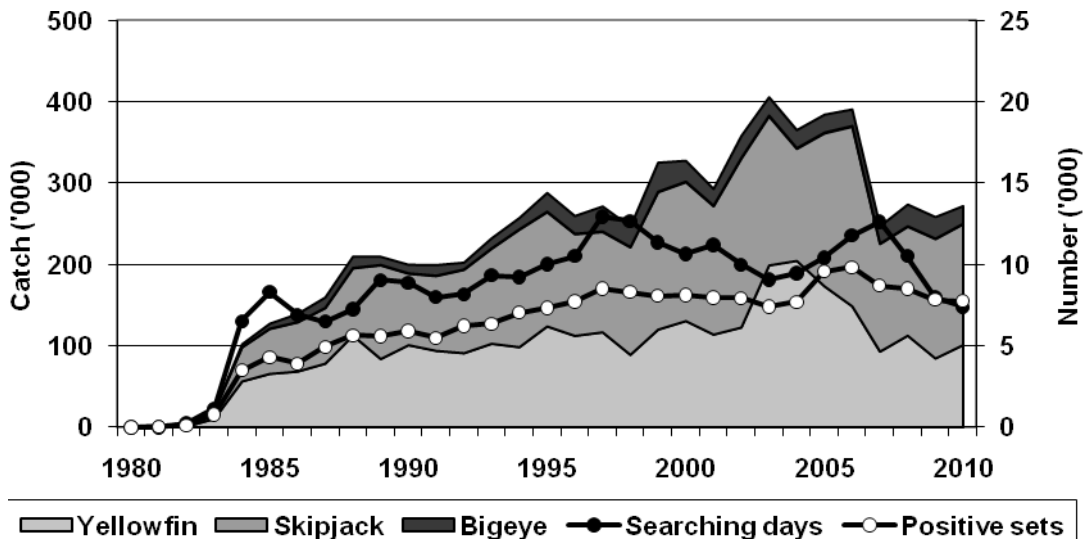
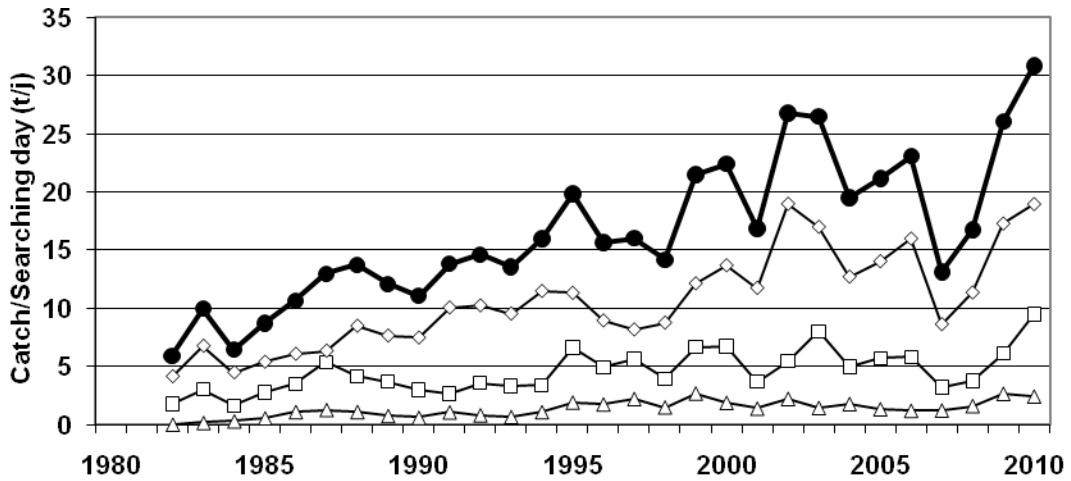
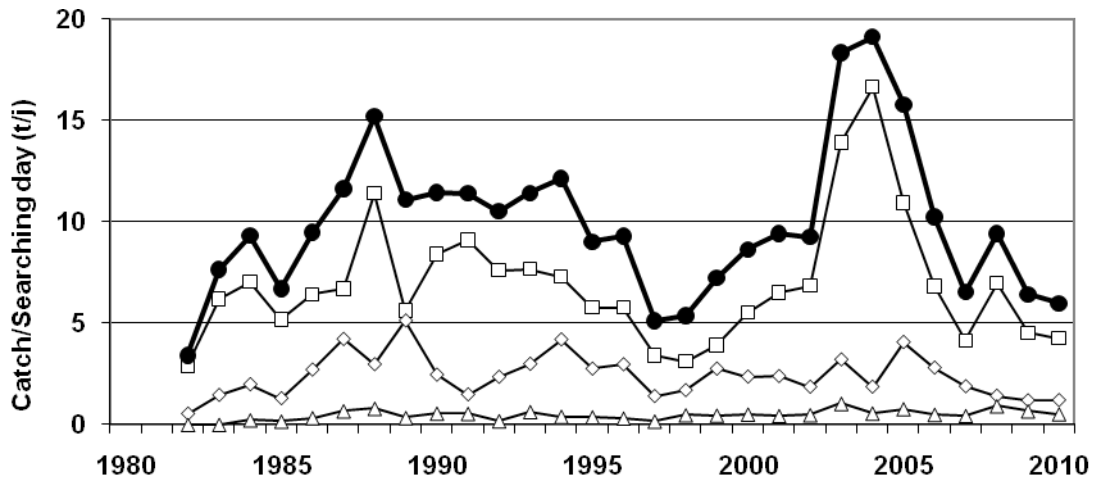


Figure 2: Catches by species and fishing effort according to the fishing mode

3 a – Log schools



3 b – Free swimming schools



3 c - Combined

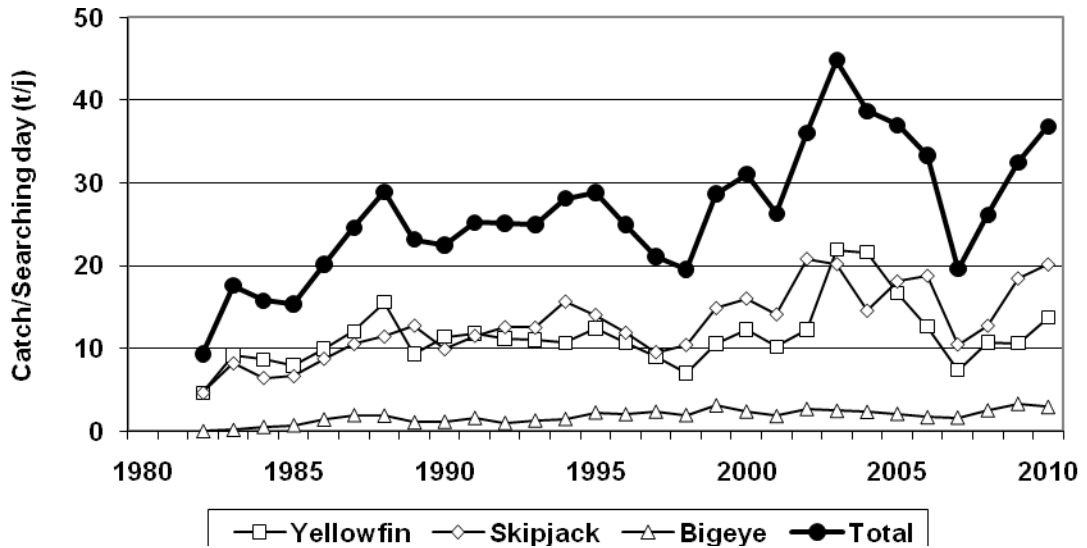


Figure 3: Catches per unit of effort (tons by searching day) according to the fishing mode

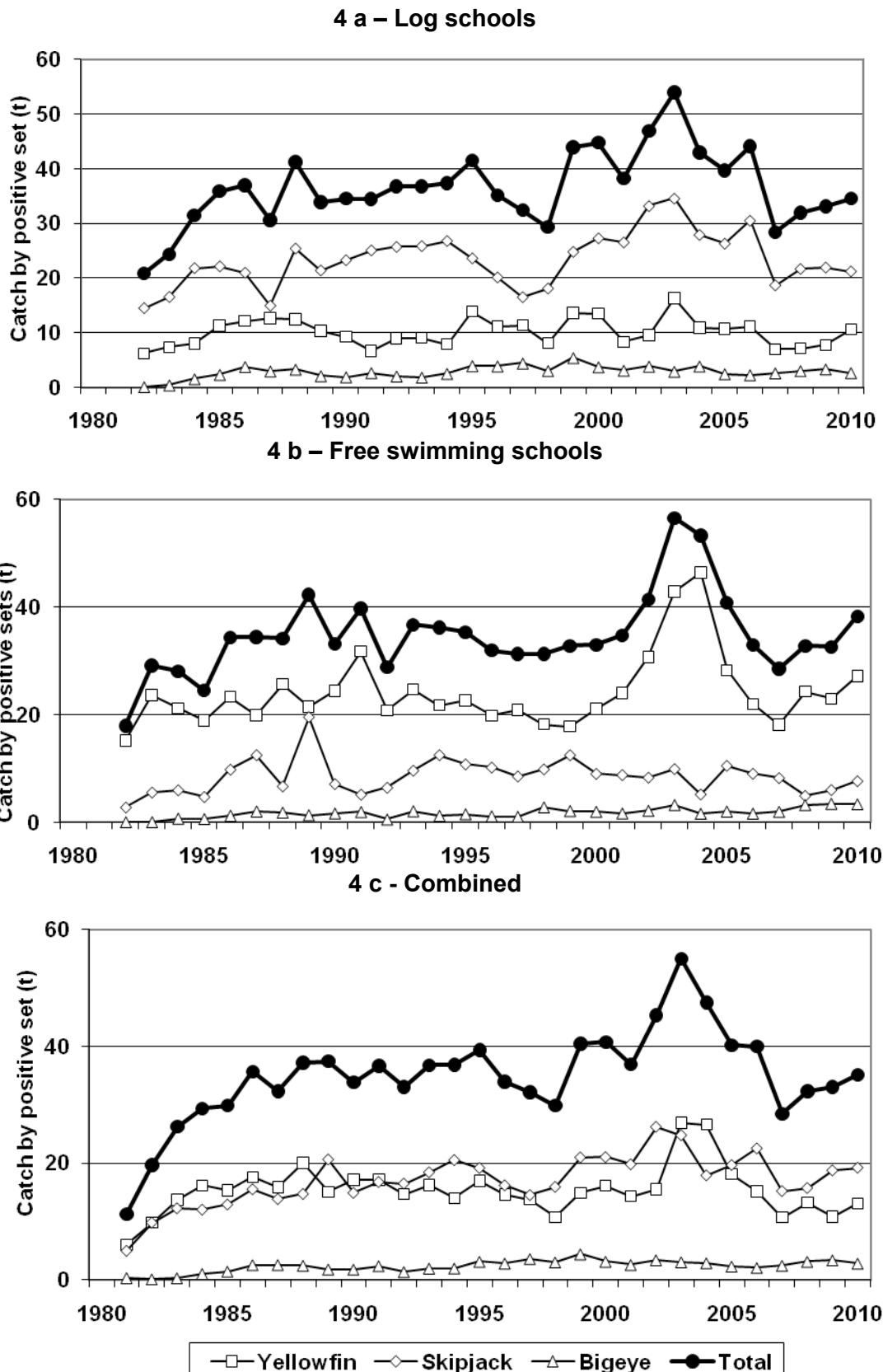


Figure 4: Catches per unit of effort (tons by positive set) according to the fishing mode

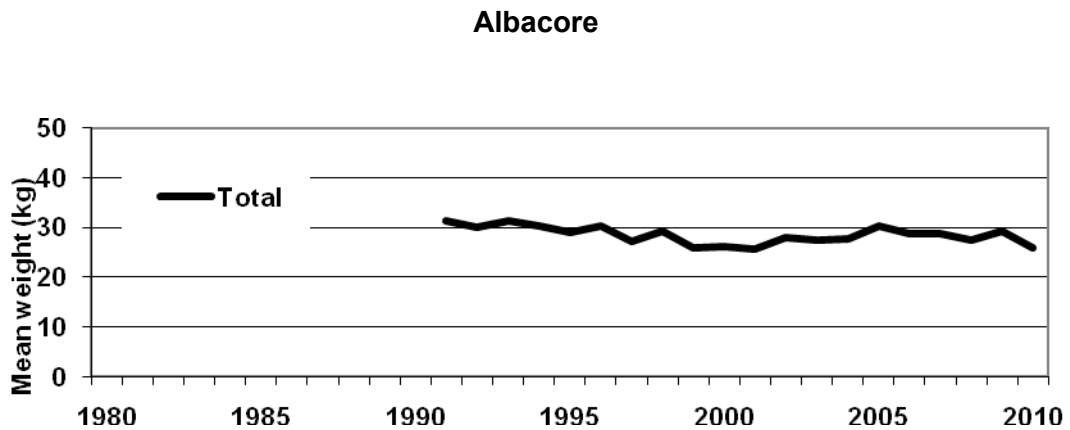
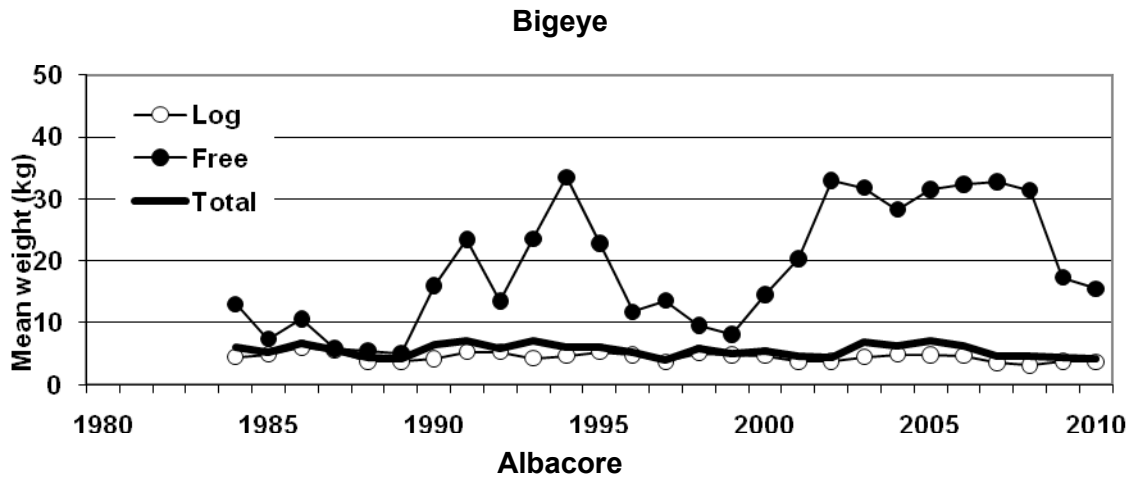
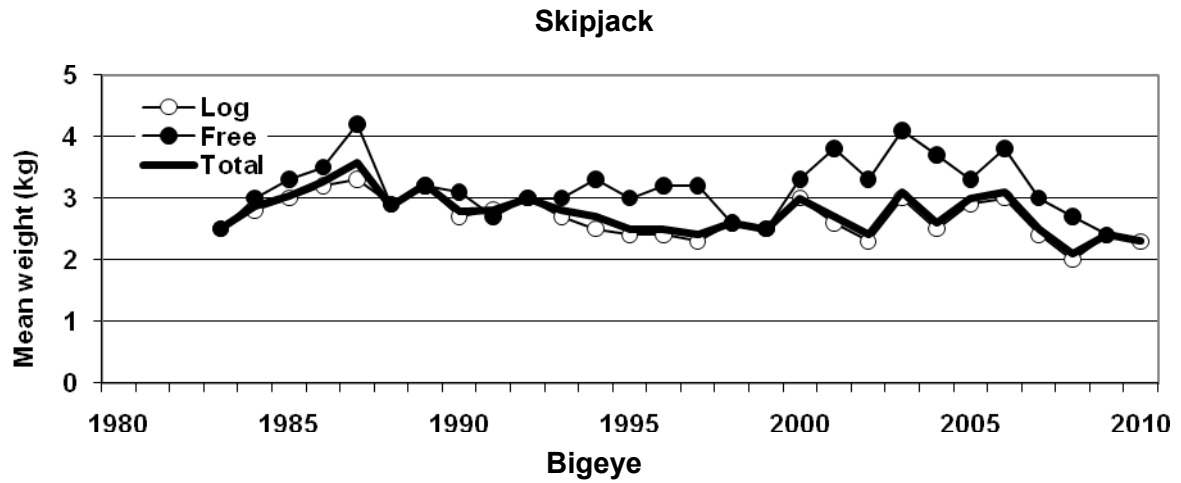
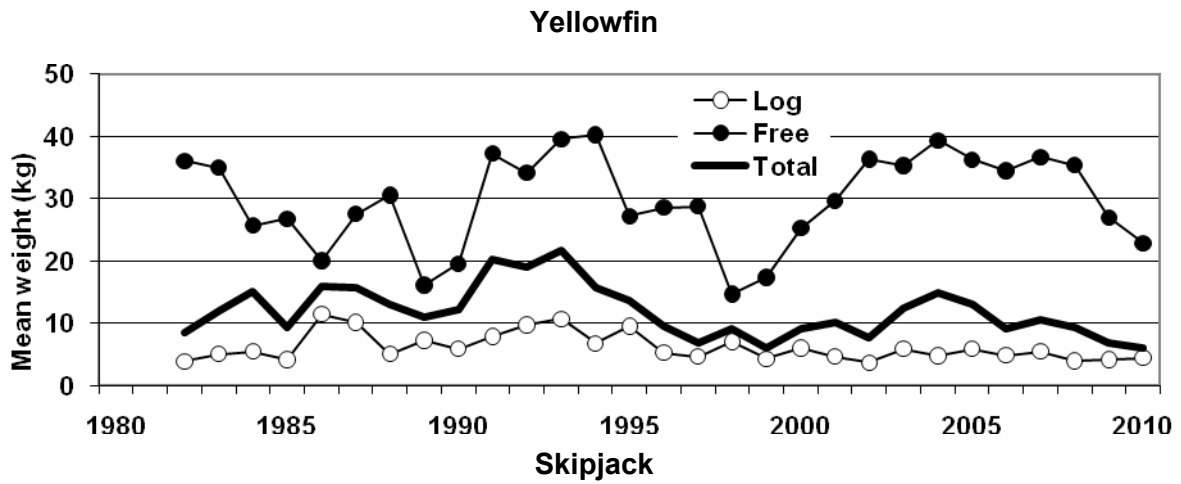


Figure 5: Mean weights of catches by species and fishing mode

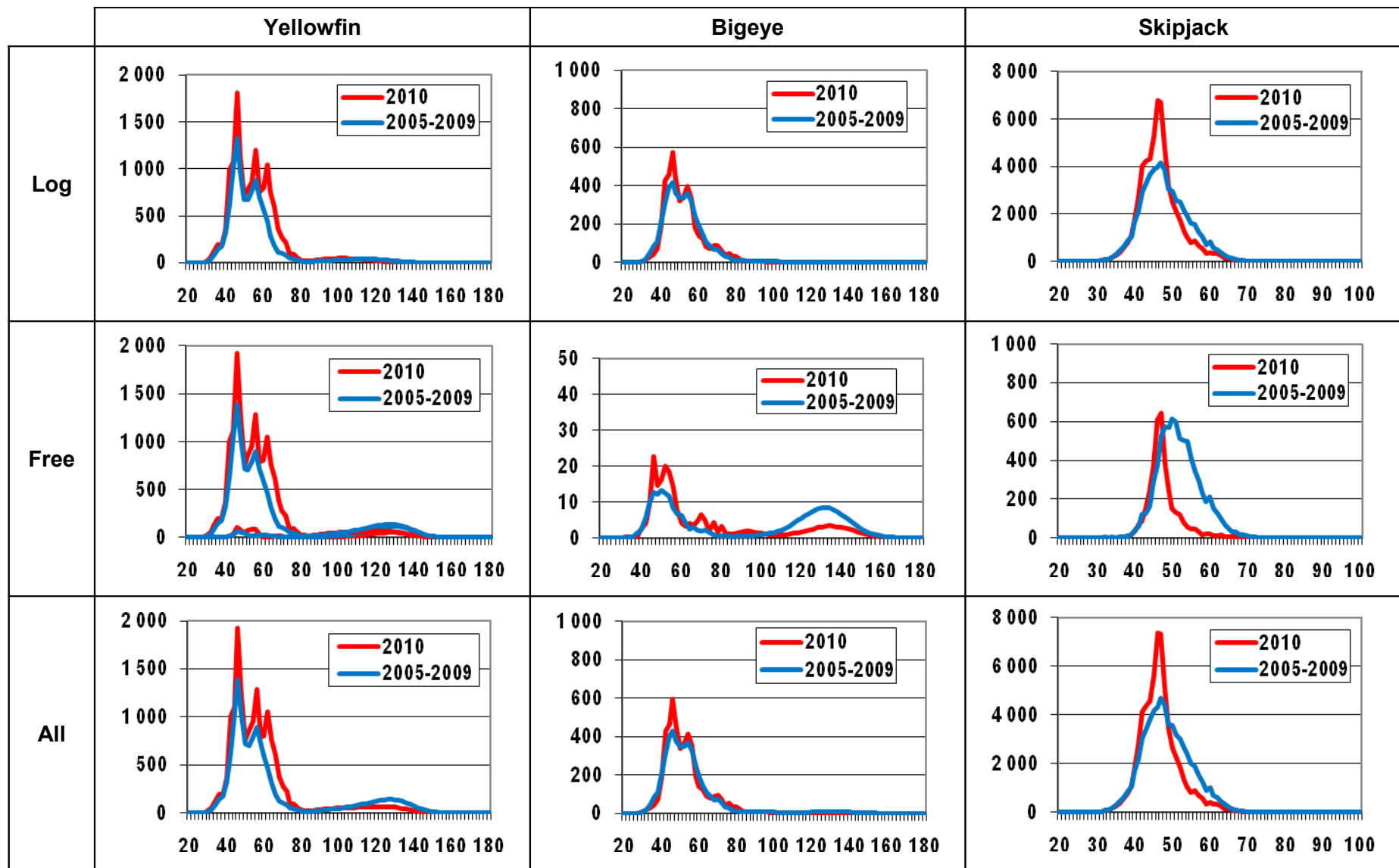


Figure 6a: Size distribution (in numbers) of the main purse seine fleets catches by species in 2010 and for the average 2005-2009 periods

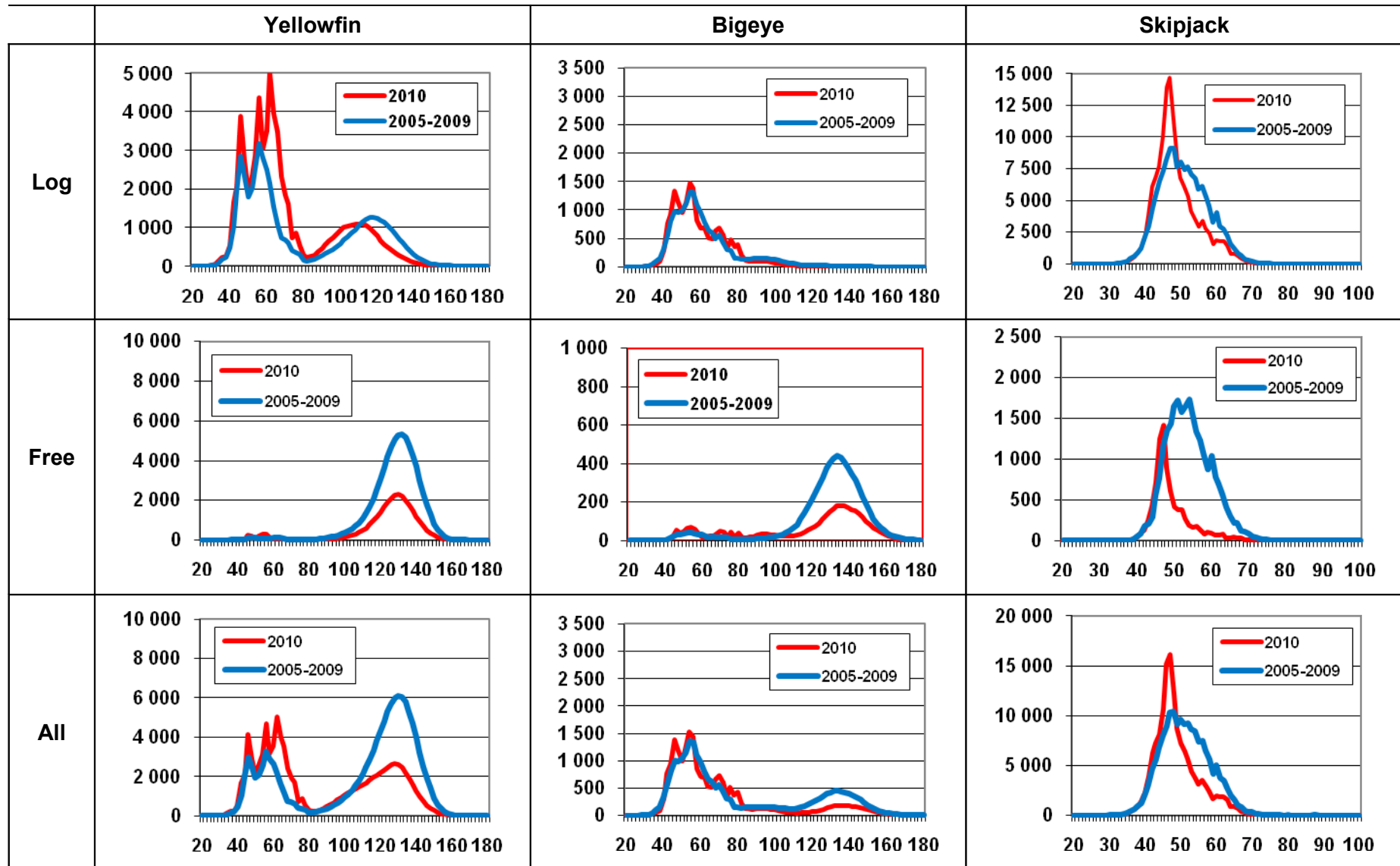
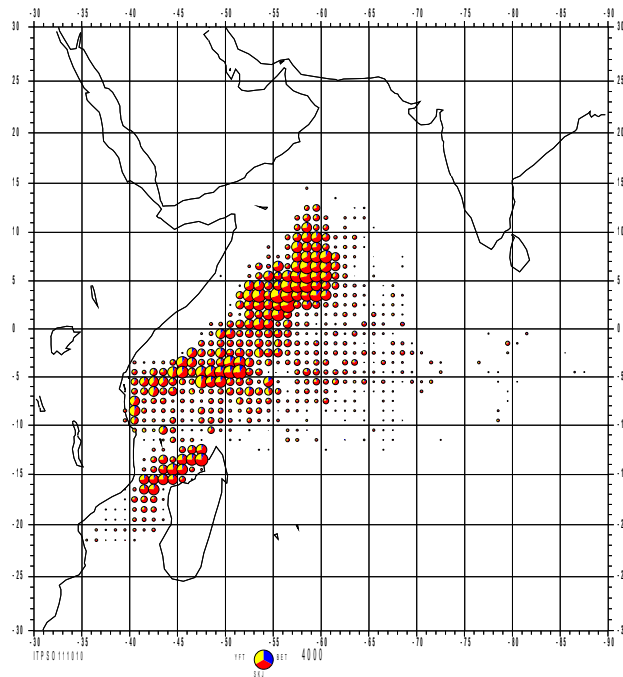


Figure 6b: Size distribution (in weight) of the main purse seine fleets catches by species in 2010 and for the average 2005-2009 period

Log schools. 2010



Log schools. 2005-2009

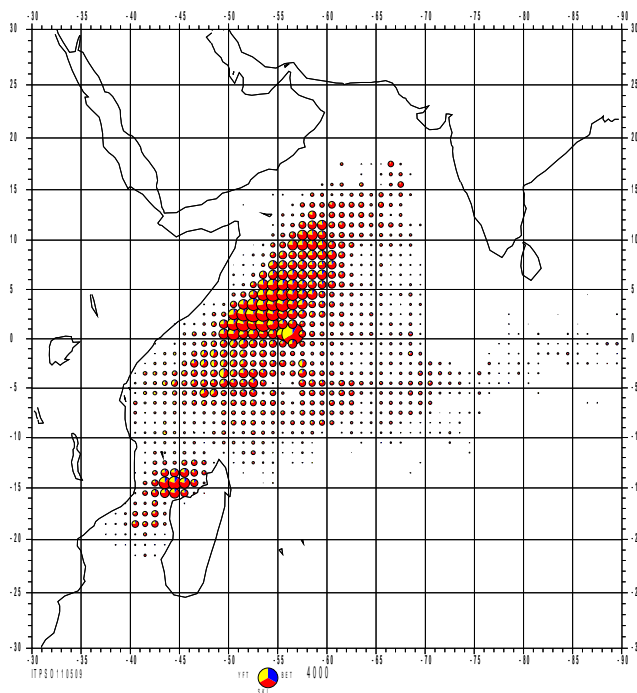
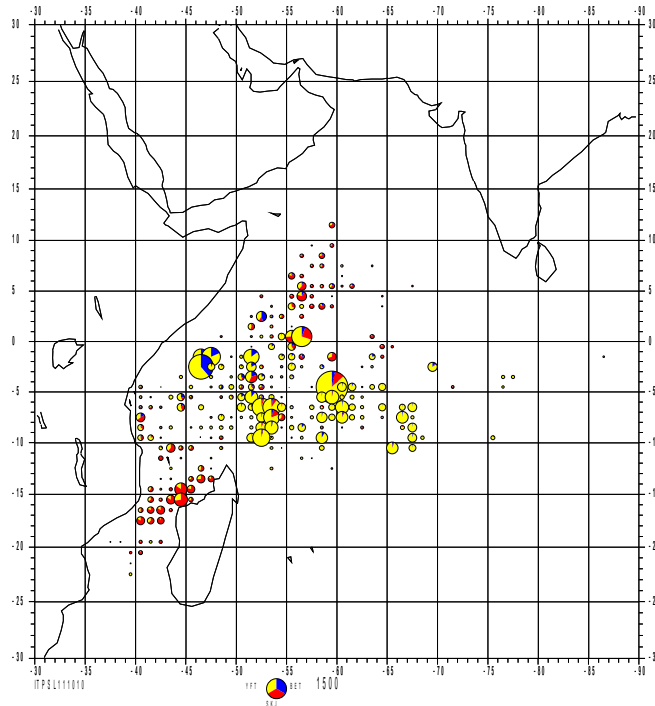


Figure 6a: Spatial distribution of the main purse seine fleets fleet catches on log schools in 2010 and for the average situation over the period 2005-2009

Free swimming schools. 2010



Free swimming schools. 2005-2009

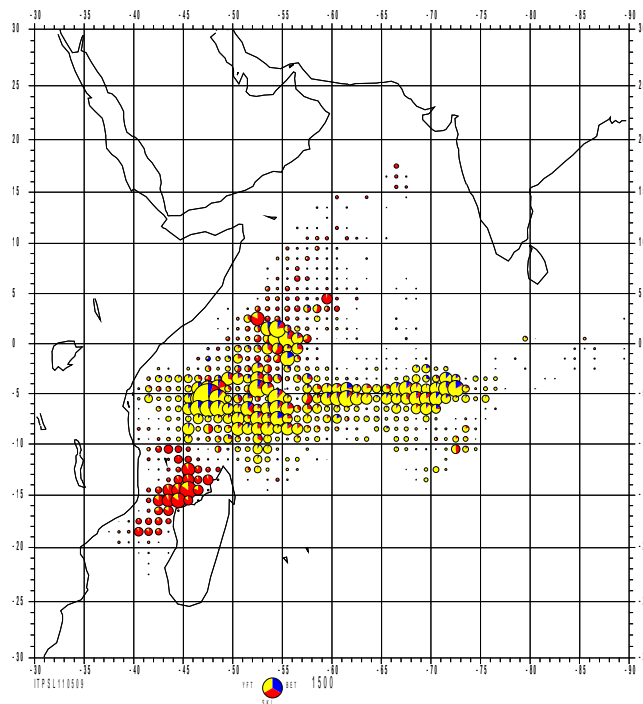
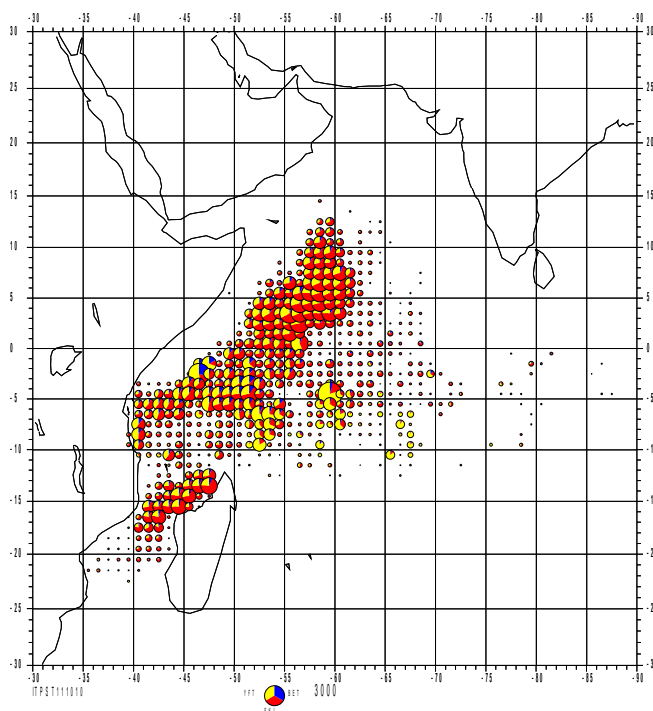


Figure 6b: Spatial distribution of the main purse seine fleets fleet catches on free swimming schools in 2010 and for the average situation over the period 2005-2009

Total catches. 2010



Total catches. 2005-2009

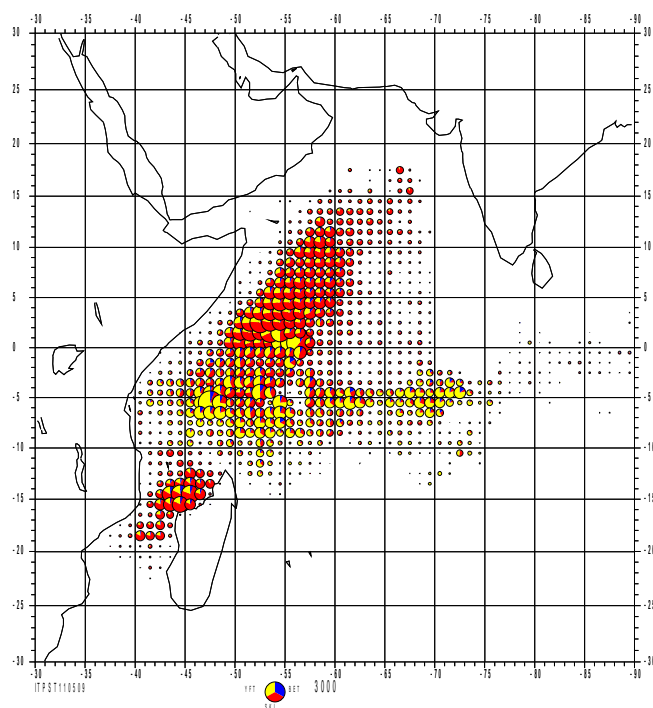
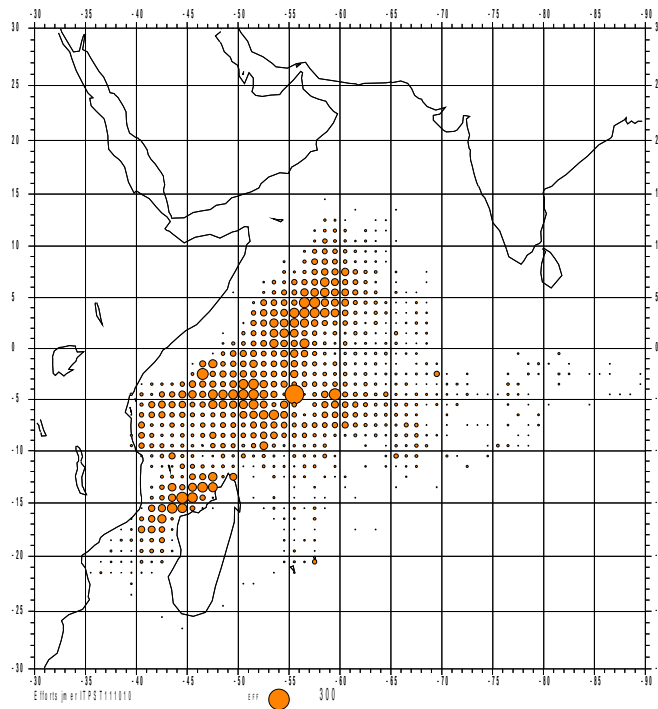


Figure 7a: Spatial distribution of the main purse seine fleets fleet total catches in 2010 and for the average situation over the period 2005-2009

Effort. 2010



Effort. 2005-2009

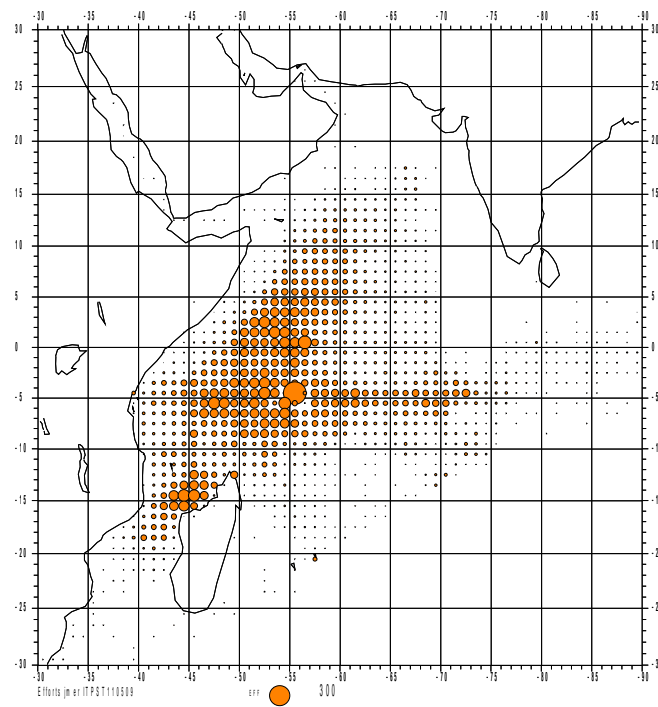


Figure 7b: Spatial distribution of the main purse seine fleets fleet total effort (fishing days) in 2010 and for the average situation over the period 2005-2009