Japanese annual catches of pelagic sharks in two subareas between 1964 and 1993

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Abstract

In response to a request from the 17th session of the IOTC WPEB (DP), Japanese annual catches of three pelagic sharks (blue shark, shortfin mako, and porbeagle) and other sharks caught in the IOTC area between 1964 and 1993 were updated by splitting the annual catch data into Eastern and Western Indian Ocean.

Key words

Japanese annual catch; pelagic sharks; the IOTC capture statistics

Introduction

At the meeting of 17th working party on ecosystem and bycatch (IOTC, 2021), the author updated Japanese annual catches of three pelagic sharks (blue shark *Prionace glauca*; shortfin mako *Isurus oxyrinchus*; porbeagle *Lamna nasus*) and other sharks in the IOTC area between 1964 and 1993 (**Table 1**) using the FAO capture statistics and species composition of the main pelagic sharks calculated from Japanese observer data after 1993. However, the species-specific annual catch data provided was not separated into two Indian Ocean sub-area (Eastern and Western), as required by IOTC Resolution 15/02, to allow its incorporation in the IOTC database. Therefore, the WPEB 17(DP) requested to Japan to provide the species-specific annual catch data in the Eastern and Western Indian Ocean (80 °E based) (http://www.fao.org/figis/geoserver/factsheets/rfbs.html).

The objective of this working paper is to update the Japanese annual catches of the main pelagic sharks caught in the IOTC area between 1964 and 1993 through splitting the data into two sub-areas.

Material and Method

To split Japanese annual catches of the main pelagic sharks between 1964 and 1993 into two sub-areas, the author used a proportion of Japanese annual catches for sharks (sharks, rays, skates, etc.) in the Eastern and Western Indian Ocean (**Table A1**) in the FAO capture statistic

(http://www.fao.org/fishery/geoinfo/en).

Results and discussions

The author updated the Japanese annual catch of the three pelagic sharks and other sharks caught in the IOTC area between 1964 and 1993 by splitting the data into Eastern and Western Indian Ocean based on the proportions of annual catch at each sub-area in the IOTC capture statistics between 1964 and 1993. Adding the area to the annual catch data as new information is useful for the future stock assessment for the main pelagic sharks. However, since Japan has no species-specific data for sharks prior to 1994, the species compositions of main pelagic sharks were calculated from Japanese observer data after 1993 (Kai, 2021), and then species-specific annual catches for main pelagic sharks were estimated. It is therefore necessary to be cautious about the uncertainty in the estimation for the use of this data in the stock assessment.

Conclusions

Japan would like to request that IOTC secretariat should replace the Japanese annual catches of three pelagic sharks (blue shark, shortfin mako, and porbeagle) between 1964 to 1993 with the catch data updated in this paper, as the official IOTC capture statistics.

References

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Table 1. Species specific annual catches of main pelagic sharks from 1964 to 1993 estimated from thespecies composition of the main pelagic sharks after 1993 in the IOTC area (Table 2 in IOTC-2021-WPEB17DP-05).

Year	Blue shark	Porbeagle	Shortfin mako	Other sharks	Total (t)
1964	2,956	435	96	612	4,100
1965	1,808	266	61	364	2,500
1966	1,924	285	53	437	2,700
1967	3,101	456	101	641	4,300
1968	2,151	318	65	467	3,000
1969	2,435	360	72	533	3,400
1970	1,223	180	39	258	1,700
1971	1,298	191	43	268	1,800
1972	1,136	169	30	265	1,600
1973	504	74	16	105	700
1974	852	126	26	185	1,188
1975	751	110	26	147	1,035
1976	277	41	10	52	380
1977	236	34	10	41	321
1978	333	49	11	68	461
1979	503	73	22	80	678
1980	448	65	18	79	610
1981	692	100	31	110	933
1982	390	57	16	67	530
1983	547	80	21	99	747
1984	595	87	22	112	816
1985	924	134	39	156	1,253
1986	788	114	33	134	1,069
1987	591	87	18	129	825
1988	467	68	17	90	643
1989	484	70	20	85	658
1990	267	39	10	51	367
1991	508	74	23	81	685
1992	347	51	10	77	485
1993	320	47	12	61	440

	Eastern			Western				
Year	Blue shark	Porbeagle S	Shortfin mako	Other sharks	Blue shark	Porbeagle	Shortfin mako	Other sharks
1964	1,298	191	42	269	1,658	244	54	343
1965	868	128	29	175	940	138	32	190
1966	570	85	16	129	1,354	201	38	307
1967	1,370	202	45	283	1,731	255	57	358
1968	789	117	24	171	1,362	201	41	296
1969	859	127	26	188	1,575	233	47	345
1970	504	74	16	106	719	106	23	152
1971	577	85	19	119	721	106	24	149
1972	284	42	7	66	852	127	22	199
1973	216	32	7	45	288	42	9	60
1974	311	46	9	68	540	80	16	117
1975	390	57	14	77	361	53	13	71
1976	166	24	6	31	112	16	4	21
1977	160	23	6	28	76	11	3	13
1978	152	22	5	31	181	27	6	37
1979	405	59	18	64	98	14	4	16
1980	301	44	12	53	147	21	6	26
1981	557	80	25	88	136	20	6	22
1982	272	39	11	47	118	17	5	20
1983	349	51	14	63	198	29	8	36
1984	344	50	13	65	251	37	9	47
1985	666	97	28	113	258	37	11	44
1986	567	82	24	96	221	32	9	37
1987	213	31	6	46	378	56	11	82
1988	252	37	9	49	215	32	8	42
1989	328	48	13	57	156	23	6	27
1990	146	21	5	28	121	18	4	23
1991	408	59	18	65	100	14	4	16
1992	117	17	3	26	230	34	7	51
1993	178	26	6	34	143	21	5	27

Table 2. Species specific annual catches of main pelagic sharks from 1964 to 1993 in the Eastern and Western IOTC areas.

Year	Eastern	Western
1964	0.439	0.561
1965	0.480	0.520
1966	0.296	0.704
1967	0.442	0.558
1968	0.367	0.633
1969	0.353	0.647
1970	0.412	0.588
1971	0.444	0.556
1972	0.250	0.750
1973	0.429	0.571
1974	0.365	0.635
1975	0.520	0.480
1976	0.597	0.403
1977	0.679	0.321
1978	0.456	0.544
1979	0.805	0.195
1980	0.672	0.328
1981	0.804	0.196
1982	0.696	0.304
1983	0.639	0.361
1984	0.578	0.422
1985	0.721	0.279
1986	0.719	0.281
1987	0.360	0.640
1988	0.540	0.460
1989	0.678	0.322
1990	0.548	0.452
1991	0.803	0.197
1992	0.338	0.662
1993	0.555	0.445

Table A1. Proportion of Japanese annual catches for sharks (sharks, rays, skates, etc.) in the Eastern and Western IOTC areas from 1964 to 1993 in the FAO capture statistic.