

ICES advice for North Western Waters stocks for 2023

NWWAC meeting, July 3, 2023

CELTIC SEA and West of Scotland

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Science for sustainable seas

Image Dirk Vonten, Fotolia

Introduction – Celtic Sea and West of Scotland

- Includes advice released up to 30 June 2023.
- Stocks managed by EU and UK: advice provided on the basis of MSY or PA but EU MAP option provided in catch scenario table if available.
- Any change in advice rules given in sheets.
- Advice for nephrops, megrim 6b, elasmobranchs, **cod 6a** released in the autumn

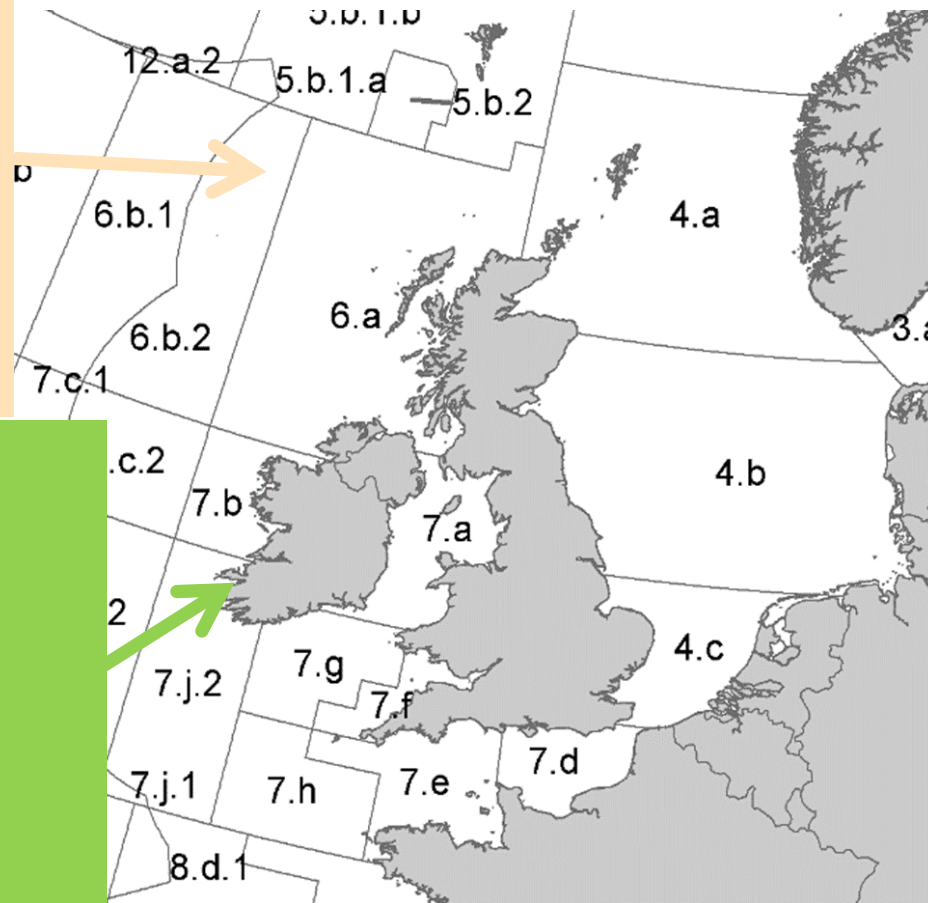
Celtic Sea & West, Southwest Ireland + West of Scotland

West of Scotland & Rockall (6.ab)

- Cod (6.a; 6.b)
- Haddock (4,6.a,sub 20; 6.b)
- Whiting (6.a; 6.b)
- Anglerfish (3.a,4,6)
- Megrin (4.a-6.a; 6.b)
- Saithe 3.a 4, 6
- *Nephrops* (FUs11-12-13)

Celtic Sea & West, Southwest Ireland

- Cod (7.e-k)
- Haddock (7.b-k)
- Plaice (CS; 7.h-k; 7.bc)
- Sole (CS; 7.b-c;7.h-k; 7.bc)
- Northern hake
- Anglerfish (7.b-k, 8.abd)
- Megrin (7.b-k, 8.abd)
- Pollack (6,7)
- *Nephrops* (FUs 16-17-20-22)



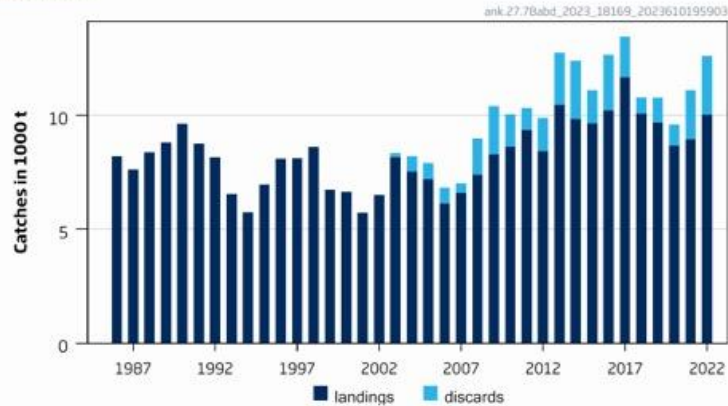
Celtic Seas



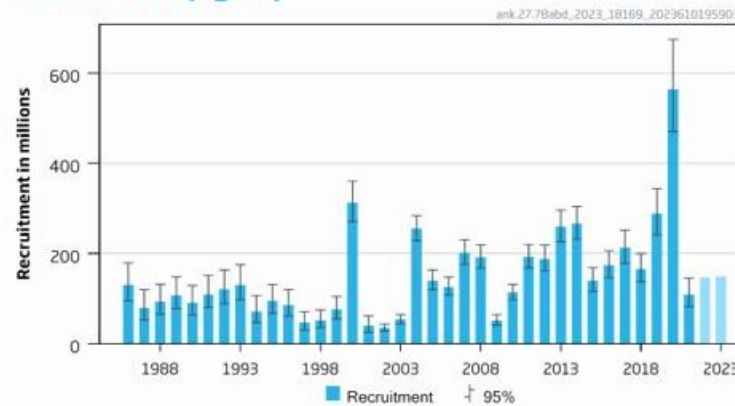
Black-bellied anglerfish in Subarea 7 and divisions 8.a–b, and 8.d

Advice for 2024 : MSY: Catch $\leq 25\,579\text{t}$ advice +9%

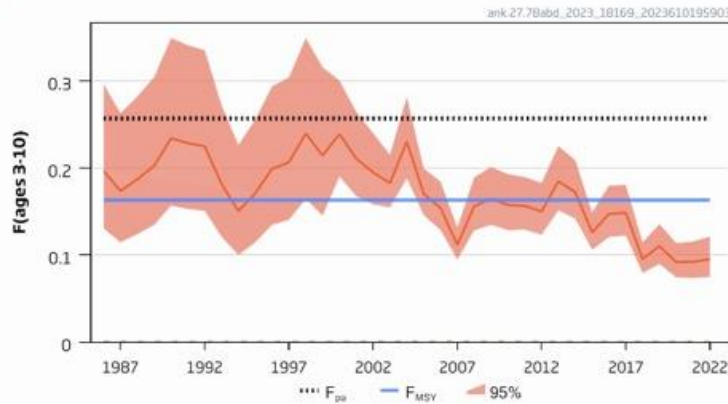
Catches



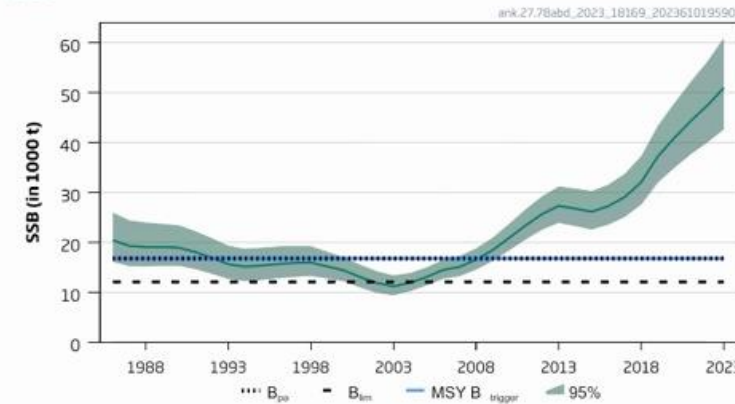
Recruitment (age 0)



F



SSB



- F has been decreasing: below F_{MSY}
- SSB has been increasing since 2002: above $MSY B_{trigger}$
- Recruitment very high 2020
- Advice higher because stock has continued to increase

Black-bellied anglerfish in Subarea 7 and divisions 8.a–b, and 8.d

Catch (2022) = 12 600t (20 % discards)

F(2023) = 0.093 (Fsq: average 2020-2022)

SSB (2024)= 56 821 > MSY_{Btrigger} (16 776) F_{MSY}= 0.163

Basis	Total catch (2024)	Projected landings* (2024)	Projected discards** (2024)	F _{ages 3–10} Total (2024)	F _{ages 3–10} Projected landings (2024)	F _{ages 3–10} Projected discards (2024)	SSB (2025)	% SSB change ***	% advice change ^
MSY approach = F _{MSY}	25579	21175	4404	0.163	0.155	0.0081	60186	5.9	9.1
Other options									
F _{MSY} lower	17990	14896	3094	0.112	0.106	0.0056	63335	11.5	-23
F _{MSY} upper	37050	30659	6390	0.24	0.23	0.0122	55448	-2.42	58
F = 0	0	0	0	0	0	0	70841	25	-100
F _{pa}	38656	31987	6669	0.26	0.24	0.0128	54786	-3.6	65
SSB ₂₀₂₅ = B _{lim}	147906	121633	26273	1.77	1.68	0.088	12073	-79	531
SSB ₂₀₂₅ = B _{pa} = MSY B _{trigger}	134868	111042	23825	1.44	1.37	0.072	16776	-70	475
SSB ₂₀₂₅ = SSB ₂₀₂₄	33718	27906	5812	0.22	0.21	0.0110	56821	0	44
F = F ₂₀₂₃	15096	12501	2595	0.093	0.089	0.0046	64539	13.6	-36

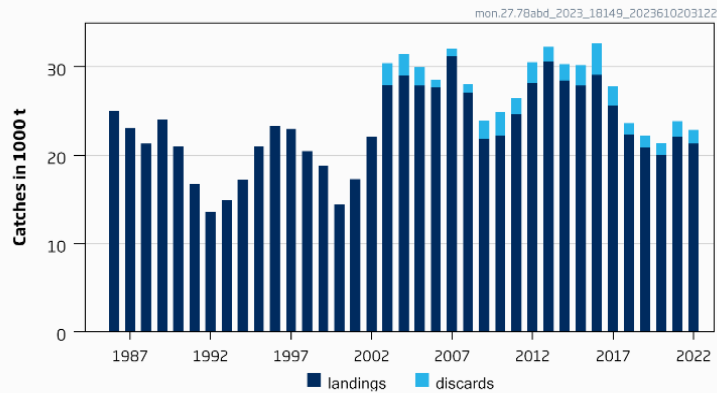
Length based stock synthesis

Note: Under combined TAC with white anglerfish – could lead to overexploitation of either species

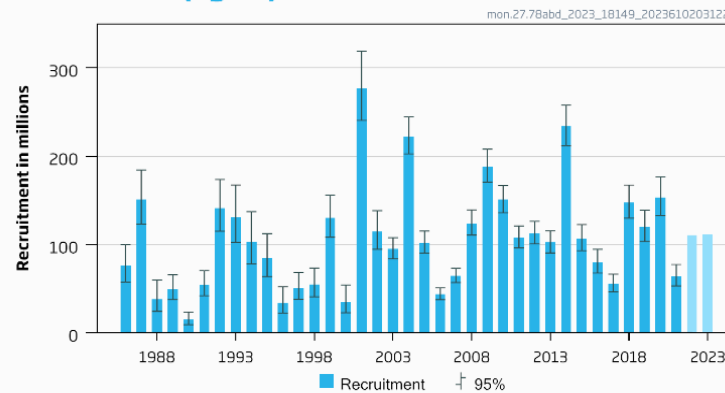
White anglerfish in Subarea 7 and div. 8.a-b,d (Celtic Sea, Bay of Biscay)

Advice for 2024 : MSY : Catch \leq 35 502t advice +3%

Catches

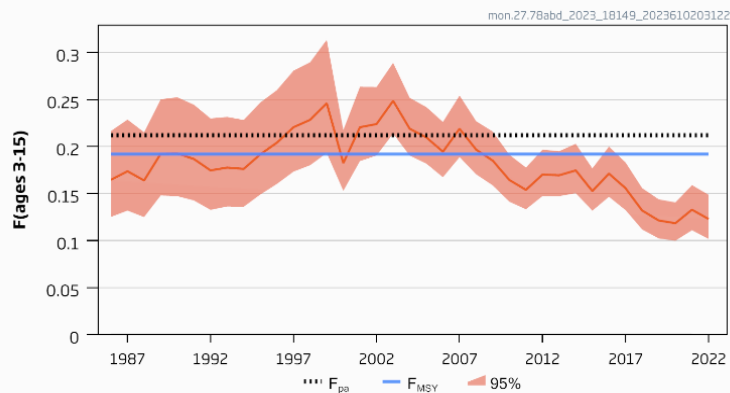


Recruitment (age 0)

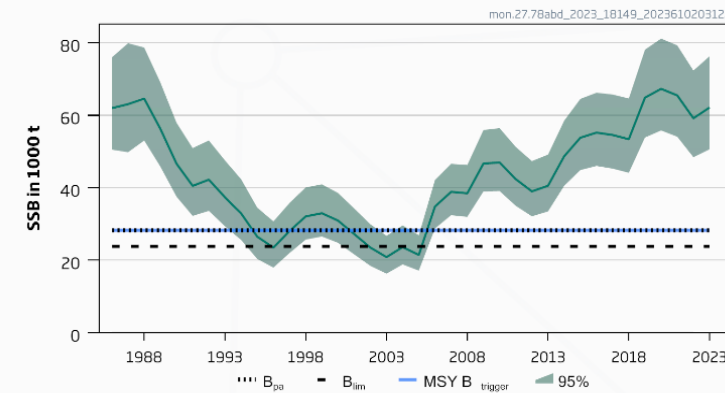


- F decreasing: below F_{MSY}
- SSB increasing since 2012 to 2020 and relative stable since: above MSY B trigger

F



SSB



White anglerfish in Subarea 7 and div. 8.a-b,d (Celtic Sea, Bay of Biscay)

Catch (2022) : 22 895t (7 % discards)

F(2023) = 0.125 (Average 2020-2022);

SSB (2024)= 64 207 > MSY_{Btrigger} (28 275 t) F_{MSY} = 0.192

Basis	Total catch (2024)	Projected landings* (2024)	Projected discards** (2024)	F _{ages 3-15} Total (2024)	F _{ages 3-15} Projected landings (2024)	F _{ages 3-15} Projected discards (2024)	SSB (2025)	% SSB change ***	% advice change^
ICES advice basis									
MSY approach = F _{MSY}	35502	31090	4411	0.192	0.190	0.00170	64669	0.72	2.8
Other scenarios									
F _{MSY} lower	24976	21876	3100	0.131	0.130	0.00116	68929	7.4	-28
F _{MSY} upper	38811	33987	4824	0.21	0.21	0.00188	63331	-1.36	12.4
F = 0	0	0	0	0	0	0	79055	23	-100
F _{pa}	38811	33987	4824	0.21	0.21	0.00188	63331	-1.36	12.4
SSB ₂₀₂₅ = B _{lim}	138080	120497	17584	1.15	1.14	0.0102	23868	-63	300
SSB ₂₀₂₅ = B _{pa} = MSY B _{trigger}	126690	110634	16056	0.99	0.98	0.0087	28275	-56	267
SSB ₂₀₂₅ = SSB ₂₀₂₄	36645	32091	4554	0.199	0.197	0.00176	64207	0	6.1
F = F ₂₀₂₃	23873	20911	2962	0.125	0.124	0.00111	69375	8.0	-31

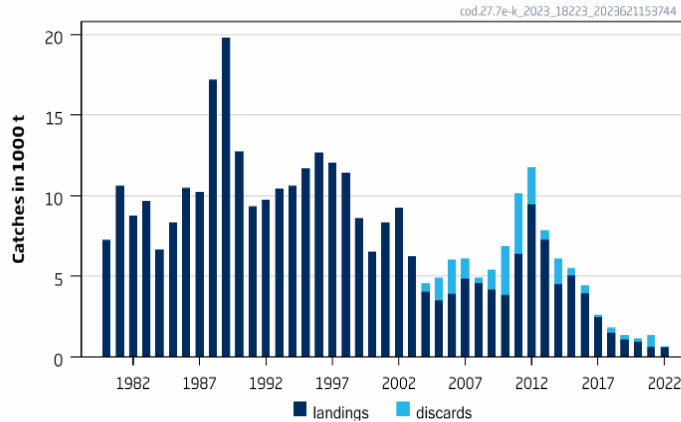
Length based
age
structured
stock
synthesis

Note: Under combined TAC with black bellied anglerfish – could lead to overexploitation of either species

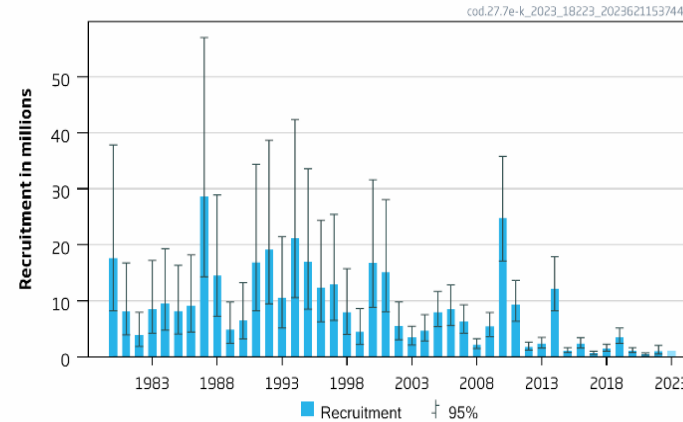
Cod in the western English Channel and southern Celtic Seas (7.e-k)

Advice for 2024: MSY: Catch = 0 t advice: no change

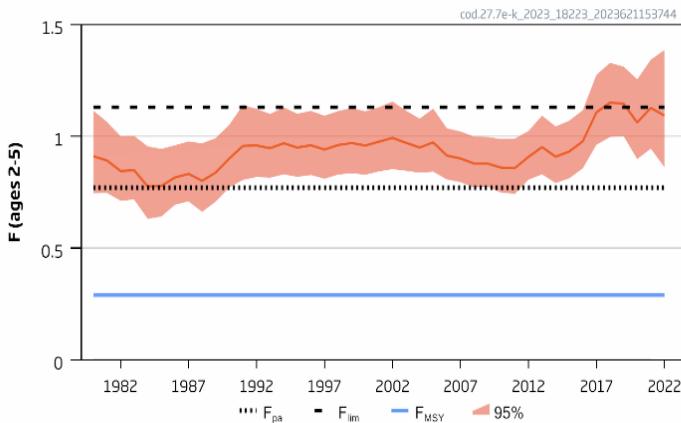
Catches



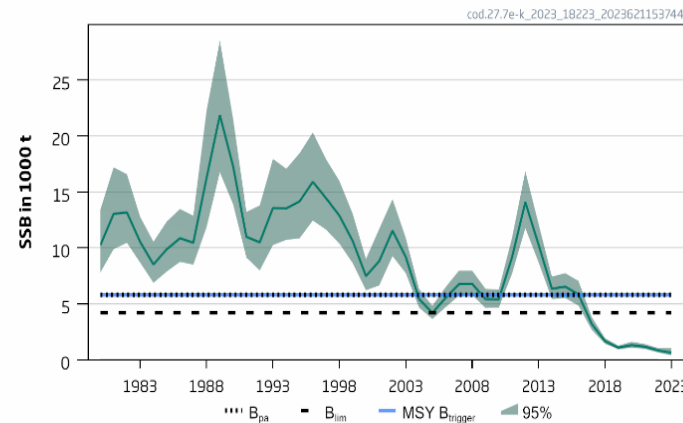
Recruitment (age 1)



F



SSB



- Fishing pressure above F_{MSY}
- Spawning stock below B_{lim}
- Recruitment low
- No catch scenario brings stock above B_{lim}
- Some tendency to overestimate SSB and recruitment

Cod in the western English Channel and southern Celtic Seas(7.e–k)

Catch (2022) : 648 t (12 % discards)

F(2023) =1.09 (Fsq – average 2020-2022)

SSB (2024)= 733 t < B_{lim} (7 300 t) F_{MSY}= 0.29

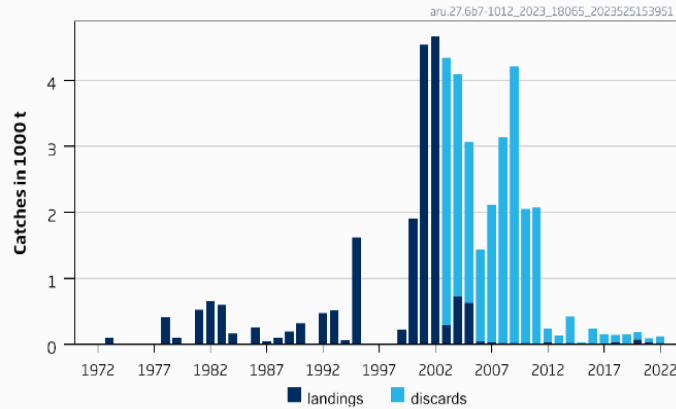
Basis	Total catch (2024)	F _{total} (2024)	SSB (2025)	% SSB change*
ICES advice basis				
MSY approach: F = 0	0	0	2265	209
Other scenarios				
F _{MSY} × SSB ₂₀₂₄ /MSY B _{trigger}	48	0.04	2189	199
EU MAP** : F _{MSY lower} × SSB ₂₀₂₄ /MSY B _{trigger}	29	0.02	2221	203
EU MAP** : F _{MSY upper} × SSB ₂₀₂₄ /MSY B _{trigger}	68	0.05	2159	195
F = F _{MSY}	343	0.29	1734	137
F = F _{MSY lower}	212	0.170	1937	164
F = F _{MSY upper}	460	0.41	1553	112
F = F _{lim}	959	1.13	818	12
F = F _{pa}	747	0.77	1123	53
SSB ₂₀₂₅ = SSB ₂₀₂₄	1019	1.26	733	0
F = F ₂₀₂₃	940	1.09	844	15
SSB ₂₀₂₅ = B _{lim} ***				
SSB ₂₀₂₅ = B _{pa} = MSY B _{trigger} ***				

- **Caught in mixed fisheries with haddock and whiting.**
- **Mixed fisheries advice to be provided in autumn.**
- **Stock includes the south of Division 7.a (rectangles 33E2-33E3)**
- **SAM assessment**

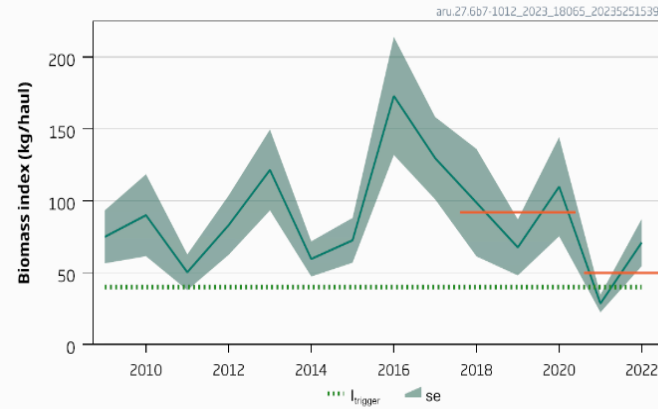
Greater Silver Smelt subareas 7-10, 12 and division 6b other areas

Advice for 2024 and 2025, MSY: Catch \leq 87t Landings \leq 16 t

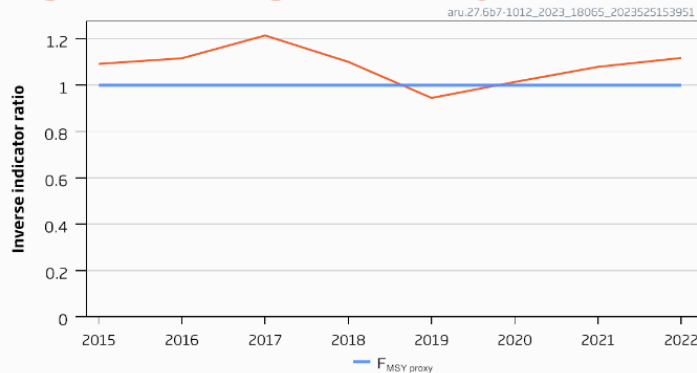
Catches



Biomass index



Length-based Fishing Pressure Proxy



- New DLS method - rfb
- F above FMSY proxy
- Biomass in last 2 years lower than in previous 3 but above Itrigger
- Index is Spanish Porcupine Bank survey
- Decreased advice: decrease in survey index, new method, stability clause applied
- Landings assume average discard rate of last 7 years
- Survey doesn't cover whole stock area but is where most catch is taken

Greater Silver Smelt subareas 7-10, 12 and division 6b other areas

Catch (2022) : 126 t (87% discards)



12

rfb rule

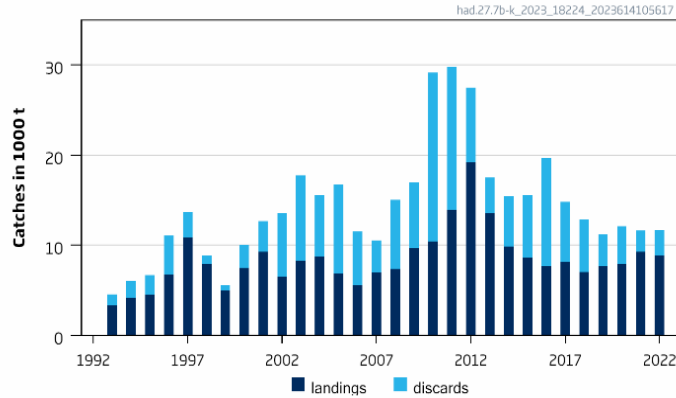
Previous catch advice A_y (2023)	124 tonnes	
Stock biomass trend		
Index A (2021, 2022)	50 kg haul ⁻¹	
Index B (2018, 2019, 2020)	92 kg haul ⁻¹	
r: Index ratio (A/B)	0.54	
Fishing pressure proxy		
Mean catch length ($L_{\text{mean}} = L_{2022}$)	23 cm	
MSY proxy length ($L_{F=M}$)	26 cm	
f: multiplier for relative mean length in catches ($L_{2022}/L_{F=M}$)	0.90	
Biomass safeguard		
Last index value (I_{2022})	71 kg haul ⁻¹	
Index trigger value ($I_{\text{trigger}} = I_{\text{loss}} \times 1.4$)	40 kg haul ⁻¹	
b: multiplier for index relative to trigger $\min\{I_{2022}/I_{\text{trigger}}, 1\}$	1.00	
Precautionary multiplier to maintain biomass above B_{lim} with 95% probability		
m: multiplier (generic multiplier based on life history)	0.90	
rfb calculation**	54 tonnes	
Stability clause (+20%/-30% compared to A_y , only applied if $b \geq 1$)	Applied	0.7
Discard rate ^^	82%	
Catch advice for 2024 and 2025 ($A_y \times$ stability clause)	87 tonnes	
Projected landings corresponding to advice***	16 tonnes	
% advice change^	-30%	

- $A_{y+1} = A_y \times r \times f \times b \times m$
- Stability clause applied

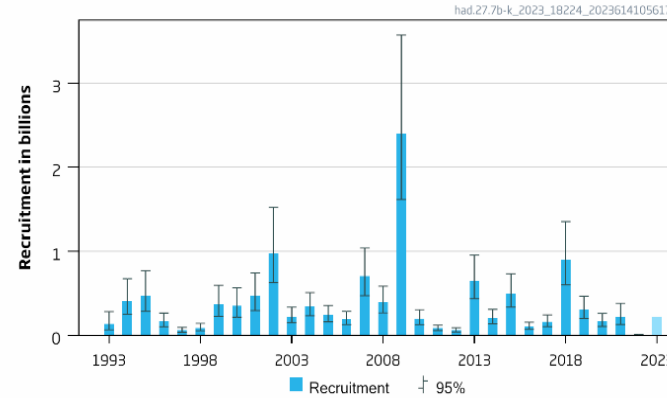
Haddock in the southern Celtic Seas and English Channel (7.b–k)

Advice for 2024: MSY: Catch \leq 8 252 t advice -31%

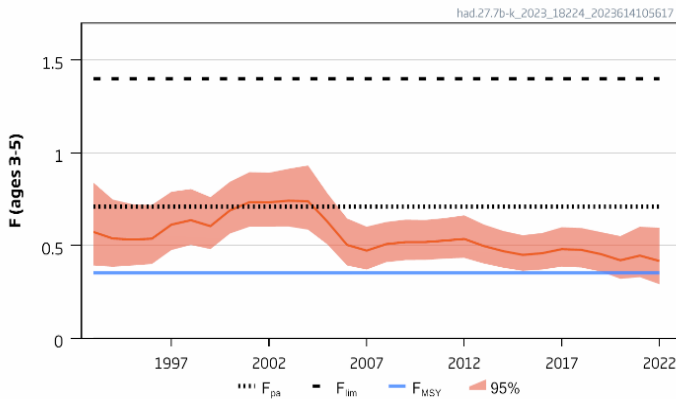
Catches



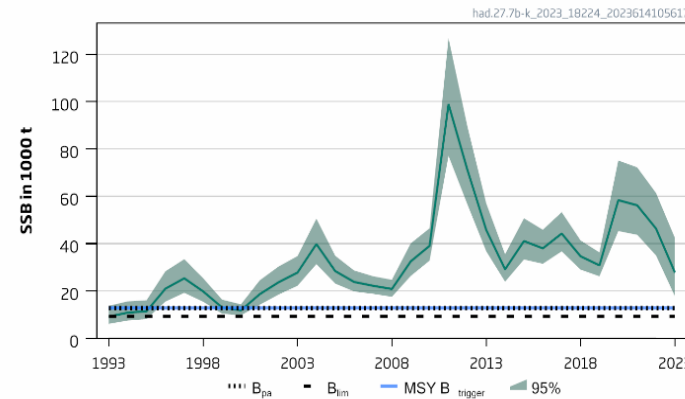
Recruitment (age 0)



F



SSB



- F declining but remains above F_{MSY}
- SSB declining: above MSY B trigger
- Recruitment low
- Decrease in advice: decreasing stock size and low recruitment and downward revision of SSB (retrospective)
- Discard sampling lower 2022 but no major impact

Haddock in the southern Celtic Seas and English Channel (7.b–k)



Catch (2022) : 11 668 (24% discards)

F(2023) = 0.417 (average 2020-2022, scaled to 2022)

SSB (2024)= 27 904 > MSY_{Btrigger} (12 822t) F_{MSY} = 0.353

Basis	Total catch (2024)	Projected landings (2024)	Projected discards (2024)	F _{total} (2024)	F _{projected} landings (2024)	F _{projected} discards (2024)	SSB (2025)	% SSB change*	% advice change^
ICES advice basis									
MSY approach: F _{MSY}	8252	6772	1480	0.353	0.30	0.051	30295	9.0	-31
Other scenarios									
EU MAP ^^: F _{MSY}	8252	6772	1480	0.353	0.30	0.051	30295	9.0	-31
EU MAP^^ F _{MSY} lower	5492	4532	960	0.221	0.189	0.032	33103	19.2	-54
EU MAP^^ F _{MSY} upper	11318	9208	2110	0.521	0.45	0.075	27233	-2.0	-4.9
F = 0	0	0	0	0	0	0	38627	39.0	-100
F _{pa}	14210	11457	2753	0.708	0.61	0.103	24327	-12.4	19
F _{lim}	21682	17024	4658	1.40	1.20	0.20	17176	-38	82
SSB ₂₀₂₅ = B _{lim}	30536	22585	7951	3.1	2.66	0.45	9227	-67	157
SSB ₂₀₂₅ = B _{pa} = MSY B _{trigger}	26420	20168	6252	2.1	1.80	0.31	12822	-54	122
F = F ₂₀₂₃	9484	7758	1726	0.42	0.36	0.06	29082	4.7	-20
SSB ₂₀₂₅ = SSB ₂₀₂₄	10670	8696	1974	0.483	0.413	0.07	27904	0.4	-10.3

Mixed fisheries advice in the fall

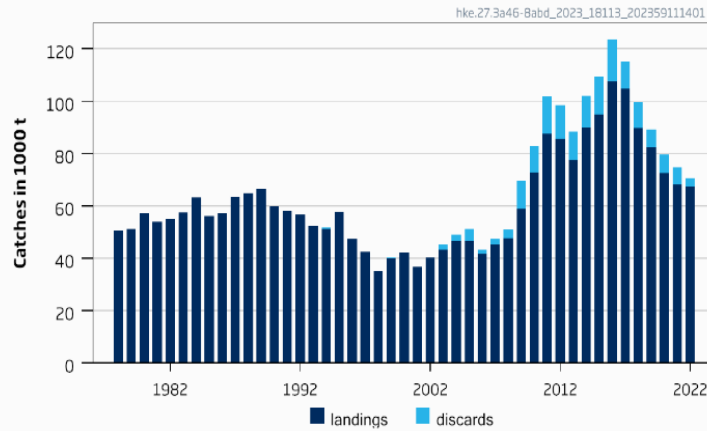
SAM assessment

- **Stock includes the south of Division 7.a (rectangles 33E2-3)**

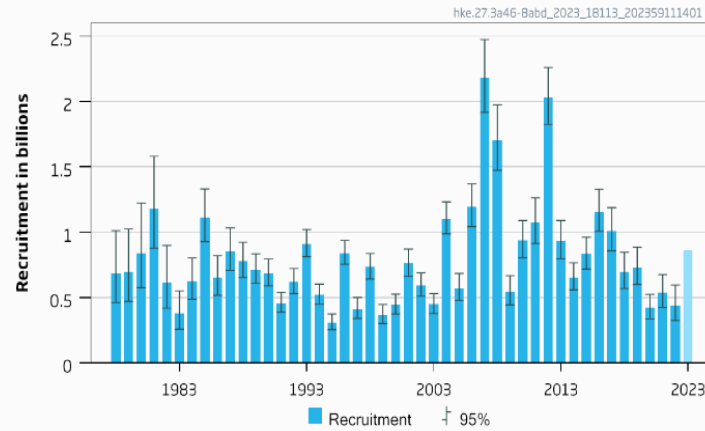
Hake – Northern stock (3.a, 4, 6, 7, 8.abd)

Advice for 2024: MSY: Catch = 72 839 t advice -12.4%

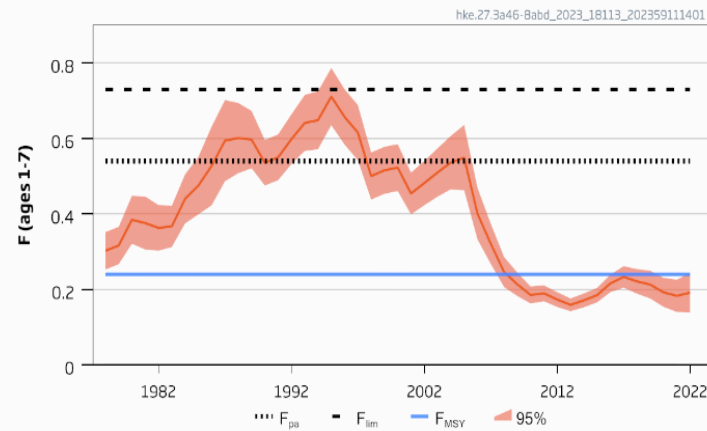
Catches



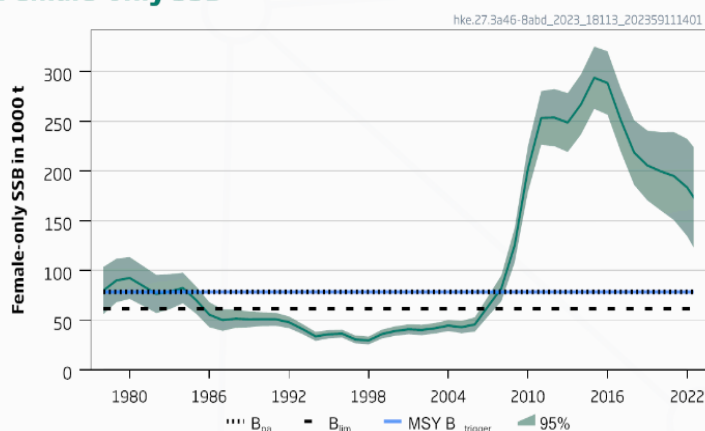
Recruitment (age 0)



F



Female-only SSB



- Catches decreasing
- F decreasing: below F_{msy}
- SSB above $MSY B_{trigger}$ but decreasing
- Recruitment decreasing
- Advice lower due to decreasing stock size
- No survey that covers entire stock distribution
- Stock area does not correspond to the TAC areas

Hake – Northern stock (3.a, 4, 6, 7, 8.abd)

Catch (2022) : 69 382 (3 % discards)

F(2023) = 0.189 (Average F₂₀₂₀₋₂₀₂₂)

SSB (2024)= 147 -52 > MSY_{Btrigger} (78 405t) F_{MSY}= 0.24

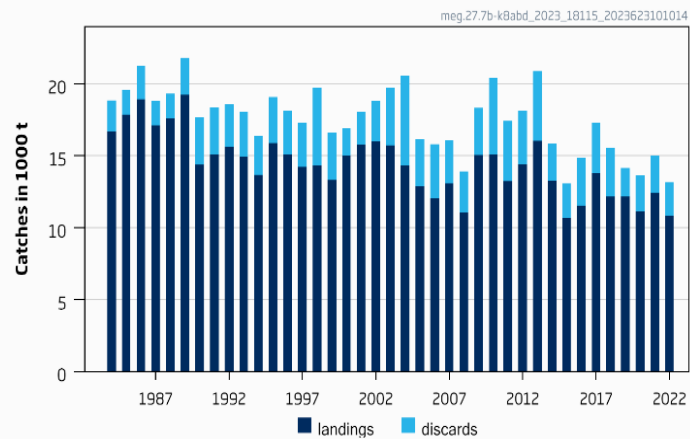
Basis	Total catch (2024)	Projecte d landings (2024)	Projecte d discards (2024)	Fages 1-7 total (2024)	Fages 1-7 projecte d landings (2024)	Fages 1-7 projecte d discards (2024)	SSB (2025)	% SSB change*	% advice change**
ICES advice basis									
MSY approach = F _{MSY}	72839	67637	5202	0.24	0.23	0.0174	129326	-12.1	-12.4
Other scenarios									
EU MAP^: F _{MSY}	72839	67637	5202	0.24	0.23	0.0174	129326	-12.1	-12.4
F = MAP^:F _{MSY lower}	46722	43486	3236	0.147	0.137	0.0102	146172	-0.60	-44
F = MAP^:F _{MSY upper}	102890	95251	7640	0.37	0.34	0.027	110272	-25	24
F = 0	0	0	0	0	0	0	176869	20	-100
F = F _{pa}	135857	125263	10594	0.54	0.5	0.042	89853	-39	63
SSB (2025) = B _{lim}	183455	167811	15644	0.86	0.79	0.074	61563	-58	121
SSB (2025) = B _{pa}	154777	142318	12460	0.65	0.6	0.052	78405	-47	86
SSB (2025) = MSY B _{trigger}	154777	142318	12460	0.65	0.6	0.052	78405	-47	86
SSB (2025) = SSB(2024)	45368	42230	3138	0.142	0.132	0.0098	147052	0	-45
F = F ₂₀₂₃	58652	54534	4118	0.189	0.176	0.0133	138447	-5.9	-29

Length based and sex disaggregated stock synthesis

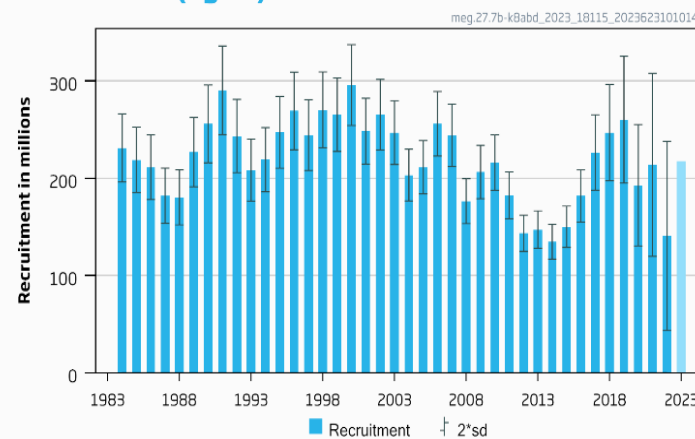
Megrim in the west and southwest of Ireland, Bay of Biscay (7.b–k, 8.a–b, and 8.d)

Advice for 2024: MSY: Catch \leq 23 303t advice -1%

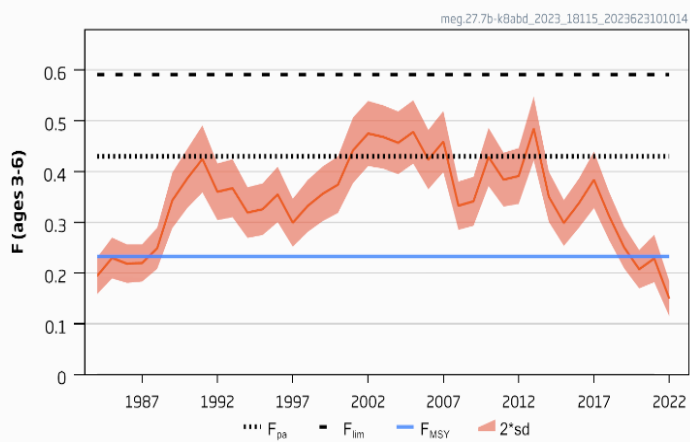
Catches



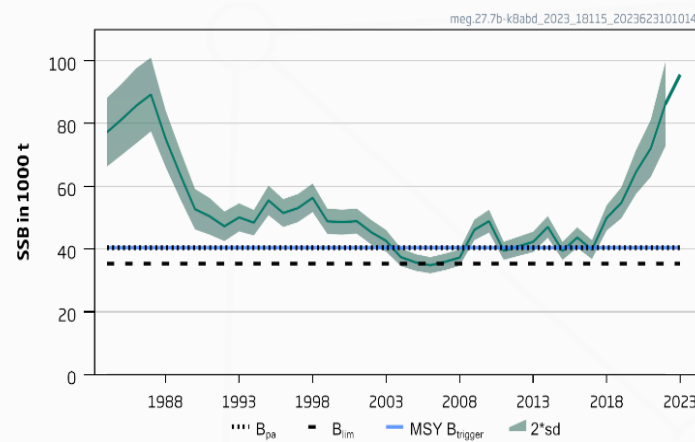
Recruitment (age 1)



F



SSB



- F has been decreasing and is below F_{MSY}
- SSB increasing and above MSY Btrigger
- Advice similar to last year as stock size revised downwards compared to last year (retrospective)
- Benchmarked 2022 – no change in perception

Megrim in the west and southwest of Ireland, Bay of Biscay (7.b–k, 8.a–b, and 8.d)

Catch (2022) : 13 161 (18 % discards)

F(2023) = 0.195 (average 2020-2022)

SSB (2024)= 95 693 t > MSY_{Btrigger} (40 444t) F_{MSY}= 0.233

Basis	Total catch (2023)	Projected landings* (2023)	Projected discards**(2023)	F _{ages 3–6} Total (2023)	SSB (2024)	% SSB change***	% advice change^
ICES advice basis							
MSY approach: F _{MSY}	24176	20782	3395	0.23	92640 -	-6.0	5.3
Other scenarios							
EU MAP^^ = F _{MSY}	24176	20782	3395	0.23	92640 -	-6.0	5.3
F = MAP^^ F _{MSY lower}	15475	13315	2160	0.140	101774	3.3	-33
F = MAP^^ F _{MSY upper}	39116	33558	5558	0.41	77093	-22	70
F = 0	0	0	0	0	118131	19.9	-100
F _{pa}	40597	34821	5776	0.43	75563	-23	77
F _{lim}	51395	44007	7388	0.59	64481	-35	124
SSB (2024) = B _{lim}	80715	68641	12074	1.25	35398	-64	252
SSB (2024) = B _{pa}	75471	64282	11189	1.20	40444	-59	229
SSB (2024) = MSY B _{trigger}	75471	64282	11189	1.20	40444	-59	229
SSB (2024) = SSB (2023)	18563	15967	2596	0.171	98527	0	-19.2
F = F ₂₀₂₂	20437	17575	2862	0.190	96559	-2.0	-11.0

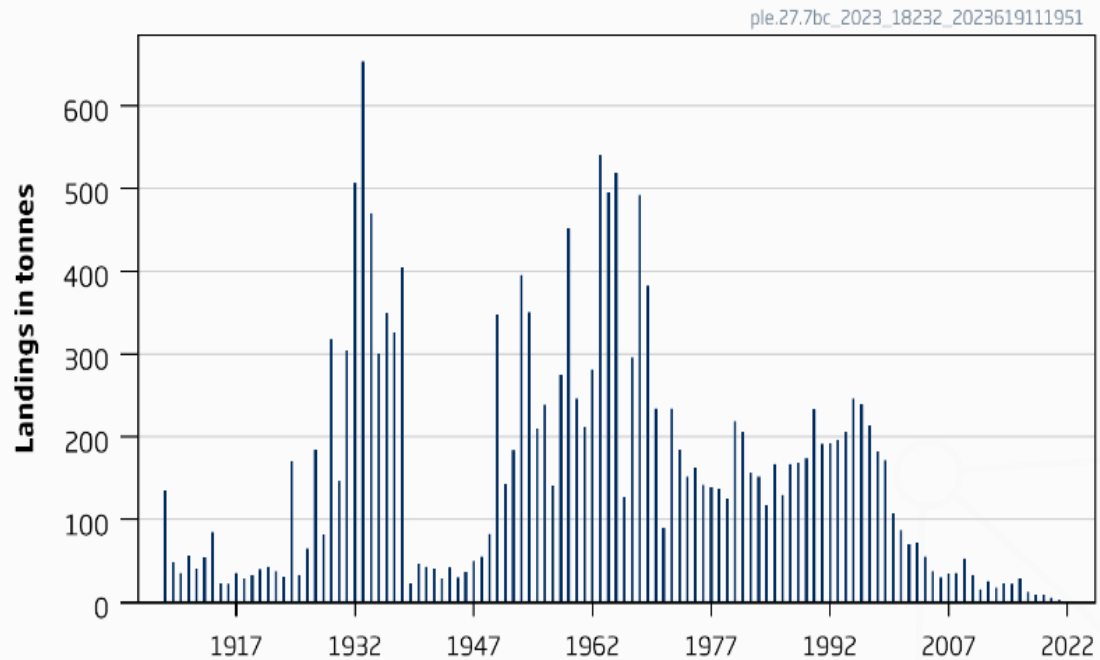
A4A
statistical
catch at
age

- The ICES advice is for *L. whiffiagonis*, whereas the TAC is for *L. whiffiagonis* and *L. boscii* combined

Plaice West of Ireland (7.b-c)

Advice for 2024, 2025, 2026: PA: Catch \leq 15 t advice -20%

Landings

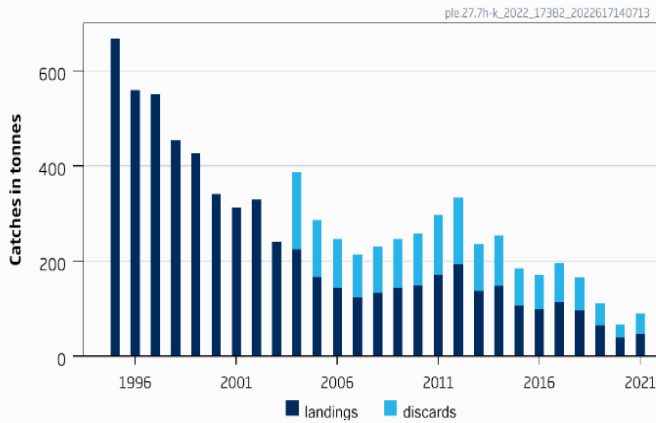


- Category 6
- Precautionary buffer applied
- Discarding takes place but not fully quantified
- Catch (without discards) 2022: 2 t

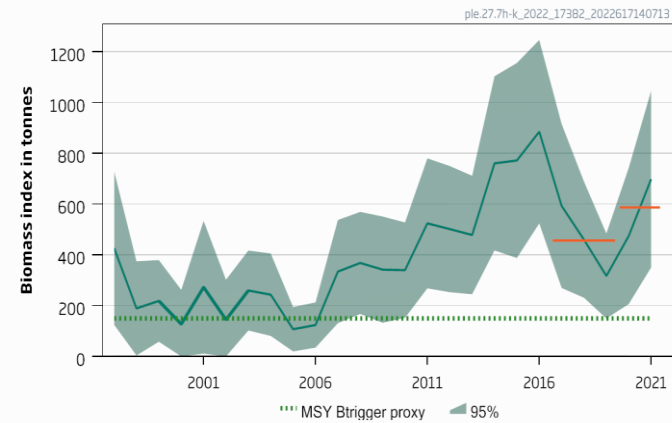
Plaice in the Celtic Sea South, southwest of Ireland (7.h-k)

Advice for 2023 and 2024: MSY: Catch \leq 132 t +20%

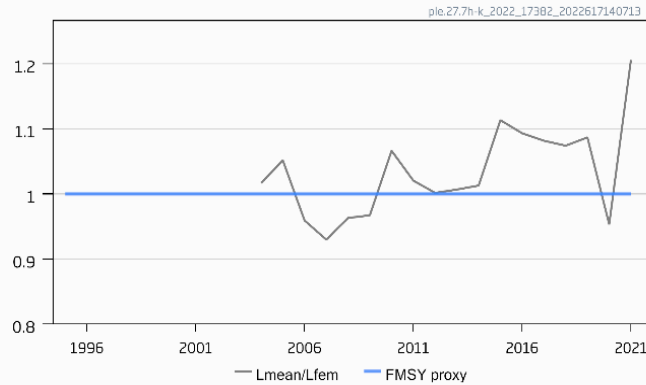
Catches



SSB



Length indicator



- Declining trend in catches
- F below Fmsy proxy (not inverse)
- Increase in biomass index: above Itrigger
- Advice increase because of increase in index: stability clause applied

Plaice in the Celtic Sea South, southwest of Ireland (7.h-k)

Catch (2022) = 54 t (11 % discards)

rfb rule

Previous catch advice A_y	110 tonnes
Stock biomass trend	
Index A (2020, 2021)	587 tonnes
Index B (2017, 2018, 2019)	457 tonnes
r: Index ratio (A/B)	1.28
Fishing pressure proxy	
Mean catch length ($L_{mean} = L_{2021}$)	29.7 cm
MSY proxy length ($L_F = M$)	28.9 cm
f: multiplier for relative mean length in catches ($L_{mean}/L_{F=M 2020}$)	1.03
Biomass safeguard	
Last index value (I_{2021})	698 tonnes
Index trigger value ($I_{trigger} = I_{loss} \times 1.4$)	150 tonnes
b: multiplier for index relative to trigger $\min\{I_{2021}/I_{trigger}, 1\}$	1
Precautionary multiplier to maintain biomass above B_{lim} with 95% probability	
m: multiplier to maintain the biomass above B_{lim} to with 95% probability	0.95
RFB calculation**	
Stability clause (+20%/-30% compared to A_y , only applied if $b \geq 1$)	Applied 1.2
Catch advice for 2023 and 2024 ($A_y \times$ stability clause)	132 tonnes
% advice change^	+20 %

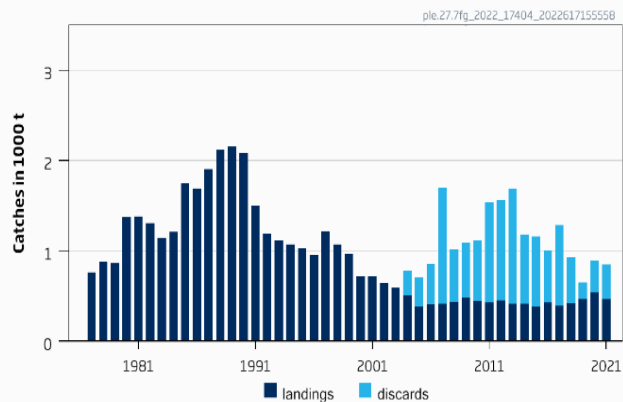
$$A_{y+1} = A_y \times r \times f \times b \times m, \text{ stability clause applied}$$

Plaice in the Bristol Channel, Celtic Sea (7.f and 7.g)

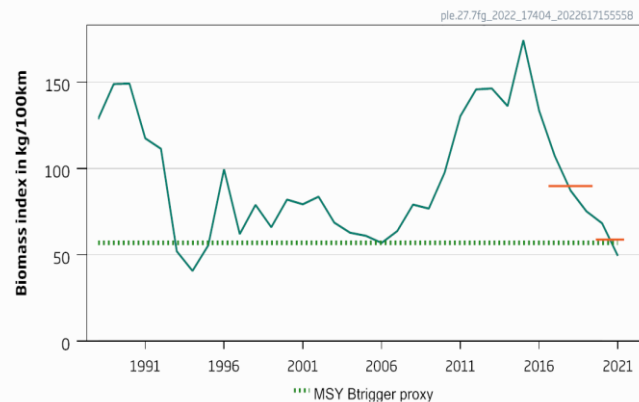
Advice for 2024: MSY: Catch \leq 402 t advice -77%

Advice released 2022 – no update

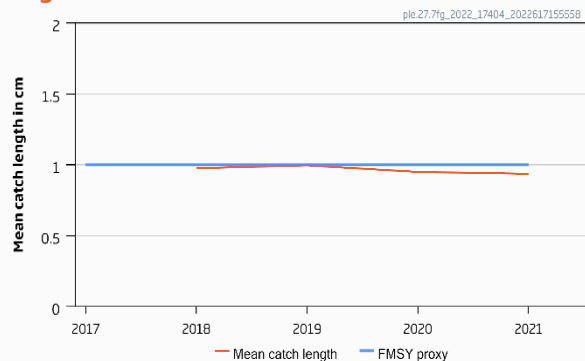
Catches



Biomass index



Length indicator

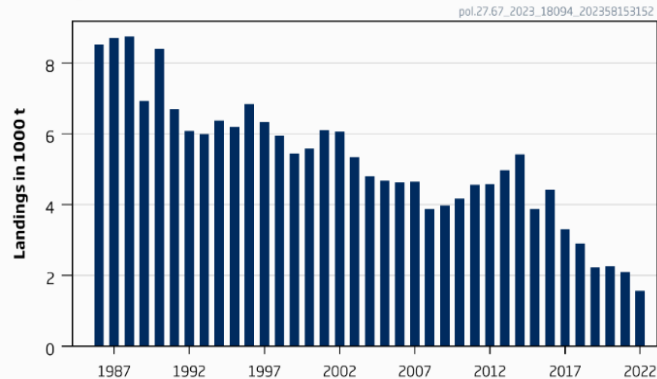


- Category 3 rfb
- UKBTS survey index
- Fishing pressure above F_{MSY} proxy (not inverse)
- Spawning stock below MSY Btrigger
- Caught in mixed fishery with sole, high discard rates (38 % during 2019-2021)

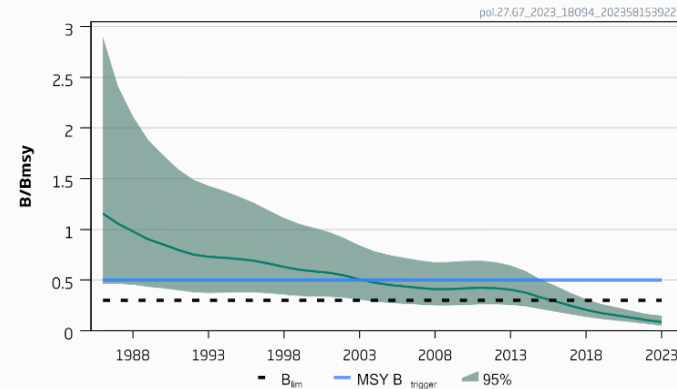
Pollack in the Celtic Seas and the English Channel (6 and 7)

Advice for 2024 : MSY: Zero catch

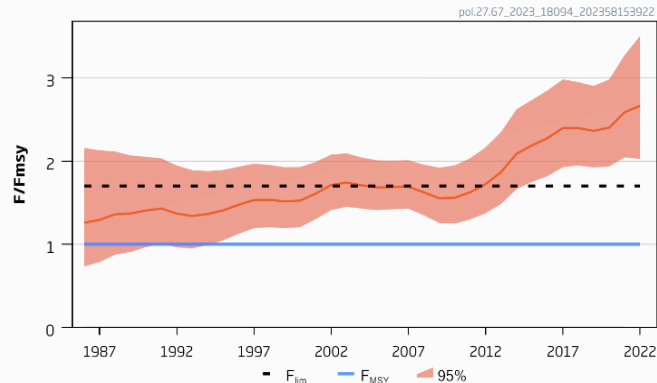
Landings



B/Bmsy



F/Fmsy



- Benchmark – SPiCT – using 4 surveys + landings
- New perception of stock
- Landings have declined since the late 1980's
- Recreational catch unknown but substantial
- Model results for recent years robust to this
- F above Fmsy
- Stock size very low: below Bmsy

Pollack in the Celtic Seas and the English Channel (6 and 7)

Catch (2023) : total unknown – commercial landings 1558 t

F(2023) = 2.34 (F corresponding to status quo catch; 1967 t avg 2020-2022)

$B_{2024}/BMSY = 0.115$



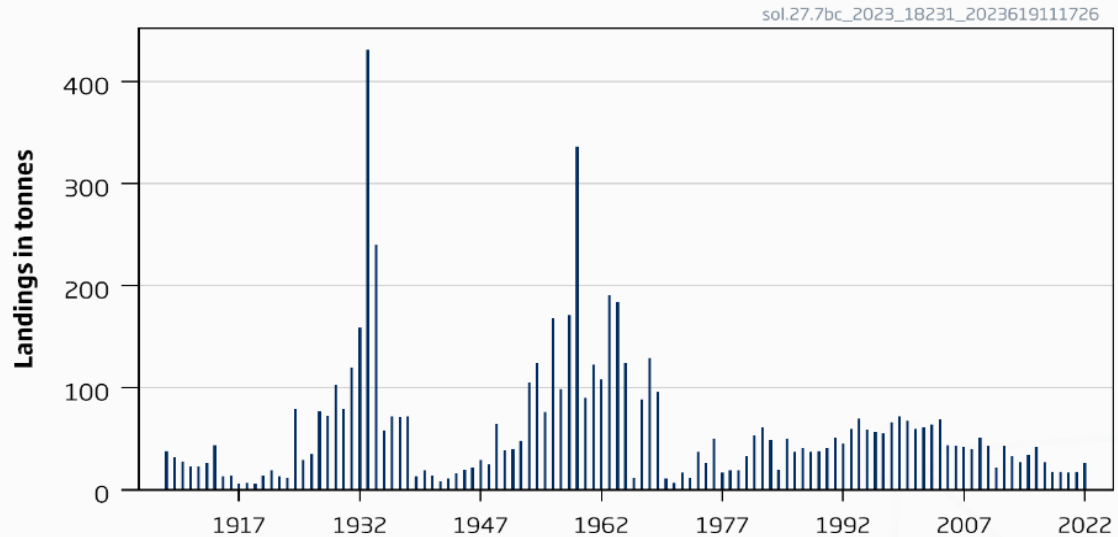
Basis	Total catch (2024)	Fishing mortality F_{2024}/F_{MSY}	Stock size B_{2025}/B_{MSY}	% B change ^	% advice change ^^
ICES advice basis					
MSY approach (F = 0)	0	0.00	0.185	61	-100
Other scenarios					
F _{MSY}	204	0.23	0.175	52	-94
F _{SQ}	1600	2.34	0.102	-11.3	-52
F = 0	0	0.00	0.185	61	-100

^ Biomass 2025 relative to biomass 2024.

Sole in the West of Ireland (7.bc)

Advice for 2024, 2025 and 2026: PA: Catch ≤ 15 t -20%

Landings

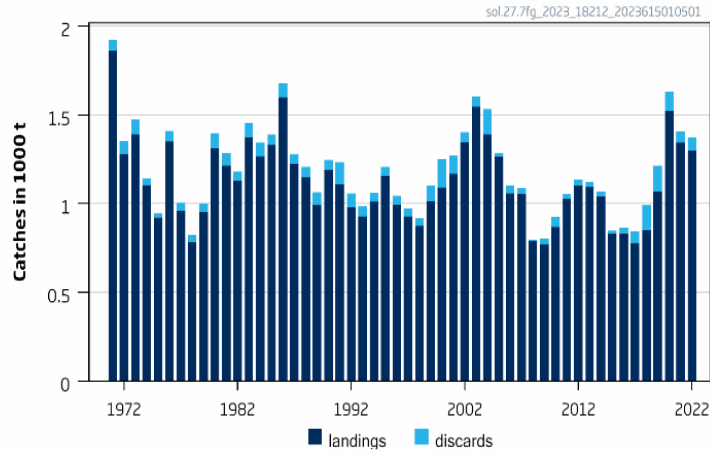


- State of the stock unknown.
- Category 6
- Landings in 2022, 26 t; discards considered negligible.
- Precautionary reduction advised from 19 t to 15 t.
- Buffer applied

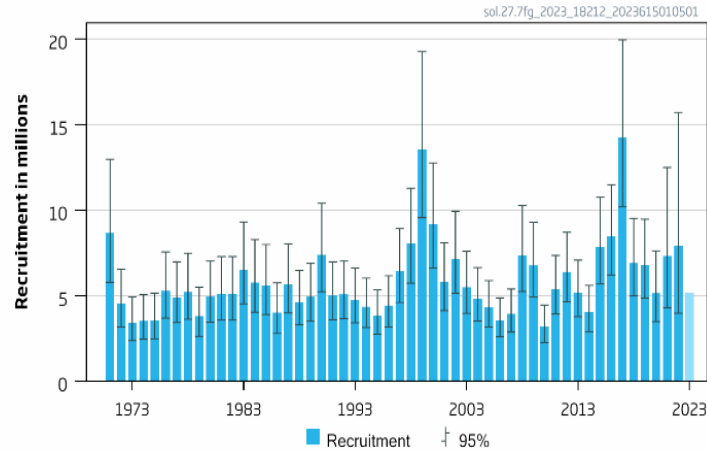
Sole in the Bristol Channel, Celtic Sea (7.f and 7.g)

Advice for 2024 MSY: Catch $\leq 1\,267$ t advice -5.3%

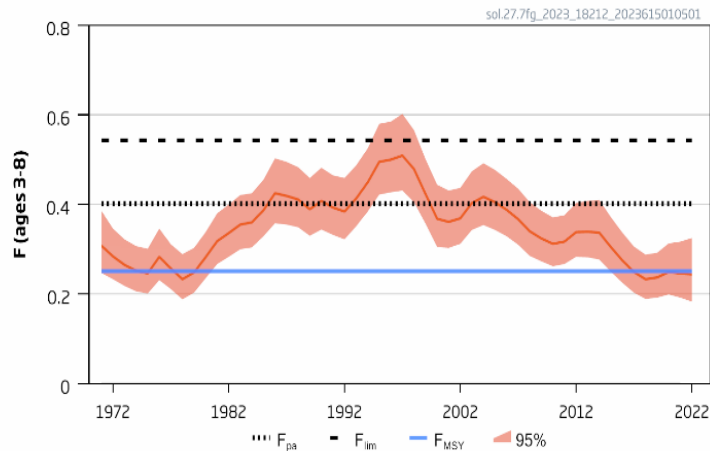
Catches



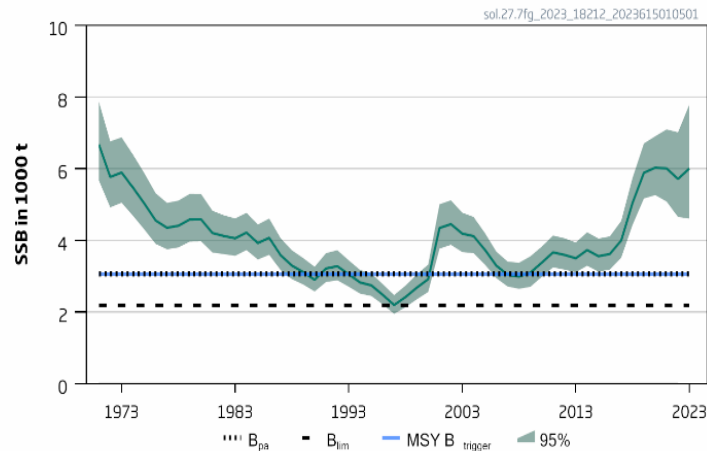
Recruitment (age 1)



F



SSB



- F has decreased slightly and is below F_{MSY}
- SSB is above MSY Btrigger
- Decrease in advice: downward revision in stock size (retrospective) and projected decrease
- No data for Belgian commercial beam trawl index in 2022 – increase uncertainty
- Discard sampling incomplete but minimal impact

Sole in the Bristol Channel, Celtic Sea (7.f and 7.g)

Catch (2022) : 1372t (5 % discards)

F(2023) = 0.264 (Catch 2023 1338 t - TAC)

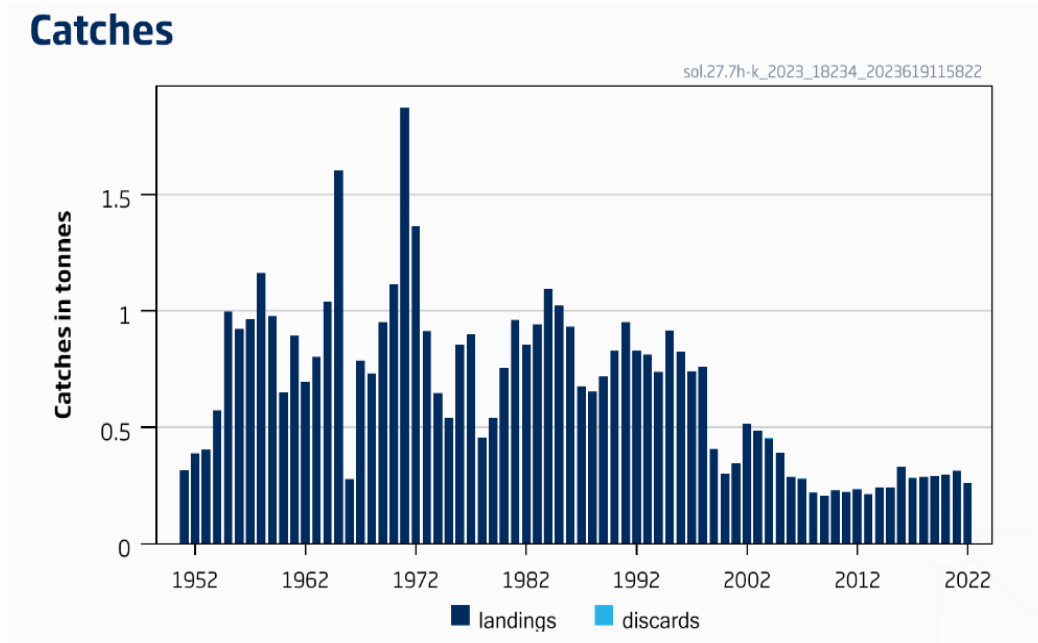
SSB (2024)= 5 850 t > MSY_{Btrigger} (3 057t) $F_{MSY} = 0.251$

Basis	Total catch (2024)	Projected landings* (2024)	Projected discards** (2024)	F _{total} (2024)	F _{projected} landings (2024)	F _{projected} discards (2024)	SSB (2025)	% SSB change ***	% TAC change ^	% advice change ^^
ICES advice basis										
MSY approach: F = F _{MSY}	1267	1198	69	0.251	0.24	0.0160	5659	-3.3	-5.3	-5.3
Other scenarios										
EU MAP^^^: F _{MSY}	1267	1198	69	0.251	0.24	0.0160	5659	-3.3	-5.3	-5.3
EU MAP^^^: F _{MSY} lower	724	685	39	0.136	0.127	0.009	6226	6.4	-46	-46
EU MAP^^^ : F _{MSY} upper	2121	1999	122	0.462	0.431	0.031	4762	-18.6	59	59
F = 0	0	0	0	0	0	0	6982	19.4	-100	-100
F= F _{pa}	1895	1787	108	0.402	0.375	0.027	5002	-14.5	42	42
F= F _{lim}	2405	2266	139	0.543	0.507	0.036	4466	-24	80	80
SSB ₂₀₂₅ = B _{lim}	4625	4326	299	1.55	1.444	0.103	2184	-63	250	250
SSB ₂₀₂₅ = B _{pa} = MSY B _{trigger}	3765	3533	232	1.05	0.978	0.069	3057	-48	181	181
F = F ₂₀₂₃	1324	1251	73	0.26	0.246	0.0180	5600	-4.3	-1.05	-1.05
SSB ₂₀₂₅ = SSB ₂₀₂₄	1082	1023	59	0.21	0.197	0.0140	5850	0	-19.1	-19.1

SAM assessment model

Sole in the Celtic Sea South, southwest of Ireland (7.h–k)

Advice for 2024, 2025, 2026: PA: Catch \leq 170 t -20%

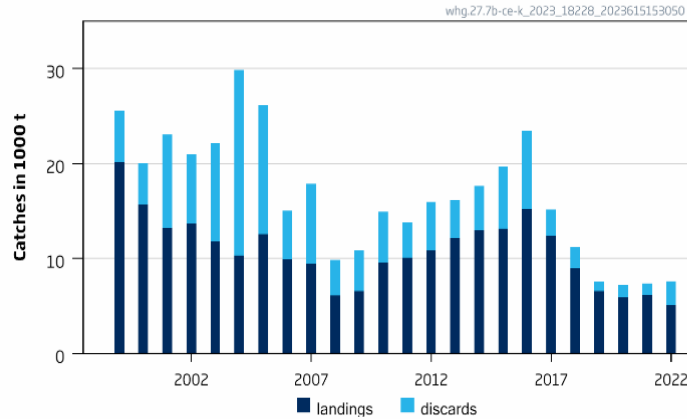


- Category 5
- Stock identity uncertain, research ongoing
- There is area misreporting of the catch but unquantified
- Catch in 2022 = 264 t - discards negligible

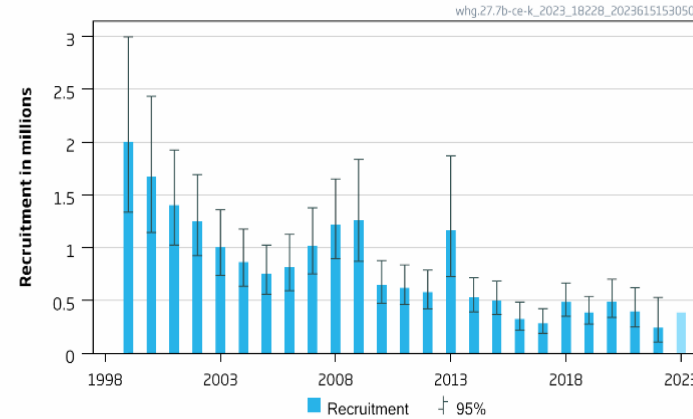
Whiting 7b-c and 7e-k

Advice for 2024 : MSY: zero catch

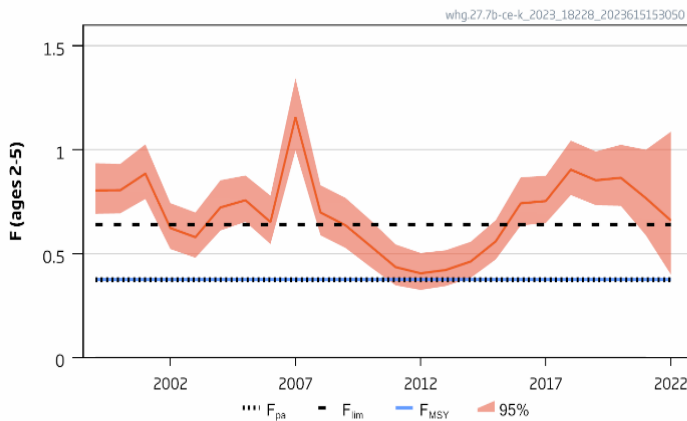
Catches



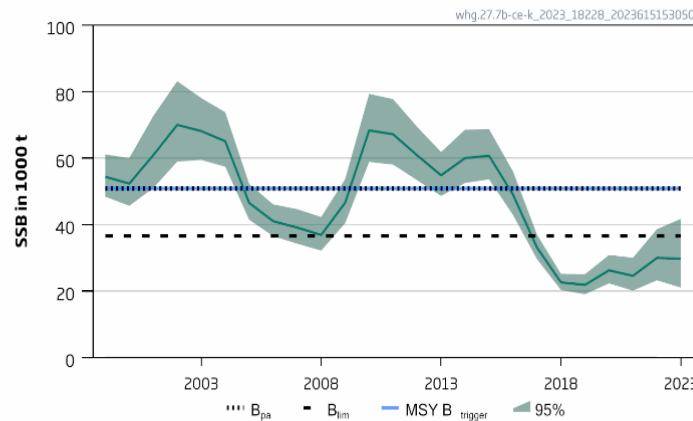
Recruitment (age 0)



F



SSB



- F has decreased but is above F_{MSY}
- SSB is below B_{lim}
- No catch scenario brings SSB above B_{lim} with 50% probability
- Incoming recruitment is low
- Advice 2021 5216 t, TAC 10259, catch 7377

Whiting 7b-c and 7e-k

Catch (2022) = 7 577 t (32 % discards)

F(2023) = 0.763 (Fsq: average 2020-2022)

SSB (2024)= 26 361 < B_{lim} (36 571) F_{MSY} = 0.375

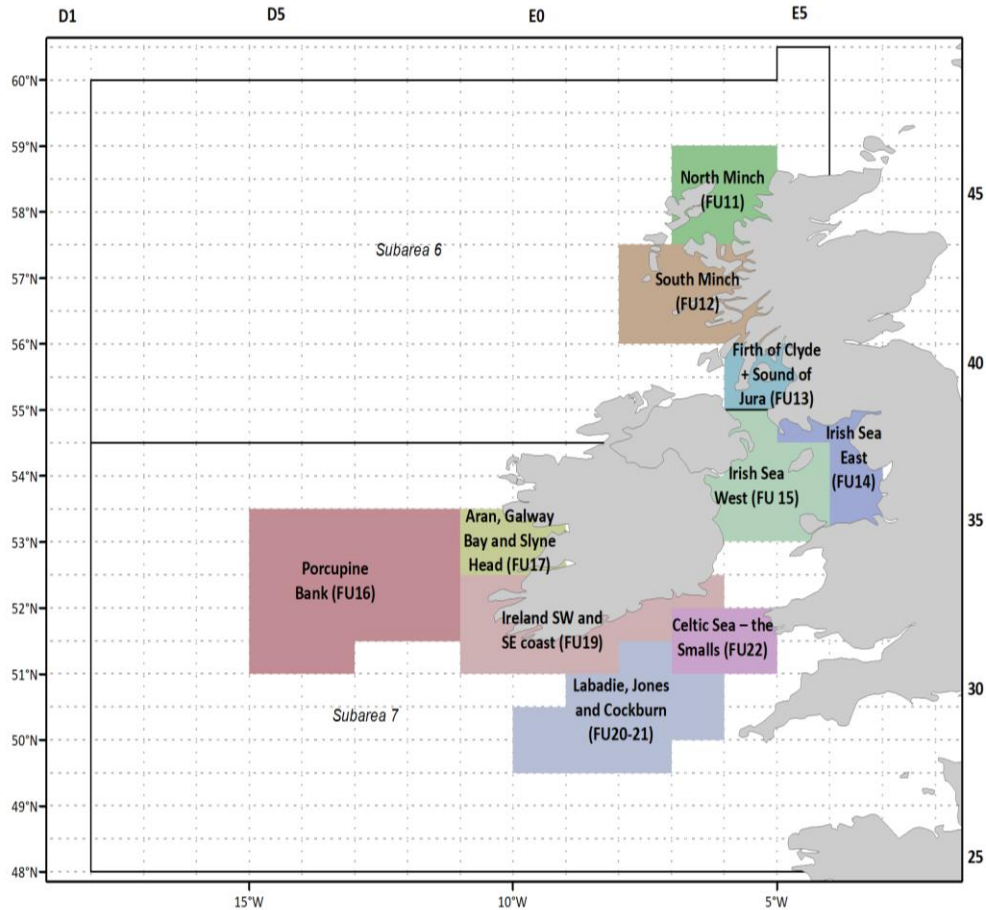
SAM assessment

Assessment and advice are for divisions 7.b–k, including rectangles 33E2 and 33E3

Fished under a common TAC with whiting in Division 7.d
ICES recommends, that the TAC area corresponds to the assessment area

Basis	Total catch (2024)	Projected landings (2024)	Projected discards (2024)	F _{total} (2024)	F _{projected} landings (2024)	F _{projected} discards (2024)	SSB (2025)	% SSB change *	% advice change **	% probability of being below B _{lim} in 2025
ICES advice basis										
MSY approach: zero catch	0	0	0	0	0	0	33995	29	-100	67
Other scenarios										
MSY and precautionary considerations: F = 0	0	0	0	0	0	0	33995	29	-100	67
EU MAP^^: F _{MSY upper} × SSB ₂₀₂₄ / MSY B _{trigger}	2852	2431	421	0.20	0.161	0.034	31307	19	66	81
EU MAP^^: F _{MSY} × SSB ₂₀₂₄ / MSY B _{trigger}	2852	2431	421	0.195	0.161	0.034	31307	19	66	81
EU MAP^^: F _{MSY lower} × SSB ₂₀₂₄ / MSY B _{trigger}	2433	2075	358	0.163	0.135	0.028	31690	20	42	79
F = F _{MSY} = F _{pa}	5063	4290	773	0.38	0.31	0.065	29327	11	195	88
SSB ₂₀₂₅ = B _{lim} [^]										
SSB ₂₀₂₅ = B _{pa} = B _{trigger} [^]										
F = F ₂₀₂₃	8797	7374	1423	0.76	0.63	0.133	26026	-1	413	96
SSB ₂₀₂₅ = SSB ₂₀₂₄	8415	7063	1352	0.72	0.59	0.126	26361	0	391	95

Nephrops



FU	Advice for 2023	change	Basis
11 – North Minch	≤ 3784 t	-2%	MSY
12 – South Minch	≤ 5242 t	+32%	MSY
13 – Firth of Clyde + Sound of Jura	≤ 4596 t	+14.3	MSY
16 – Porcupine Bank	3054 – 3787 t	+35%	MAP -ranges
17 – Aran grounds	316 – 363 t	0.83%	MAP - ranges
20-21 Celtic Sea	≤ 1803 t	-8.8%	MSY
22 – Celtic Sea, Bristol Channel	≤ 2548 t	+103%	MSY – stock below MSY Btrigger

management should be implemented at the FU level.

New advice will be released in autumn



**Thank you
for your
attention!**

Joanne.Morgan@ices.dk



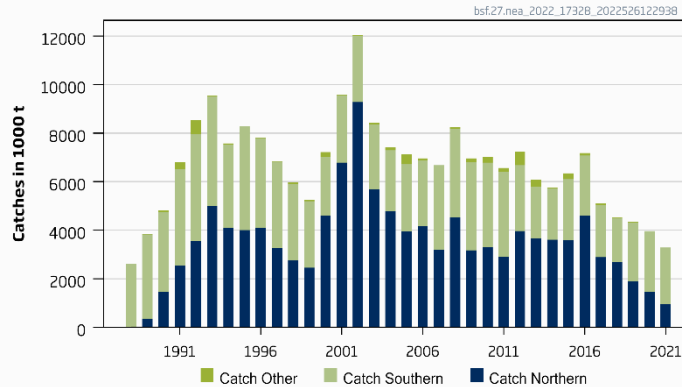
Science for sustainable seas



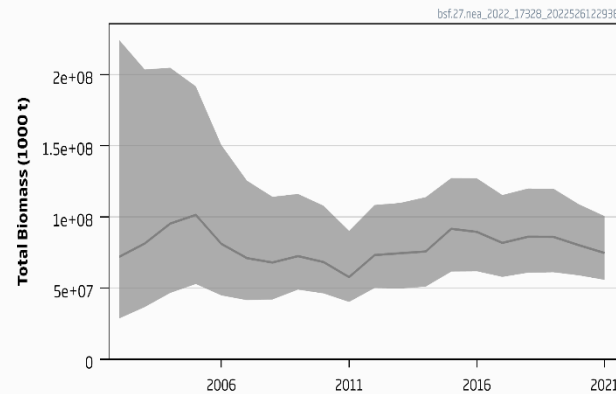
Black scabbardfish in the Northeast Atlantic and Arctic Ocean

Advice for 2023 and 2024, PA: Catch \leq 4 214 t advice -6%

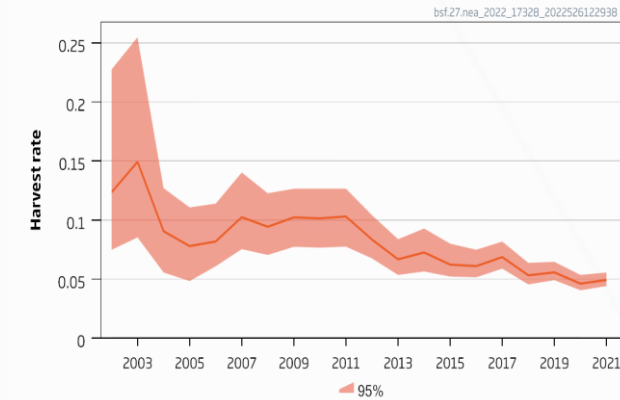
Catches



Total biomass index



Total harvest rate



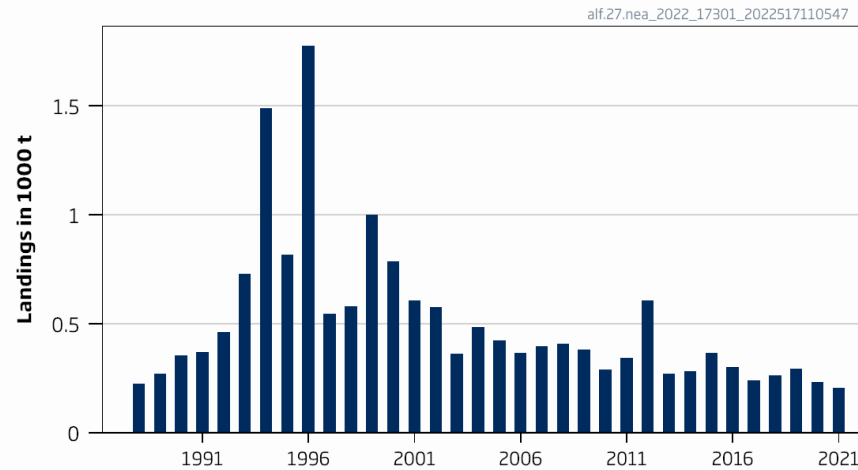
Minimum slope of the two component slopes		-0.0648
Uncertainty cap	Not applied	-
Recent advised catch for 2021–2022 issued in 2020		4506 tonnes
Discard rate		Negligible
Precautionary buffer	Not applied	-
Catch advice**		4214 tonnes
% advice change***		-6%

- Cannot assess status
- Migrates through NE Atlantic
- Advice not split by area because of changes in catch proportion in the different areas

Alfonsinos in subareas 1–10, 12, and 14 (Northeast Atlantic and adjacent waters)

Advice for 2023 and 2024 , PA: Landings \leq 179 t advice -20%

Landings



Landings in 2021 = 205 t.

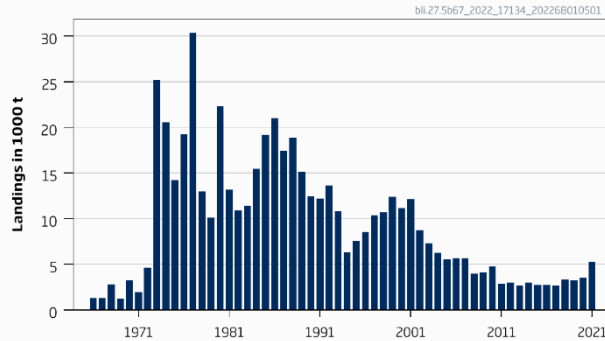
- Two Beryx species : most catch in Azorean EEZ and in Mid-Atlantic Ridge.
- Cannot assess stock status
- PA buffer last applied 2018 so applied again

Advised landings for 2021–2022 issued in 2020		224 tonnes
Discard rate		Unknown
Precautionary buffer	Applied	0.8
Landings advice **		179 tonnes
% advice change ***		-20

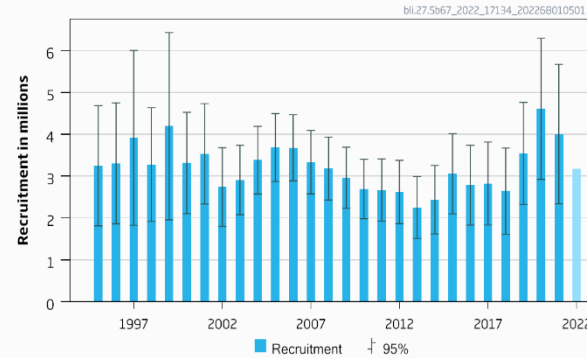
Blue ling in 6–7 and 5.b (Celtic Seas, English Channel, and Faroes grounds)

Advice for 2023 and 2024, MSY: Catch $\leq 10\ 859$ t and $\leq 10\ 972$ t

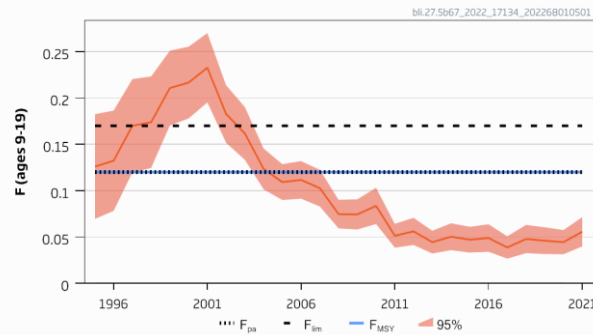
Catches



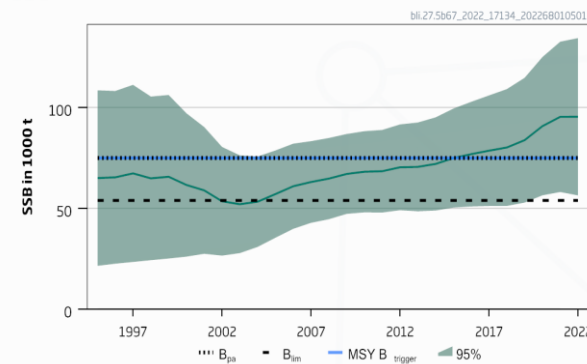
Recruitment (age 9)



F



SSB



- Fishing pressure below F_{MSY}
- Spawning stock above MSY Btrigger

Blue ling in 6–7 and 5.b (Celtic Seas, English Channel, and Faroes grounds)

Catch (2021) : 5 285 t

F(2022) = 0.056 Fsq=2021

SSB (2023)= 95 770 > MSY_{Btrigger} (75 037) F_{MSY}= 0.12



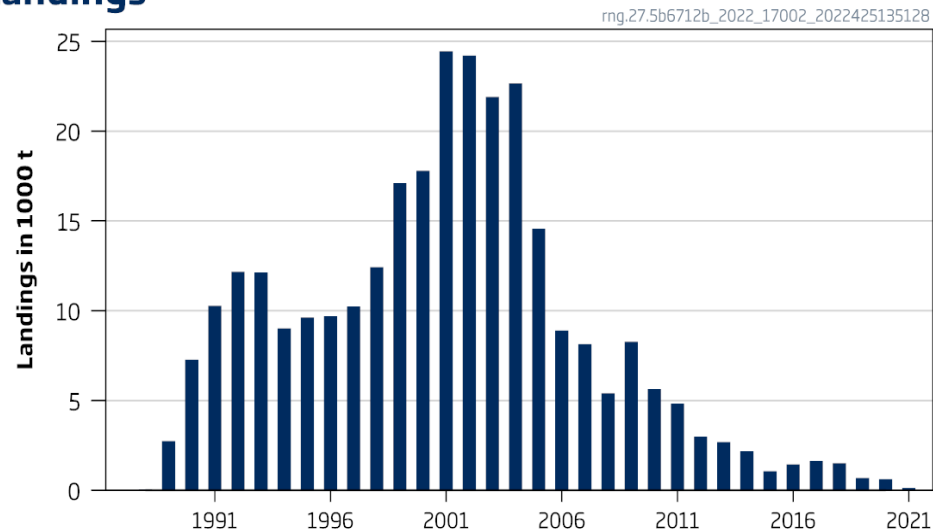
Rationale	Catch (2023)	F (2023)	SSB (2024)	% SSB change*	% advice change^
ICES advice basis					
MSY approach (F = F _{MSY})	10 952	0.12	90 298	-5.7	1
Other scenarios					
F _{pa}	10 952	0.12	90 298	-5.7	1
F ₂₀₂₁ = 0	0	0	106 655	5.6	-100
F ₂₀₂₁ = F _{lim}	15 161	0.17	86 136	-10.1	40
SSB (2024) = B _{pa} = MSY B _{trigger}	26 411	0.32	75 037	-21.6	144
SSB (2024) = B _{lim}	48 895	0.67	54 000	-43.6	351
F ₂₀₂₃ = F _{sq} = F ₂₀₂₁	5 237	0.056	95 958	0.2	-52

Catch scenario table for 2023

Roundnose grenadier in subareas 6 and 7 and division 5.b and 12.b

Advice for 2023 and 2024, PA: Catch \leq 3 177 t no change

Landings



- Landings (2021) =140 t
- Cannot assess status
- Ban on fishing with bottom trawls in EU waters deeper than 800 m
- Less fishing activity
- PA buffer not applied

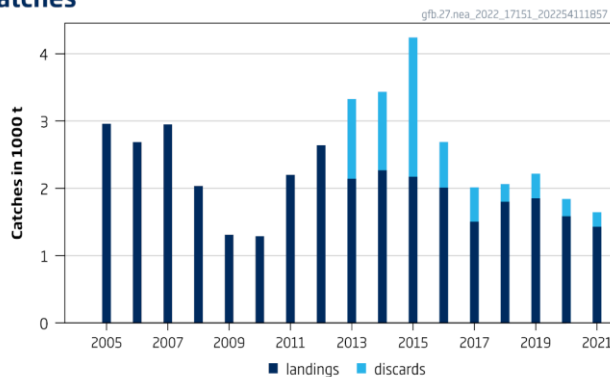
Advised catches for 2021–2022, issued in 2020	3177 tonnes
Discard rate (average 2019–2021)	Negligible
Precautionary buffer	Not applied -
Catch advice **	3177 tonnes
Landings corresponding to the catch advice***	3177 tonnes
% advice change^	0%

Greater forkbeard Subareas 1-10, 12, 14 Northeast Atlantic and adjacent waters

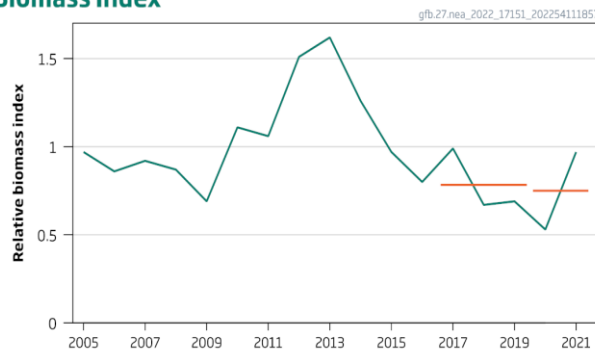
Advice for 2023 and 2024, PA: Catch \leq 818 t advice -5%



Catches



Biomass Index



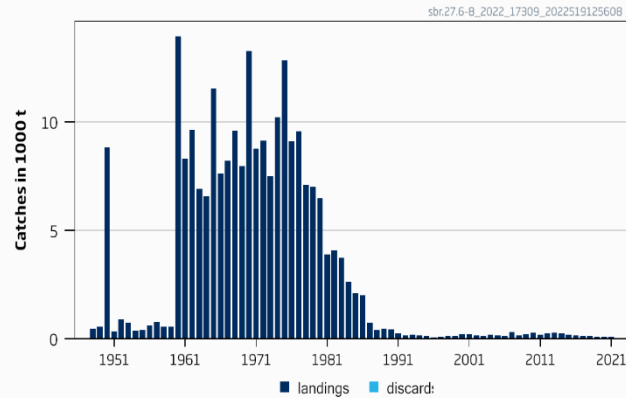
- Landings (2021) = 1429 t
- Poor discard sampling
- Cannot assess status
- 2 over 3 rule

Index A (2020–2021)		0.75
Index B (2017–2019)		0.79
Index ratio (A/B)		0.95
Uncertainty cap	Not applied	
Advised landings for 2021–2022 issued in 2020		861 tonnes
Discard rate (average 2019–2021)		Not fully quantified
Precautionary buffer	Not applied	
Landings advice**		818 tonnes
% advice change***		-5%

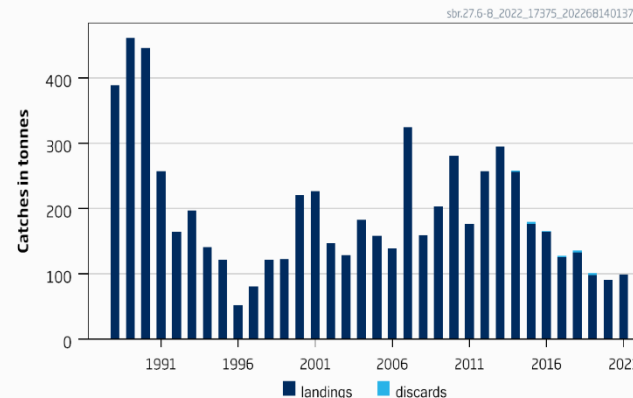
Blackspot seabream subareas 6-8 Celtic Seas, English Channel, Bay of Biscay

Advice for 2023 and 2024, PA: Zero Catch – no change

Catches



Catches since 1988



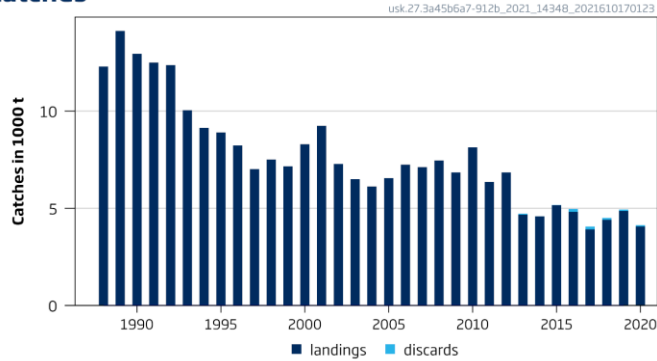
- Landings (2021) =99 t
- Cannot assess status
- No information clearly indicating exploitation level appropriate

Advised catches for 2021–2022 issued in 2020	0 tonnes
Discard rate	Negligible
Precautionary buffer	Not applied -
Catch advice	0 tonnes
% advice change*	0%

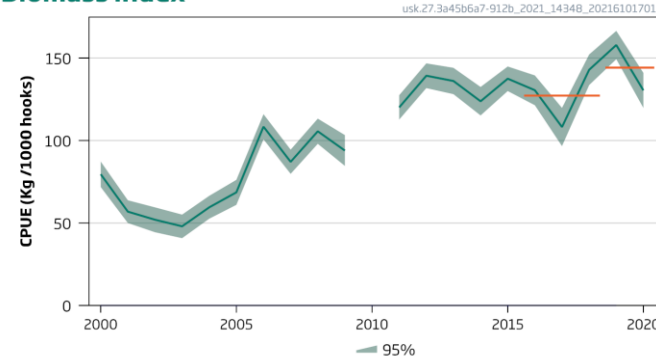
Tusk in the Northeast Atlantic (4, 7–9, 3.a, 5.b, 6.a, and 12.b)

Advice for 2022 and 2023, PA: Catch ≤ 7 821 t

Catches



Biomass index



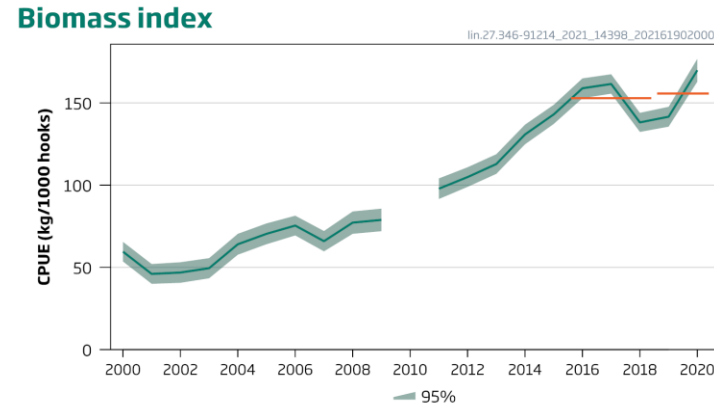
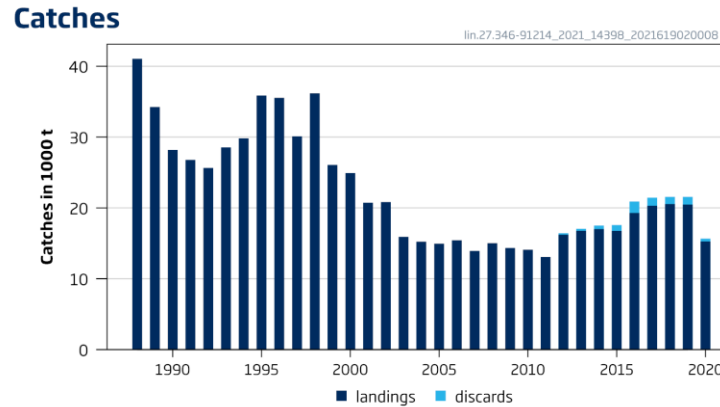
Catch (2020) = 4 134 t (2% discards)

Index A (2019–2020)	144	
Index B (2016–2018)	127	
Index ratio (A/B)	1.13	
Uncertainty cap	Not applied	
Advised catch for 2020–2021 (issued in 2019)	8 627 tonnes	
Discard rate	1.80%	
Precautionary buffer	Applied	0.8
Catch advice *	7 821 tonnes	
Projected landings corresponding to advice**	7 684 tonnes	
% Advice change ***	-9.30%	

- Lower catches since 2013
- Catch per unit effort based on the Norwegian longline fleet remains high.

Ling in the Northeast Atlantic and Arctic Oceans (6–9, 12, and 14, 3.a and 4.a)

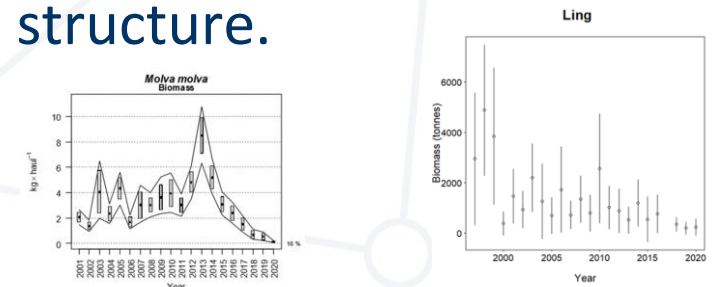
Advice for 2022 and 2023, PA: Catch \leq 15 092 t



Catch (2020) = 15 664 t (Discards = 407 t)

Index A (2019–2020)	156
Index B (2016–2018)	153
Index ratio (A/B)	1.02
Uncertainty cap	Not applied
Advised catch for 2020 and 2021 (issued in	18 516 tonnes
Discard rate	0.044
Precautionary buffer	Applied 0.8
Catch advice*	15 092 tonnes
Landings corresponding to the catch advice**	14 418 tonnes
% Advice change ***	-18%

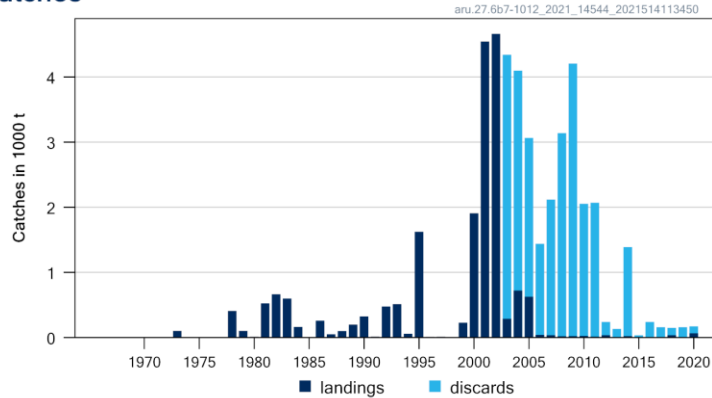
- Landings have been lightly higher in the last 3 years.
- Discards have declined in 2017-2018
- Catch per unit effort (cpue) based on the Norwegian longline fleet is high.
- Low abundance in Subarea 7 and 8.
- Uncertainty about the stock structure.



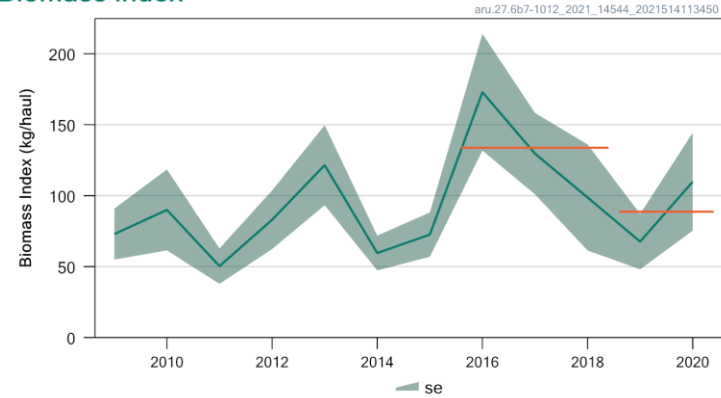
Greater silver smelt in other areas (7–10 and 12, 6.b)

Advice for 2022 and 2023, PA: Catches \leq 124 t advice -36%

Catches



Biomass index



- Catches in 2020 = 183 t (58 % discards)
- Landings have been less than 100 t since 2006.
- Spanish survey on the Porcupine Bank indicates that abundance is about average but lower than in 2016-2017.

Index A (2019–2020)	89 kg haul ⁻¹	
Index B (2016–2018)	134 kg haul ⁻¹	
Index ratio (A/B)	0.66	
Uncertainty cap	Applied	0.8
Advised catches for 2020 and 2021	193 tonnes	
Discard rate (2018–2020)	0.77	
Precautionary buffer	Applied	0.8
Catch advice *	124 tonnes	
Landings corresponding to the catch advice **	28 tonnes	
% Advice change ***	-36%	