

Black-bellied anglerfish (*Lophius budegassa*) 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 25 317 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 TACs 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 commercial fisheries.

Stock development over time

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

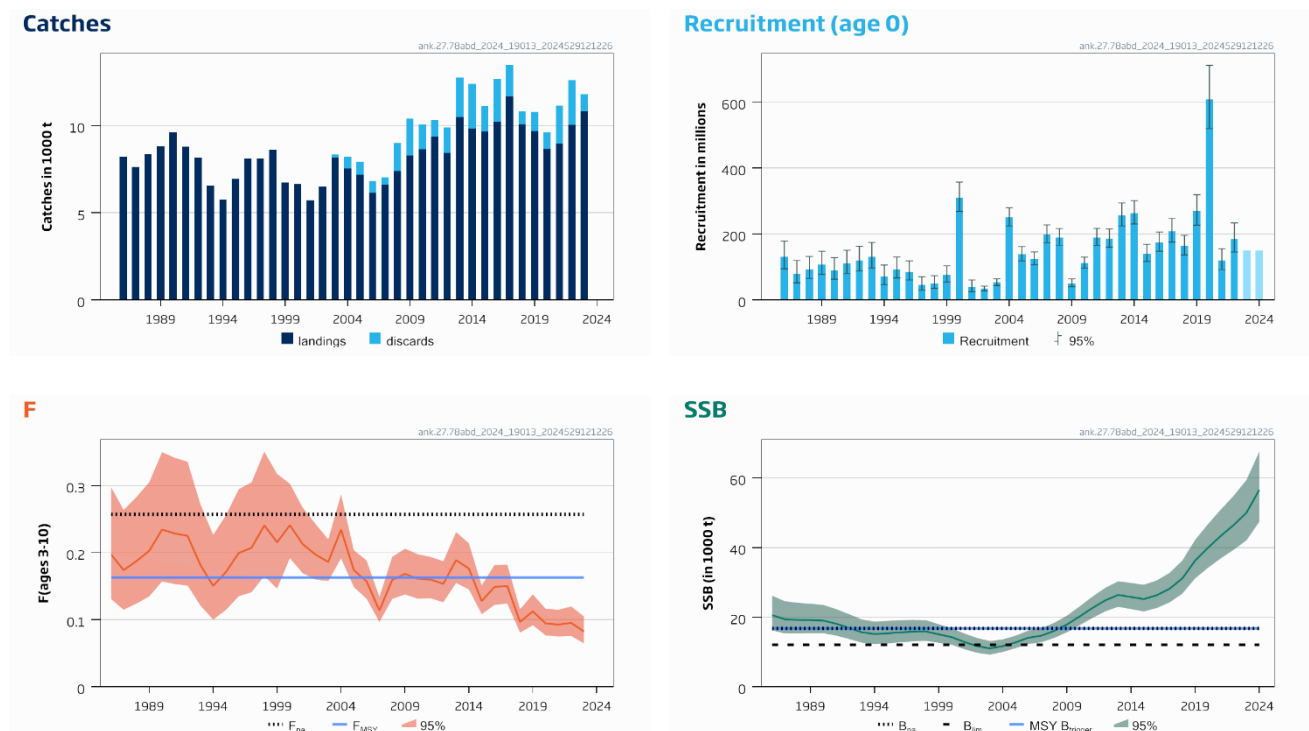


Figure 1 Black-bellied anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. Summary of the stock assessment. Discard observations are available since 2003. The assumed recruitment values for 2023 and 2024 are shaded in a lighter colour.

Catch scenarios

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

Variable	Value	Notes
$F_{\text{ages 3–10}}$ (2024)	0.0902	$F_{\text{ages 3–10}}$ (average 2021–2023)
SSB (2025)	65236	Short-term forecast (STF); in tonnes
$R_{\text{age 0}}$ (2024)	149976	Predicted from stock–recruitment relationship; in thousands
$R_{\text{age 0}}$ (2025)	150676	Predicted from stock–recruitment relationship; in thousands
Catch (2024)	14755	STF; in tonnes
Projected landings (2024)	12058	STF assuming average landings ratio-by-age (2021–2023); in tonnes
Projected discards (2024)	2697	STF assuming average discards ratio-by-age (2021–2023); in tonnes

Table 2 Black-bellied 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)	$F_{\text{ages 3–10}}$ Total (2025)	$F_{\text{ages 3–10}}$ Projected landings (2025)	$F_{\text{ages 3–10}}$ Projected discards (2025)	SSB (2026)	% SSB change*	% advice change**
ICES advice basis									
MSY approach = F_{MSY}	25317	21173	4144	0.163	0.154	0.009	67235	3.1	-1.02
Other options									
$F = \text{MAP}^{\wedge\wedge} F_{\text{MSY lower}}$	17806	14895	2911	0.112	0.106	0.0062	70753	8.5	-30
$F = \text{MAP}^{\wedge\wedge} F_{\text{MSY upper}}$	36670	30656	6014	0.24	0.23	0.0135	61942	-5.1	43
$F = 0$	0	0	0	0	0	0	79138	21	-100
F_{pa}	38260	31983	6277	0.26	0.24	0.014	61203	-6.2	50
$\text{SSB}_{2026} = B_{\text{lim}}$	149928	124539	25389	1.88	1.78	0.104	12073	-81	486
$\text{SSB}_{2026} = B_{\text{pa}} = \text{MSY } B_{\text{trigger}}$	138213	114936	23277	1.55	1.47	0.086	16776	-74	440
$\text{SSB}_{2026} = \text{SSB}_{2025}$	29597	24749	4848	0.193	0.183	0.011	65236	0	15.7
$F = F_{2024}$	14486	12119	2367	0.09	0.085	0.005	72312	10.8	-43
Catch advice (2025) = catch advice (2024)***	25579	21392	4187	0.165	0.156	0.009	67113	2.9	0

* SSB 2026 relative to SSB 2025 (65 236 tonnes).

** Advice value for 2025 relative to advice value for 2024 (25 579 tonnes).

*** Black-bellied anglerfish in Subarea 7 and divisions 8.a–b and 8.d has a combined species TAC, so ICES does not provide a catch option based on the TAC for this species.

^^ EU multiannual plan (MAP) for the Western Waters and adjacent waters (EU, 2019).

The advice for 2025 is 1% lower than the value provided for 2024. While the SSB, which is driven by older age classes, appears to be increasing because of the outstanding large 2020 year class, the exploitable biomass is levelling off because of smaller year classes entering the stock after 2020.

Basis of the advice

Table 3 Black-bellied 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 final year of recruitment is estimated with high uncertainty in the assessment and is therefore replaced by the recruitment estimated from the stock–recruit relationship. This year’s assessment is consistent with previous assessments.

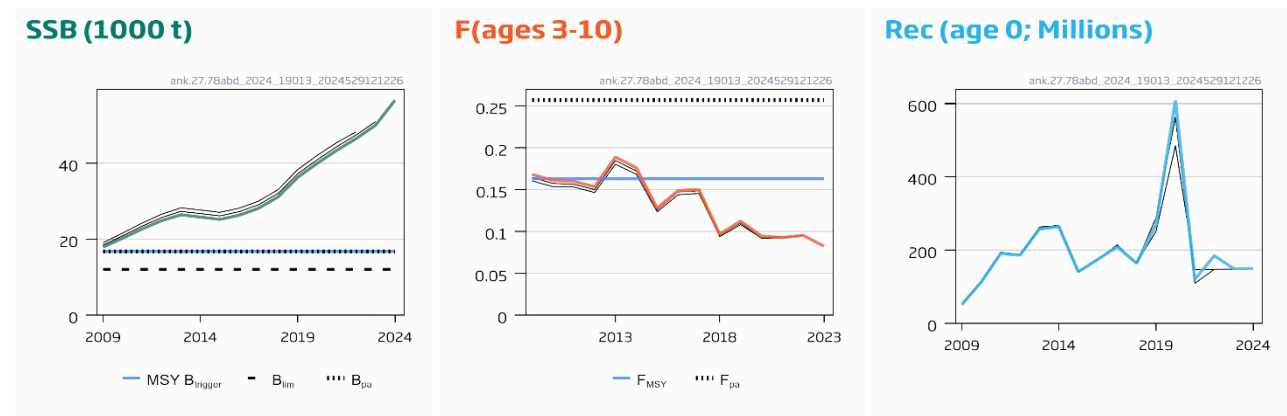


Figure 2 Black-bellied anglerfish in Subarea 7 and in divisions 8.a–8.b and 8.d. Historical assessment results. The basis for the advice has changed from a trends-based analysis (Category 3) to an analytical assessment (Category 1) in 2022, and there are no previous estimates of SSB, F, or R.

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 Black-bellied 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 $B_{trigger}$	16776	B_{pa} ; in tonnes	ICES (2023b)
	F_{MSY}	0.163	Stochastic simulations (EqSim) with Beverton–Holt stock–recruitment relationship estimated by the assessment model	ICES (2023b)
Precautionary approach	B_{lim}	12073	SSB_{2004} ; lowest observed SSB with high recruitment; in tonnes	ICES (2023b)
	B_{pa}	16776	$B_{lim} \times \exp(\sigma \times 1.645)$, where $\sigma = 0.2$; in tonnes	ICES (2023b)
	F_{lim}	Undefined	Inconsistent with F_{pa}	ICES (2023b)
	F_{pa}	0.257	F_{P05} ; the F that leads to $SSB \geq B_{lim}$ with 95% probability	ICES (2023b)
Management plan	MAP MSY $B_{trigger}$	16776	MSY $B_{trigger}$; in tonnes	ICES (2023b)
	MAP B_{lim}	12073	B_{lim} ; in tonnes	ICES (2023b)
	MAP F_{MSY}	0.163	F_{MSY}	ICES (2023b)
	MAP range F_{lower}	0.112	Consistent with ranges resulting in no more than 5% reduction in long-term yield compared with F_{MSY}	ICES (2023b)
	MAP range F_{upper}	0.245	Consistent with ranges resulting in no more than 5% reduction in long-term yield compared with F_{MSY}	ICES (2023b)

Basis of the assessment

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

ICES stock data category	1 (ICES, 2023a)
Assessment type	Length-based age-structured Stock Synthesis model that uses catches in the model and forecast (ICES, 2024).
Input data	Commercial landings and discards and three surveys: IAMS [G3098], IE-IGFS [G7212], and EVHOE [G9527]. The latter two surveys are combined into a single index.
Discards and bycatch	Discard estimates are available since 2003 and used in the assessment
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 Black-bellied 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. Weights are in tonnes. ICES estimated landings and catches were revised at the 2022 benchmark (ICES, 2023b).

Year	<i>L. budegassa</i>	<i>L. budegassa</i>	Combined <i>L. budegassa</i> + <i>piscatorius</i>		<i>L. budegassa</i>		
	ICES advice	Catch/landings corresponding to advice*,**	Catch/landings corresponding to advice*,**	Agreed TAC ***	ICES landings	ICES landings	ICES catches
1986	Not assessed	–	–		33198	8217	
1987	Not assessed	–	–	39080	30710	7620	
1988	Not assessed	–	–	42990	29696	8382	
1989	Not assessed	–	–	42990	32835	8820	
1990	Not assessed	–	–	42990	30615	9632	
1991	No advice	–	–	42990	25543	8780	
1992	No advice	–	–	42990	21793	8176	
1993	SSB is decreasing	–	–	25100	21461	6566	
1994	SSB is decreasing	–	–	23900	22945	5744	
1995	No increase in F	–	20000	23200	27987	6954	
1996	No increase in F	–	30300	30400	31426	8093	
1997	No increase in F	–	34300	34300	31097	8114	
1998	No increase in F	–	33000	34300	29073	8599	
1999	No increase in F	–	32900	34300	25531	6739	
2000	≥ 20% decrease in F	–	< 22300	29600	21096	6645	
2001	Reduce F below F_{pa}	–	< 27600	27600	23021	5728	
2002	Reduce F below F_{pa}	–	< 19900	23700	28588	6505	
2003	≥ 30% decrease in F	–	< 16400	21000	36104	8171	8351
2004	≥ 10% decrease in F	–	< 26700	26700	36565	7537	8213
2005	Maintain $F < F_{pa}$	–	< 37800	31200	35056	7187	7914
2006	Maintain $F < F_{pa}$	–	< 33900	34000	33783	6131	6835
2007	Maintain $F < F_{pa}$	–	< 36000	36000	37821	6608	7021
2008	< average landings	–	< 33000	36000	34452	7399	8985
2009	Same advice as 2008	–	< 33000	36000	30122	8287	10400
2010	No increase in effort	–	–	41400	30841	8626	10062
2011	No increase in effort	–	–	40900	34005	9348	10319
2012	Reduce catch	–	–	38897	36617	8429	9888
2013	Reduce catch <i>pro rata</i> biomass decrease	< 6900	< 24800	36953	41086	10475	12760
2014	Increase landings <i>pro rata</i> biomass increase	< 10757	< 37448	42496	38306	9832	12402
2015	Same advice as 2014	< 10757	< 37448	42496	37508	9649	11109
2016	PA; same as 2015	≤ 10757	≤ 37448	42496	39303	10220	12660
2017	PA; same as 2016	≤ 10757	≤ 37448	42496	37324	11690	13460

Year	<i>L. budegassa</i>	<i>L. budegassa</i>	Combined <i>L. budegassa</i> + <i>piscatorius</i>			<i>L. budegassa</i>	
	ICES advice	Catch/landings corresponding to advice*, **	Catch/landings corresponding to advice*, **	Agreed TAC ***	ICES landings	ICES landings	ICES catches
2018	PA; same as 2017	≤ 10757	≤ 37448	42496	32421	10076	10803
2019	PA (catch advice)	≤ 10799	≤ 41841	41370	30512	9680	10764
2020	PA (catch advice)	≤ 12959	≤ 44757	44307	28713	8676	9601
2021	PA (catch advice)	≤ 15551	≤ 50130	48338	31005	8965	11107
2022	PA (catch advice)	≤ 18661	≤ 52936	52205	31379	10035	12600
2023	MSY approach	≤ 23436	≤ 57976	57976	31731	10813	11790
2024	MSY approach	≤ 25579	≤ 61081	61081			
2025	MSY approach	≤ 25317	≤ 60300				

* Includes Division 7.a since the 2018 benchmark (ICES, 2018).

** PA and MSY advice refer to landings up to 2018 and catches since 2019.

*** Combined TACs for Subarea 7 and divisions 8.a–b and 8.d–e (note that 8.e is not part of the assessment area; however, catches are negligible).

History of catch and landings

Table 7 Black-bellied anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. Catch distribution by fleet in 2023 as estimated by ICES. Weights are in tonnes.

Catch	Landings					Discards
	76% otter trawl demersal fish	9% otter trawl <i>Nephrops</i>	8% beam trawl	5% gillnets	2% others	
11790	10813					977

Table 8 Black-bellied anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. History of the ICES estimates of the catch and landings by area and by country. Weights are in tonnes.

Year	ICES estimated landings from Subarea 7						ICES estimated landings from divisions 8.a, 8.b, and 8.d				ICES estimated: Subarea 7 and divisions 8.a, 8.b, and 8.d		
	ESP	FRA	GBR	IRL	OTH	Total 7	ESP	FRA	OTH	Total 8.a, 8.b, 8.d	Landings	Discards **	Catch
1986	2816	2251	949	262	165	6443	485	1289	0	1775	8217		
1987	2174	1868	805	241	28	5116	953	1551	0	2504	7620		
1988	2316	2572	1160	234	65	6347	695	1341	0	2035	8382		
1989	2445	2932	472	310	275	6434	602	1785	0	2387	8820		
1990	2393	2914	1030	614	109	7061	571	2000	0	2571	9632		
1991	2180	2390	809	858	17	6254	799	1727	0	2526	8780		
1992	1763	2440	1002	774	28	6008	536	1632	0	2168	8176		
1993	1304	1941	727	607	68	4646	589	1331	0	1919	6566		
1994	1374	1820	378	290	86	3948	624	1172	0	1796	5744		
1995	1668	2448	389	630	69	5204	463	1287	0	1750	6954		
1996	1909	2763	576	641	90	5979	525	1589	0	2114	8093		
1997	2143	2804	644	557	38	6185	366	1563	0	1929	8114		
1998	2042	2419	763	1234	53	6510	441	1648	0	2089	8599		
1999	2434	1771	193	529	141	5068	458	1212	0	1670	6739		
2000	2051	1961	167	873	169	5220	445	980	0	1424	6645		
2001	2083	1516	131	580	168	4478	333	918	0	1251	5728		
2002	2451	1710	146	309	119	4734	463	1309	0	1771	6505		
2003	3600	2175	181	180	119	6256	396	1520	0	1916	8171	179	8351
2004	2875	1845	256	224	157	5358	471	1708	0	2178	7537	676	8213
2005	2902	1530	248	365	167	5214	415	1559	0	1974	7187	727	7914
2006	2737	1536	131	200	71	4675	282	1171	2	1456	6131	704	6835
2007	2451	1747	150	348	162	4857	316	1434	1	1751	6608	413	7021
2008	3017	2030	279	508	205	6039	265	1095	1	1360	7399	1585	8985
2009	3498	1635	304	797	244	6478	293	1515	2	1809	8287	2113	10400
2010	2866	2179	469	981	316	6812	317	1490	8	1815	8626	1436	10062
2011	3812	1863	418	941	382	7416	503	1423	8	1933	9348	971	10319
2012	2888	2032	365	621	53	5959	692	1612	167	2471	8429	1459	9888
2013	3896	2211	484	615	68	7274	790	2032	379	3200	10475	2285	12760
2014	1629	2829	862	720	74	6114	945	2526	246	3718	9832	2570	12402
2015	1384	2945	1046	839	69	6284	749	2480	136	3365	9649	1460	11109
2016	1118	2881	1063	970	94	6127	918	2968	206	4093	10220	2441	12660
2017	1287	4255	1183	793	0	7518	941	3000	231	4172	11690	1770	13460
2018	890	3443	898	1110	0	6341	766	2807	161	3734	10076	727	10803
2019	1366	3500	993	940	0	6800	645	2156	79	2880	9680	1084	10764
2020	1538	2575	757	1445	187	6502	611	1547	16	2174	8676	926	9601
2021	1548	3790	1309	721	78	7445	422	1085	13	1520	8965	2141	11107
2022 *	1758	4345	873	995	213	8185	527	1321	3	1851	10035	2564	12600
2023 *	1789	3705	481	1580	421	7975	921	1917	0	2838	10813	977	11790

* Preliminary catch statistics.

** Discard estimates are assumed to include BMS landings.

Summary of the assessment

Table 9 Black-bellied anglerfish in Subarea 7 and in divisions 8.a–b and 8.d. Assessment summary. High and Low refer to 95% confidence intervals. Weights are in tonnes, recruitment in thousands. Discard observations are available since 2003.

Year	Recruitment (age 0)			Stock size			Landings	Discards	F _{ages 3–10}		
	Low	R	High	Low	SSB	High	tonnes		Low	F	High
1986	94775	130199	178864	16229	20639	26247	8217		0.131	0.198	0.3
1987	52087	79097	120114	15335	19432	24622	7620		0.115	0.174	0.26
1988	65412	92943	132061	15283	19216	24161	8382		0.124	0.187	0.28
1989	77931	107438	148117	15392	19178	23896	8820		0.135	0.2	0.31
1990	63208	90146	128566	15400	19053	23571	9632		0.157	0.23	0.35
1991	79932	109854	150978	14720	18147	22372	8780		0.153	0.23	0.34
1992	87978	119711	162890	13756	16970	20935	8176		0.151	0.23	0.34
1993	97152	130268	174672	12695	15691	19394	6566		0.121	0.182	0.27
1994	46476	70260	106217	12276	15181	18774	5744		0.1	0.151	0.23
1995	66873	93405	130463	12476	15381	18961	6954		0.115	0.171	0.26
1996	60928	85026	118653	12783	15657	19177	8093		0.135	0.2	0.29
1997	29823	45747	70173	13054	15856	19259	8114		0.141	0.21	0.3
1998	35277	51078	73955	13217	15924	19186	8599		0.165	0.24	0.35
1999	54611	75247	103680	12652	15099	18019	6739		0.146	0.22	0.32
2000	268339	309978	358078	12120	14306	16886	6645		0.192	0.24	0.3
2001	24879	38903	60830	10822	12894	15363	5728		0.169	0.21	0.27
2002	27343	34021	42330	9762	11712	14052	6505		0.16	0.197	0.24
2003	43747	53058	64349	9247	11044	13189	8171	179	0.158	0.186	0.22
2004	224849	250809	279766	10019	11694	13650	7537	676	0.191	0.23	0.29
2005	118739	138666	161937	11095	12780	14722	7187	727	0.149	0.174	0.2
2006	106932	124908	145906	12311	14119	16193	6131	704	0.131	0.157	0.188
2007	174071	199232	228030	12785	14692	16884	6608	413	0.097	0.114	0.134
2008	166214	189829	216799	14032	16057	18374	7399	1585	0.131	0.159	0.194
2009	40488	50974	64174	15670	17902	20452	8287	2113	0.138	0.168	0.21
2010	96340	112013	130236	17705	20247	23154	8626	1436	0.131	0.161	0.198
2011	166119	189904	217094	19794	22671	25965	9348	971	0.132	0.16	0.194
2012	160194	185937	215817	21697	24860	28485	8429	1459	0.126	0.154	0.187
2013	224796	257321	294552	22996	26421	30356	10475	2285	0.155	0.189	0.23
2014	230682	263815	301707	22327	25830	29884	9832	2570	0.145	0.176	0.21
2015	116734	140460	169008	21655	25210	29347	9649	1460	0.108	0.128	0.151
2016	147782	174654	206412	22649	26322	30590	10220	2441	0.122	0.149	0.182
2017	175436	208488	247766	24230	28173	32758	11690	1770	0.124	0.15	0.182
2018	136613	163697	196150	26752	31169	36316	10076	730	0.081	0.097	0.116
2019	227242	269417	319420	31163	36294	42270	9680	1099	0.092	0.113	0.138
2020	519763	608417	712192	34162	39973	46772	8676	939	0.077	0.094	0.116
2021	92161	119672	155396	36917	43382	50980	8965	2166	0.075	0.093	0.115

Year	Recruitment (age 0)			Stock size			Landings	Discards	F _{ages 3–10}		
	Low	R	High	Low	SSB	High	tonnes		Low	F	High
2022	145644	184532	233804	39357	46490	54917	10035	2564	0.076	0.095	0.12
2023		149284*		42070	50017	59467	10813	977	0.065	0.083	0.105
2024		149976*		47395	56618	67636					

* Assumed recruitment based on stock–recruitment relationship.

Sources and references

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[Download the stock assessment data and figures.](#)

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