White anglerfish (*Lophius piscatorius*) in Subarea 7 and divisions 8.a–b and 8.d (Celtic Seas, Bay of Biscay)

ICES advice on fishing opportunities

ICES advises that when the MSY approach is applied, catches in 2025 should be no more than 34 983 tonnes.

ICES notes the existence of a precautionary management plan, developed and adopted by one of the relevant management authorities for this stock.

The use of combined species TAC for the two anglerfish species, black-bellied anglerfish (*Lophius budegassa*) and white anglerfish (*Lophius piscatorius*), prevents effective control of the single-species exploitation rates and could lead to the overexploitation of either species.

Non-fisheries conservation considerations

ICES has not identified any conservation aspects other than those related to the commercial fisheries.

Stock development over time

Fishing pressure on the stock is below F_{MSY}; spawning-stock size is above MSY $B_{trigger}$, B_{pa}, and B_{lim}.

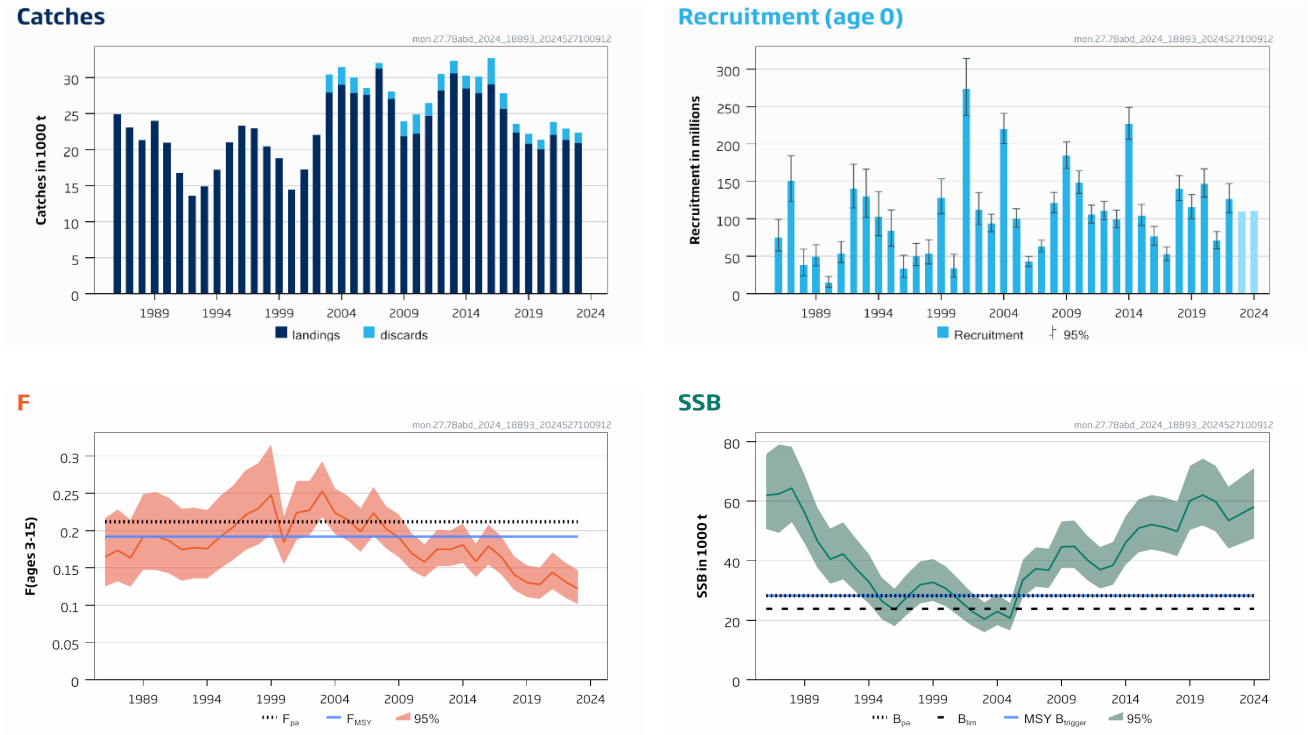

Figure 1 White anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. Summary of the stock assessment. Discard observations are available since 2003. The assumed recruitment values for 2023 and 2024 are shaded in a lighter colour.

Catch scenarios

Table 1 White anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. Values for the forecast and the interim year.

Variable	Value	Notes
$F_{ages\ 3–15}$ (2024)	0.133	*Status quo* $F_{ages\ 3–15}$ (average 2021–2023)
SSB (2025)	62907	Short-term forecast (STF) ; in tonnes
$R_{age\ 0}$ (2024)	110549	Predicted from stock-recruitment relationship; in thousands
$R_{age\ 0}$ (2025)	111151	Predicted from stock-recruitment relationship; in thousands
Catch (2024)	24814	STF; in tonnes
Projected landings (2024)	21688	STF assuming mean landings ratio-at-age, last three years, 2021–2023; in tonnes
Projected discards (2024)	3126	STF assuming mean discards ratio-at-age, last three years, 2021–2023; in tonnes

Table 2 White anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. Annual catch scenarios. Weights are in tonnes. Note: the % change in TAC is not computed because the TAC is for both species of anglerfish.

Basis	Total catch (2025)	Projected landings (2025)	Projected discards (2025)	$F_{ages\ 3–15}$ Total (2025)	$F_{ages\ 3–15}$ Projected landings (2025)	$F_{ages\ 3–15}$ Projected discards (2025)	SSB (2026)	% SSB change *	% advice change^
ICES advice basis									
MSY approach = F_{MSY}	34983	30634	4348	0.192	0.190	0.00163	56926	−9.5	−1.46
Other scenarios									
F = MAP^^ $F_{MSY\ lower}$	24617	21561	3056	0.131	0.130	0.00111	60635	−3.6	−31
F = MAP^^ $F_{MSY\ upper}$	38241	33486	4755	0.212	0.21	0.00180	55761	−11.4	7.7
F = 0	0	0	0	0	0	0	69443	10.4	−100
F_{pa}	38241	33486	4755	0.212	0.21	0.00180	55761	−11.4	7.7
$SSB_{2026} = B_{lim}$	127983	111747	16236	1.034	1.03	0.0088	23868	−62	260
$SSB_{2026} = B_{pa} = MSY\ B_{trigger}$	115419	100843	14575	0.870	0.86	0.0074	28275	−55	225
$SSB_{2026} = SSB_{2025}$	18270	16003	2267	0.095	0.095	0.00081	62907	0	−49
$F = F_{2024}$	24908	21816	3093	0.133	0.132	0.00113	60531	−3.8	−30
Catch advice 2025 = Catch advice2024	35502	31089	4413	0.195	0.194	0.00166	56740	−9.8	0

* SSB 2026 relative to SSB 2025 (62 907 tonnes).
^ Advice value for 2025 relative to advice value for 2024 (35 502 tonnes).
^^ EU multiannual plan (MAP) for the Western Waters and adjacent waters (EU, 2019).

The advice for 2025 is 1.46% lower than the value provided for 2024 due to a small downward revision of SSB compared to last year's assessment (Figure 2).

Basis of the advice

Table 3 White anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. The basis of the advice.

Advice basis	MSY approach
Management plan	ICES is aware of the multiannual management plan (MAP) for the Western Waters and adjacent waters, which has been adopted by the EU for this stock (EU, 2019) and which ICES considers to be precautionary. There is no agreed shared management plan with the UK for this stock, and ICES provides advice according to ICES MSY approach. Catch scenarios consistent with the MAP F_{MSY} ranges are provided.

Quality of the assessment

The perception of stock status is consistent with previous assessments.

The final year of recruitment is estimated with high uncertainty and is therefore replaced by the recruitment estimated from the stock–recruit relationship.

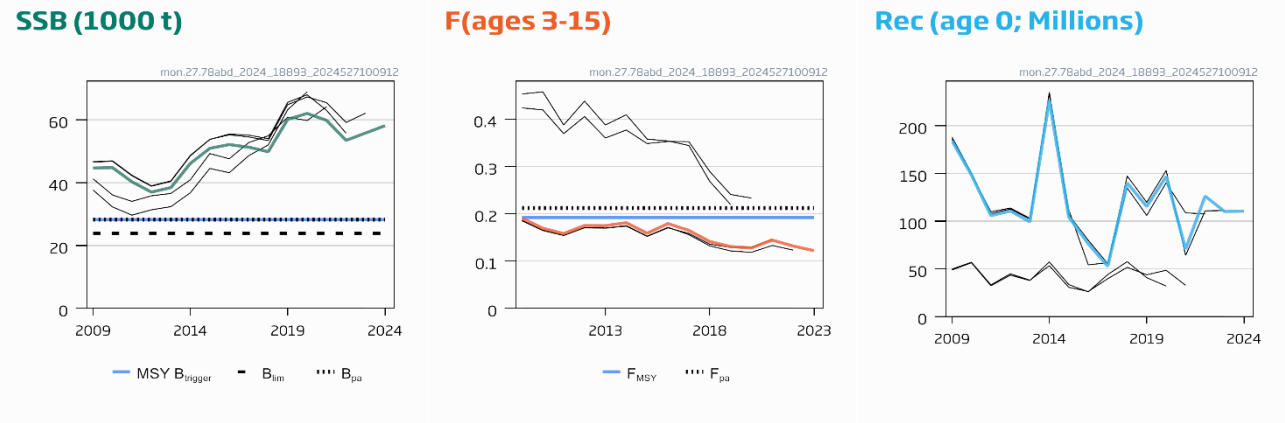

Figure 2 White anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. Historical assessment results. The reference points and assessment results were revised following a benchmark in 2022, and only the last three assessment results should be compared to the reference points indicated. The final two years of recruitment values are assumptions.

Issues relevant for the advice

The two anglerfish species (*Lophius budegassa* and *Lophius piscatorius*) are not separated in the landings statistics, and species-specific landings are estimated by ICES. The TACs are set separately for Subarea 7 and divisions 8.a, 8.b, 8.d, and 8.e, with each TAC covering catches of both species. ICES considers that management of the catches of these two species under a combined TAC prevents effective control of single-species exploitation rates and could lead to overexploitation of either species.

Reference points

Table 4 White anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. Reference points, values, and their technical basis.

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY $B_{trigger}$	28275	B_{pa}; in tonnes	ICES (2022)
	F_{MSY}	0.192	Stochastic simulations (EqSim) with Beverton–Holt stock-recruitment relationship estimated by the assessment model	ICES (2022)
Precautionary approach	B_{lim}	23868	SSB_{2004}; lowest observed SSB with high recruitment; in tonnes	ICES (2022)
	B_{pa}	28275	$B_{lim} \times \exp(\sigma \times 1.645)$, where $\sigma = 0.103$; in tonnes	ICES (2022)
	F_{lim}	Undefined	Inconsistent with F_{pa}	ICES (2022)
	F_{pa}	0.212	F_{P05} with advice rule (AR): the F that provides a 95% probability for SSB to be above B_{lim}	ICES (2022)
Management plan	MAP MSY $B_{trigger}$	28275	MSY $B_{trigger}$; in tonnes	ICES (2022)
	MAP B_{lim}	23868	B_{lim}; in tonnes	ICES (2022)
	MAP F_{MSY}	0.192	F_{MSY}	ICES (2022)
	MAP range F_{lower}	0.131	Consistent with ranges resulting in no more than 5% reduction in long-term yield compared with F_{MSY}	ICES (2022)
	MAP range F_{upper}	0.212	Consistent with ranges resulting in no more than 5% reduction in long-term yield compared with F_{MSY}	ICES (2022)

Basis of the assessment

Table 5 White anglerfish in Subarea 7 and divisions 8.a–b and 8.d. The basis of the assessment.

ICES stock data category	1 (ICES, 2023b)
Assessment type	Length-based age-structured Stock Synthesis model that uses catches in the model and in the forecast (ICES, 2024).
Input data	Commercial landings and discards; three survey indices consisting of a combined French Southern Atlantic Bottom trawl survey (EVHOE-WIBTS-Q4 [G9527])/Irish Groundfish Survey (IGFS-WIBTS-Q4 [G7212]) index, the Spanish Porcupine Bottom Trawl Survey (SpPGFS -WIBTS-Q3 [G5768]), and the Irish Anglerfish and Megrim Survey (IE-IAMS [G3098]).
Discards and bycatch	Discards are available since 2003 and included in the assessment and forecast.
Indicators	None
Other information	Last benchmarked in 2022 (ICES, 2023b).
Working group report	Working Group for the Bay of Biscay and the Iberian Waters Ecoregion (WGBIE)

History of the advice, catch, and management

Table 6 White anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. History of ICES advice, the agreed TAC, and ICES estimates of landings and catch. Weights are in tonnes.

Year	ICES advice***, #	Catch corresponding to advice ***, #	Landings corresponding to advice (both *Lophius* species) ***, #	Agreed TAC *, **	ICES landings (both *Lophius* species)***	ICES estimated landings *L. piscatorius*	ICES estimated catches *L. piscatorius*
1987	Not assessed	-	< 27600	39080	30710	23090	-
1988	Not assessed	-	< 19900	42990	29696	21314	-
1989	Not assessed	-	< 16400	42990	32835	24015	-
1990	Not assessed	-	< 26700	42990	30615	20983	-
1991	No advice	-	< 37800	42990	25543	16763	-
1992	No advice	-	< 33900	42990	21793	13617	-
1993	Concern about *L. pisc.* SSB decrease	-	< 36000	25100	21461	14895	-
1994	SSB decreasing, still inside safe biological limits	-	< 33000	23900	22945	17201	-
1995	No increase in F	-	< 33000	23200	27987	21033	-
1996	No increase in F	-	-	30400	31426	23333	-
1997	No increase in F	-	-	34300	31097	22983	-
1998	No increase in F	-	-	34300	29073	20474	-
1999	No increase in F	-	< 24800	34300	25531	18792	-
2000	At least 20% decrease in F	-	< 37448	29600	21096	14451	-
2001	Reduce F below F_{pa}	-	< 37448	27600	23021	17293	-
2002	Reduce F below F_{pa}	-	< 37448	23700	28588	22083	-
2003	At least 30% decrease in F	-	< 37448	21000	36104	27933	30444
2004	At least 10% decrease in F	-	< 37448	26700	36565	29028	31439
2005	Maintain F below F_{pa}	-	< 27600	31200	35056	27869	29980
2006	Maintain F below F_{pa}	-	< 19900	34000	33783	27652	28545
2007	Maintain F below F_{pa}	-	< 16400	36000	37821	31213	32029
2008	Less than average landings	-	< 26700	36000	34452	27053	28046
2009	Same advice as last year	-	< 37800	36000	30122	21835	23913
2010	No increase in effort	-	< 33900	41400	30841	22215	24886
2011	No increase in effort	-	< 36000	40900	34005	24657	26489
2012	Reduce catch	-	< 33000	38900	36617	28188	30519
2013	Reduce catch by the rate of biomass decrease (14% for *L. piscatorius* and 20% for *L. budegassa*)	17900		36953	41086	30611	32295

Year	ICES advice***, #	Catch corresponding to advice ***, #	Landings corresponding to advice (both *Lophius* species) ***, #	Agreed TAC *, **	ICES landings (both *Lophius* species)***	ICES estimated landings *L. piscatorius*	ICES estimated catches *L. piscatorius*
2014	Increase landings by the rate of biomass increase (20% for *L. piscatorius* and 20% for *L. budegassa*)	< 26691	< 37448	42496	38306	28474	30333
2015	Same landings advice for *L. piscatorius* as in 2014	< 26691	< 37448	42496	37508	27859	30183
2016	Precautionary approach (same landings value as advised for 2014)	≤ 26691	≤ 37448	42496	39303	29083	32668
2017	Precautionary approach (same landings value as advised for 2016)	≤ 26691	≤ 37448	42496	37324	25634	27808
2018	Precautionary approach (same landings value as advised for 2016)	≤ 26691	≤ 37448	42496	32421	22345	23595
2019	MSY approach	≤ 31042	≤ 41841	41370	30512	20832	22196
2020	Management plan	31798 (range 21248–42331) ##	≤ 44757	44307	28713	20037	21387
2021	Management plan	34579 (range 23320–45996) ##	≤ 50130	38123	31005	22040	23878
2022	MSY approach	≤ 34275	≤ 52936	52205	31376	21343	22895
2023	MSY approach	≤ 34540	≤ 57976	57976	31731	20918	22322
2024	MSY approach	≤ 35502	≤ 61081	61081			
2025	MSY approach	≤ 34983	≤ 60300				

* Applies to the combined *Lophius* species.
** Includes Division 8.e.
*** Includes Division 7.a since 2018 (ICES, 2018).
# Advice refers to landings up to 2017 and to catches since 2018.
Catches corresponding to F_{MSY}, EU MAP range in brackets.

History of catch and landings

Table 7 White anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. Catch distribution by fleet in 2023 as estimated by ICES.

Total catch	Landings					Discards
22322	62.8% otter trawl demersal fish	2.5% otter trawl *Nephrops*	13.2% beam trawl	17.6% gillnet	3.9% other	1404
	20918					

Table 8a White anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. History of commercial catch and landings; ICES estimated values are presented for Subarea 7 for each country participating in the fishery. Weights are in tonnes.

Year	Official landings					ICES estimates		
	France	Ireland	Spain	UK	Others	Unallocated	Landings in Subarea 7	Discards in Subarea 7
1986	9180	950	5831	3145	1753	0	20859	-
1987	7998	868	5059	3164	1272	0	18361	-
1988	7677	608	4291	3415	1375	0	17366	-
1989	8233	1482	4253	3746	3411	0	21126	-
1990	8161	1371	3985	2647	1440	0	17603	-
1991	6930	1012	3554	2454	655	0	14604	-
1992	5206	1050	2484	2570	946	0	12255	-
1993	5611	1147	2543	2346	1660	0	13308	-
1994	6834	1891	2652	2117	1663	0	15156	-
1995	8867	1541	3004	2374	2134	0	17921	-
1996	9237	1289	3849	2999	1971	0	19345	-
1997	8895	1855	3302	3143	1871	0	19066	-
1998	8052	1896	3403	3049	1287	0	17688	-
1999	7623	3076	2954	2812	853	0	17318	-
2000	6167	1660	2187	2574	831	0	13420	-
2001	7780	1535	2395	2903	1057	0	15669	-
2002	9195	1884	3084	2985	1397	0	18546	-
2003	12081	1456	4662	2850	1569	0	22619	2077
2004	12281	1646	4507	2906	1743	0	23083	1968
2005	11137	2071	4663	3032	1469	0	22371	1779
2006	10607	2656	4589	3137	1375	0	22366	674
2007	12253	2902	5065	4036	1596	0	25852	620
2008	10871	2419	4107	2928	1062	0	21387	743
2009	8691	2048	2754	3013	857	0	17363	1509
2010	8188	2523	2353	3675	993	0	17732	2038
2011	9546	2304	920	4287	1174	1313	19544	1443
2012	12225	2648	1398	4028	1835	1167	23302	1833
2013	12775	2557	3316	4629	1625	1148	26051	1405
2014	11410	2707	1892	6129	1055	337	23529	1443
2015	11721	2582	1693	5644	1284	414	23338	1796
2016	12667	2761	1754	6052	1578	351	25164	3056
2017	11473	2543	1744	5222	1498	0	22479	1912
2018	10360	2148	1810	4156	770	85	19327	1192
2019	9379	2388	1473	4553	858	0	18651	1314
2020	9372	2171	1477	4171	994	0	18185	804
2021	9673	2696	1567	4778	1173	0	19887	1132
2022^	9970	2219	1596	4275	1149	0	19210	985
2023^	10328	1980	1364	4076	970	0	18718	1127

^ Preliminary official landings data.

Table 8b White anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. History of commercial catch and landings. For divisions 8.a, 8.b, and 8.d, both the official and ICES estimated values are presented by country participating in the fishery. The final column shows the total for divisions 8.a–b and 8.d. Weights are in tonnes.

Year	Official landings			ICES estimates		
	France	Spain	Others	Unallocated	Total landings in divisions 8.a–b and 8.d	Total discards in divisions 8.a–b and 8.d
1986	3265	858	0	0	4122	-
1987	3955	774	0	0	4729	-
1988	3129	819	0	0	3948	-
1989	2264	625	0	0	2889	-
1990	2580	800	0	0	3379	-
1991	1657	502	0	0	2158	-
1992	1066	296	0	0	1362	-
1993	1314	274	0	0	1587	-
1994	1564	481	0	0	2045	-

Year	Official landings			ICES estimates		
	France	Spain	Others	Unallocated	Total landings in divisions 8.a–b and 8.d	Total discards in divisions 8.a–b and 8.d
1995	2402	482	0	228	3113	-
1996	2216	834	0	938	3988	-
1997	2143	707	0	1068	3917	-
1998	1534	711	0	542	2787	-
1999	924	549	0	0	1473	-
2000	690	341	0	0	1032	-
2001	1240	384	0	0	1624	-
2002	3023	514	0	0	3537	-
2003	4806	508	0	0	5315	434
2004	5227	718	0	0	5945	443
2005	4927	571	0	0	5498	332
2006	4819	420	48	0	5287	219
2007	4935	401	25	0	5361	197
2008	5132	527	7	0	5666	250
2009	4065	374	33	0	4472	569
2010	4043	367	73	0	4483	634
2011	4569	422	93	30	5114	388
2012	4221	430	194	41	4887	497
2013	4105	318	137	0	4560	279
2014	4279	408	174	84	4945	416
2015	4153	293	65	10	4521	528
2016	3561	283	69	5	3919	529
2017	2886	203	66	0	3154	263
2018	2844	156	15	3	3018	58
2019	1987	130	64	0	2181	50
2020	1666	129	57	0	1852	545
2021	1973	151	29	0	2153	706
2022^	1850	219	64	0	2134	567
2023^	2012	188	0	0	2200	277

^ Preliminary official landings data.

Summary of the assessment

Table 9 White anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. Assessment summary. Weights are in tonnes, recruitment in thousands. High and Lowrefer to 95% confidence intervals.

Year	Recruitment			Stock size			Catch		Fishing pressure		
	Low	R_{age0}	High	Low	SSB	High	Landings	Discards	Low	$F_{ages3–15}$	High
	thousands			tonnes			tonnes				
1986	57324	75484	99397	50659	61959	75780	24981		0.125	0.165	0.22
1987	123269	150744	184343	49355	62467	79063	23090		0.132	0.174	0.23
1988	24135	37973	59744	52962	64404	78317	21314		0.125	0.164	0.21
1989	37503	49573	65529	45865	56203	68870	24015		0.148	0.192	0.25
1990	9005	14466	23241	37620	46644	57832	20983		0.147	0.192	0.25
1991	41650	53936	69847	32311	40528	50833	16763		0.143	0.187	0.24
1992	114653	140873	173090	33709	42251	52957	13617		0.133	0.175	0.23
1993	101896	130260	166520	29443	37380	47457	14895		0.136	0.177	0.23
1994	77470	102850	136545	25668	32942	42279	17201		0.136	0.176	0.23
1995	63473	84352	112100	20401	26508	34444	21033		0.149	0.192	0.25
1996	21990	33653	51501	17991	23468	30613	23333		0.161	0.20	0.26
1997	37592	50301	67307	22000	28003	35645	22983		0.174	0.22	0.28
1998	39950	53631	71997	25668	31970	39820	20474		0.181	0.23	0.29
1999	106798	128054	153540	26467	32777	40592	18792		0.195	0.25	0.32
2000	22147	34221	52876	24679	30670	38116	14451		0.155	0.184	0.22
2001	238035	273513	314278	21434	26908	33779	17293		0.188	0.22	0.27
2002	92474	111871	135337	18204	23117	29357	22083		0.194	0.23	0.27
2003	83036	93983	106373	15978	20402	26053	27933	2511	0.22	0.25	0.29

Year	Recruitment			Stock size			Catch		Fishing pressure		
	Low	R_{age0}	High	Low	SSB	High	Landings	Discards	Low	$F_{ages3–15}$	High
	thousands			tonnes			tonnes				
2004	200427	219763	240965	18373	22951	28670	29028	2411	0.195	0.22	0.26
2005	88931	100522	113624	16599	20722	25870	27869	2110	0.187	0.21	0.25
2006	36742	42828	49921	27859	33568	40447	27652	892	0.172	0.199	0.23
2007	55953	63320	71657	31295	37326	44520	31213	816	0.194	0.22	0.26
2008	108345	121162	135496	30793	36841	44076	27053	993	0.176	0.20	0.23
2009	167356	184316	202995	37505	44677	53222	21835	2078	0.164	0.191	0.22
2010	134224	148469	164226	37520	44828	53559	22215	2672	0.146	0.169	0.196
2011	94493	105809	118481	33498	40297	48477	24657	1832	0.138	0.158	0.182
2012	99209	110689	123497	30680	37017	44664	28188	2330	0.152	0.175	0.20
2013	88300	99338	111755	31923	38436	46278	30611	1684	0.153	0.175	0.20
2014	206482	226697	248891	38659	46144	55078	28474	1859	0.157	0.181	0.21
2015	91244	104365	119372	42787	50949	60667	27859	2324	0.138	0.159	0.183
2016	64800	76326	89902	43787	52149	62108	29083	3585	0.154	0.179	0.21
2017	44171	52710	62900	42917	51314	61353	25634	2175	0.141	0.165	0.193
2018	124426	140216	158010	41529	49874	59896	22345	1250	0.121	0.141	0.166
2019	100368	115362	132597	50363	60181	71912	20832	1364	0.111	0.131	0.154
2020	129129	146868	167043	51859	62064	74276	20037	1350	0.109	0.128	0.150
2021	60295	70796	83125	49792	59842	71919	22040	1839	0.122	0.144	0.171
2022	108327	126322	147306	44079	53491	64913	21343	1552	0.110	0.132	0.157
2023		110213*		45814	55830	68037	20918	1404	0.101	0.122	0.147
2024		110549*		47526	58152	71154					

*Assumed recruitment based on stock recruitment relationship.

Sources and references

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