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 maximum sustainable yield (MSY) approach is applied, catches in 2026 should be no more than 36 090 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 a combined species total allowable catch (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

Conservation aspects and associated management measures may exist at a national or regional level but were not reviewed by ICES.

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}.

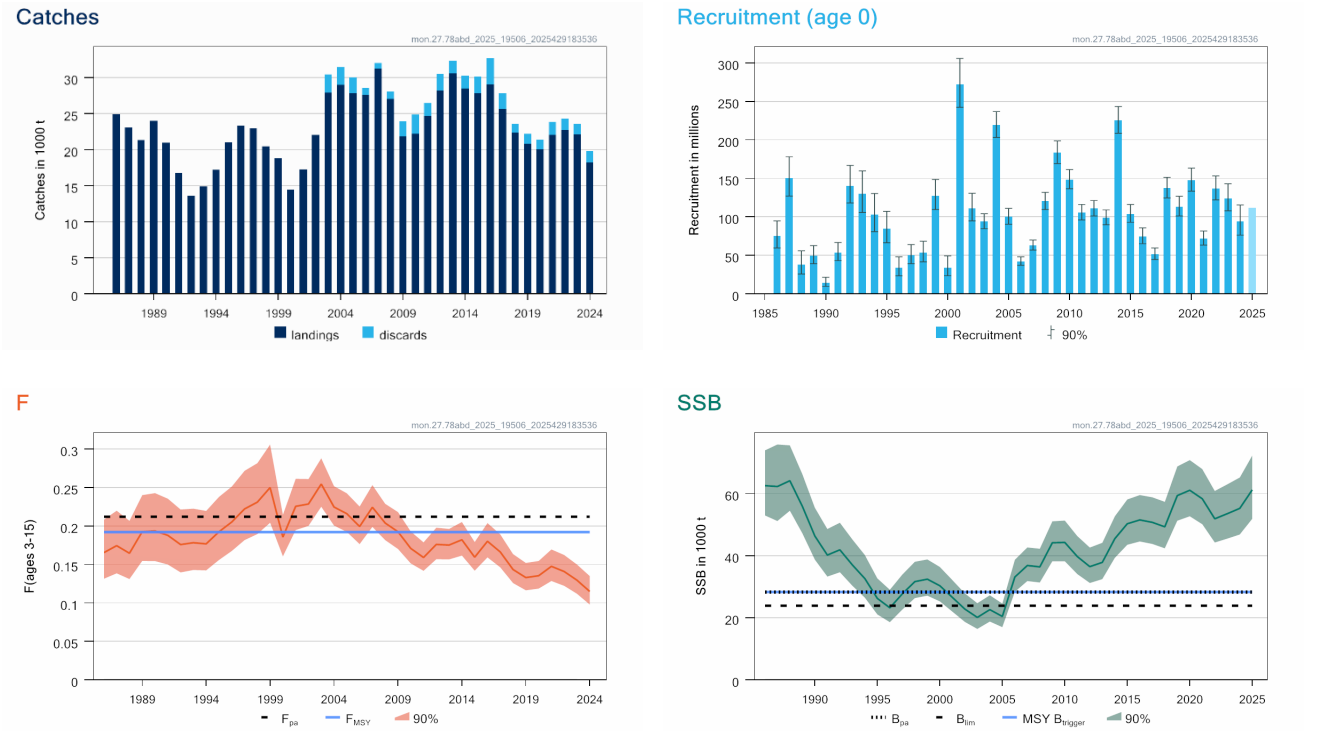

Figure 1 White anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. Summary of the stock assessment. Discard observations are available since 2003. The assumed recruitment value for 2025 is shaded in a lighter colour.

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
$F_{ages\ 3–15}$ (2025)	0.115	Average exploitation pattern (2022-2024), scaled to $F_{ages\ 3–15}$ in 2024
Spawning-stock biomass (SSB; 2026)	60 443	Short-term forecast (STF); in tonnes
$R_{age\ 0}$ (2025)	111 552	Predicted from stock-recruitment relationship; in thousands
$R_{age\ 0}$ (2026)	111 449	Predicted from stock-recruitment relationship; in thousands
Catch (2025)	22 088	STF; in tonnes
Projected landings (2025)	19 612	STF assuming mean landings ratio-at-age, last three years, 2022–2024; in tonnes
Projected discards (2025)	2 476	STF assuming mean discards ratio-at-age, last three years, 2022–2024; 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: there is no TAC rollover scenario and the change in TAC is not computed because the TAC is for both species of anglerfish.

Basis	Total catch (2026)	Projected landings (2026)	Projected discards (2026)	$F_{ages\ 3–15}$ total (2026)	$F_{ages\ 3–15}$ projected landings (2026)	$F_{ages\ 3–15}$ projected discards (2026)	Spawning-stock biomass (SSB) (2027)	% SSB change *	% advice change^
ICES advice basis									
Maximum sustainable yield (MSY) approach = F_{MSY}	36090	31928	4162	0.192	0.190	0.00155	59745	−1.15	3.2
Other scenarios									
F = MAP^^ $F_{MSY\ lower}$	25403	22477	2926	0.131	0.130	0.00106	63669	5.3	−27
F = MAP^^ $F_{MSY\ upper}$	39449	34898	4551	0.212	0.21	0.00171	58513	−3.2	12.8
F = 0	0	0	0	0	0	0	72993	21	−100
F_{PA}	39449	34898	4551	0.212	0.21	0.00171	58513	−3.2	12.8
$SSB_{2027} = B_{lim}$	134601	118711	15890	1.08	1.07	0.0087	23868	−61	280
$SSB_{2027} = B_{pa}$ = MSY $B_{trigger}$	122309	107942	14368	0.91	0.90	0.0073	28275	−53	250
$SSB_{2027} = SSB_{2026}$	34190	30248	3942	0.181	0.179	0.00146	60443	0	−2.3
$F = F_{2025}$	22454	19869	2585	0.115	0.114	0.00093	64751	7.1	−36
Catch advice 2026 = catch advice 2025	34983	30949	4034	0.185	0.184	0.0015	60152	−0.48	0.00

* SSB 2027 relative to SSB 2026 (60 443 tonnes).
^ Advice value for 2026 relative to advice value for 2025 (34 983 tonnes).
^^ EU multiannual plan (MAP) for the Western Waters and adjacent waters (EU, 2019).

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	Maximum sustainable yield (MSY) approach
Management plan	ICES is aware of the EU multiannual plan (MAP) for stocks in the Western Waters and adjacent areas that has been agreed for this stock (EU, 2019) and considers it to be precautionary. There is no agreement between the EU and UK regarding this plan, and it is not used as the basis of the advice for this straddling stock. ICES provides catch scenarios consistent with the F_{MSY} ranges in the MAP.

Quality of the assessment

The perception of stock status is consistent with previous assessments.

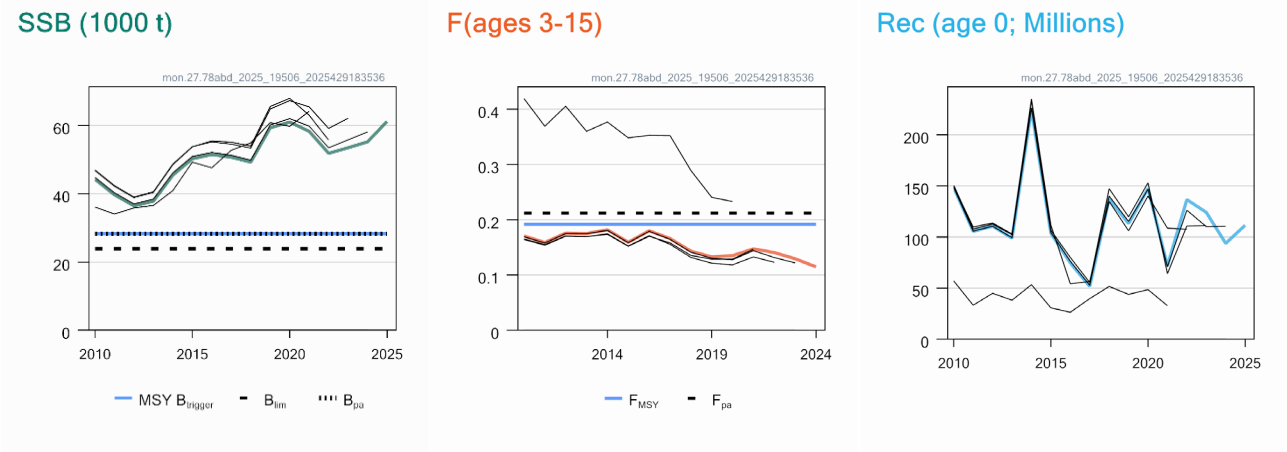

Figure 2 White anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. Historical assessment results. The reference points and assessment results were revised following a benchmark in 2022, and only the last four assessment results should be compared to the reference points indicated.

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 the two anglerfish species under a combined TAC prevents effective control of the single-species exploitation rates and could lead to the 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
Maximum sustainable yield (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	Spawning-stock biomass $(SSB)_{2004}$; 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_{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	Capped by F_{PA}	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 (2023a)
Assessment type	Length-based, sex-disaggregated and age-structured Stock Synthesis model that uses catches in the model and in the forecast (ICES, 2025)
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]). Constant length dependent maturity, sex- and age-dependent natural mortality, and growth and length-weight parameters.
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 total allowable catch (TAC), and ICES estimates of landings and catch. Weights are in tonnes.

Year	*L. piscatorius*		Combined *L. budegassa* + *piscatorius*			*L. piscatorius*	
	ICES advice**, #	Catch corresponding to advice **, #	Landings corresponding to advice**, #	Agreed TAC *	ICES landings***	ICES estimated landings	ICES estimated catches
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.* spawning-stock biomass (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	*L. piscatorius*		Combined *L. budegassa* + *piscatorius*			*L. piscatorius*	
	ICES advice**, #	Catch corresponding to advice **, #	Landings corresponding to advice**, #	Agreed TAC *	ICES landings***	ICES estimated landings	ICES estimated catches
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	Maximum sustainable yield (MSY) approach	≤ 31042	≤ 41841	41370	30512	20832	22196
2020	Management plan	31798 (range 21248–42331) ##	≤ 44757	44307	29377	20702^	22057^
2021	Management plan	34579 (range 23320–45996) ##	≤ 50130	38123	31005	22040	23878
2022	MSY approach	≤ 34275	≤ 52936	52205	32741	22705^	24278^
2023	MSY approach	≤ 34540	≤ 57976	57976	32913	22100^	23562^
2024	MSY approach	≤ 35502	≤ 61081	61081	31758	18212	19821
2025	MSY approach	≤ 34983	≤ 60300	60300			
2026	MSY approach	≤ 36090	≤ 58480				

* Includes Division 8.e.
** Includes Division 7.a since 2018 (ICES, 2018).
^ *L. piscatorius* landings and discards were revised for 2020, 2022, and 2023 because of changes to the data provided by UK (Scotland).
# Advice refers to landings up to 2018 and to catches since 2019.
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 2024 as estimated by ICES.

Total catch	Landings					Discards
19 821 tonnes	57% otter trawl demersal fish	4% otter trawl *Nephrops*	15% beam trawl	20% gillnet	4% other gears	1 609 tonnes
	18 212 tonnes					

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. Minor differences in total values are due to rounding.

Year	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	4836	994	0	18850	810
2021	9673	2696	1567	4778	1173	0	19887	1132
2022*	9970	2219	1596	5638	1149	0	20572	1005
2023*^	10328	1980	1364	5259	970	0	19901	1185
2024^	7113	1804	1179	4458	990	0	15544	1377

^ Preliminary ICES estimated data.

* UK (Scotland) revised landings and discards 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, 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. Minor differences in total values are due to rounding.

Year	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	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
2024^	2499	168	0	0	2667	232

^ 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 "Low" refer to 90% confidence intervals.

Year	Recruitment			Spawning-stock biomass (SSB)			Catch		Fishing pressure		
	Low	R_{age0}	High	Low	SSB	High	Landings	Discards	Low	$F_{ages3–15}$	High
1986	59562	75131	94771	52941	62545	73893	24981		0.131	0.165	0.21
1987	126982	150400	178137	51133	62258	75804	23090		0.138	0.174	0.22
1988	25833	37984	55849	54453	64127	75519	21314		0.131	0.165	0.21
1989	39136	49521	62660	47136	55876	66236	24015		0.155	0.193	0.24
1990	9618	14409	21587	38679	46311	55448	20983		0.154	0.194	0.24
1991	43129	53634	66698	33233	40185	48592	16763		0.150	0.188	0.24
1992	117986	140316	166872	34645	41873	50608	13617		0.140	0.176	0.22
1993	105639	129935	159819	30293	37019	45238	14895		0.143	0.178	0.22
1994	80779	102614	130351	26438	32610	40222	17201		0.142	0.177	0.22
1995	66328	84310	107168	21039	26226	32691	21033		0.156	0.192	0.24
1996	23355	33543	48174	18553	23204	29020	23333		0.167	0.21	0.25
1997	39189	50115	64087	22616	27700	33926	22983		0.182	0.22	0.27
1998	41579	53328	68399	26315	31637	38036	20474		0.189	0.23	0.28
1999	109519	127556	148564	27101	32424	38792	18792		0.20	0.25	0.31
2000	23483	34007	49247	25261	30312	36373	14451		0.160	0.186	0.21
2001	242335	272231	305815	21953	26571	32160	17293		0.195	0.23	0.26
2002	94832	111338	130718	18652	22799	27868	22083		0.20	0.23	0.26
2003	84581	93825	104079	16372	20105	24691	27933	2511	0.22	0.25	0.29
2004	203115	219339	236859	18766	22617	27259	29028	2411	0.20	0.22	0.25
2005	90382	100156	110987	16951	20416	24589	27869	2110	0.192	0.22	0.24
2006	37156	42266	48079	28333	33105	38680	27652	892	0.176	0.199	0.23
2007	56901	63081	69933	31796	36826	42652	31213	816	0.199	0.22	0.25
2008	109500	120192	131928	31336	36379	42233	27053	993	0.182	0.20	0.23
2009	169144	183306	198654	38170	44148	51062	21835	2078	0.170	0.193	0.22
2010	136482	148444	161455	38160	44248	51308	22215	2672	0.151	0.171	0.193
2011	96068	105582	116039	34047	39709	46313	24657	1832	0.142	0.159	0.179
2012	101083	110727	121291	31183	36458	42626	28188	2330	0.157	0.176	0.198
2013	89677	98921	109118	32417	37832	44151	30611	1684	0.157	0.175	0.196
2014	208548	225293	243382	39251	45468	52669	28474	1859	0.161	0.182	0.21
2015	92858	103832	116103	43494	50273	58110	27859	2324	0.142	0.159	0.179
2016	65113	74663	85614	44555	51500	59527	29083	3585	0.159	0.180	0.20
2017	44551	51568	59690	43751	50724	58809	25634	2175	0.146	0.166	0.189
2018	124627	137343	151356	42352	49274	57327	22345	1250	0.126	0.143	0.164
2019	101067	113195	126778	51230	59339	68732	20832	1364	0.116	0.133	0.152
2020	133405	147639	163392	52652	61050	70788	20037	1356	0.119	0.135	0.155
2021	63396	71958	81676	50100	58314	67875	22040	1839	0.128	0.148	0.170
2022	122052	136717	153144	44218	51866	60837	22706	1572	0.122	0.141	0.162
2023	107858	124193	143002	45466	53507	62970	22101	1462	0.112	0.130	0.150
2024	76282	93833	115421	46808	55237	65183	18212	1609	0.098	0.115	0.135
2025		111552*		51856	61215	72262					

* Predicted from stock-recruitment relationship.

Sources and references

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