

ICES advice for North Western Waters stocks for 2021

NWWAC meeting, July 7-8 2020

WORKING GROUP 2 – CELTIC SEA

Ghislain Chouinard
ICES ACOM vice-chair



Science for sustainable seas

Image Dirk Vonten, Fotolia

Introduction – Celtic Sea

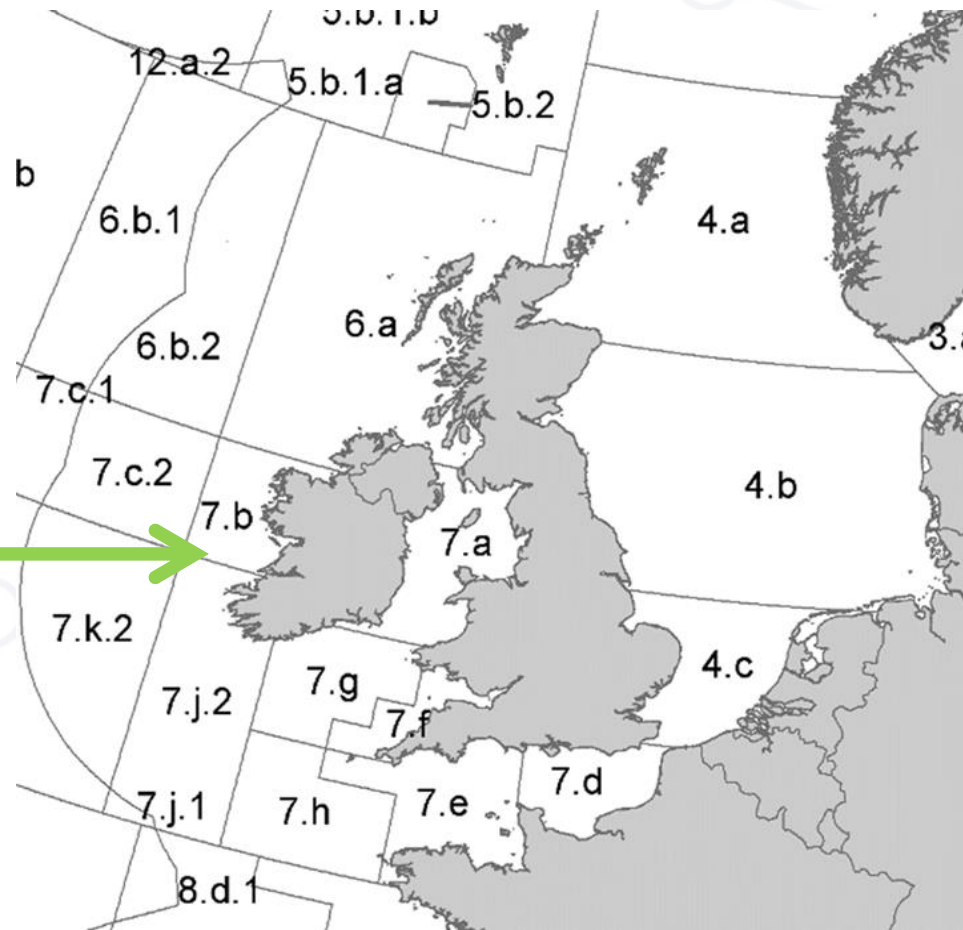
- Includes advice released up to 30 June 2020.
- Advice rules applied by ICES in developing advice on fishing opportunities similar to previous years.
- Abbreviated advice for most stocks due to COVID-19.
- Full advice sheets for benchmarked stocks in early 2020 (sole in 7.fg and sole in 7.h-k)
- Benchmark for Celtic Sea cod, haddock and whiting not concluded due to data issues. Work is ongoing and advice to be released on 30 October 2020.
- Other advice to be released in the autumn for the following stocks: Nephrops (FUs 16-17,19-22), skates and rays

Celtic Sea & West, Southwest Ireland

- B-B Anglerfish (7.b-k, 8.abd)
- White anglerfish (7, 8.a-b,d)
- Hake (4,6,7, 3.a, 8.ab,d)
- Megrin (7.b-k, 8.abd)
- Plaice (7.bc, 7.fg;)
- Pollack (6,7)
- Sea bass (4.bc, 7.a,d-h)
- Sole (7.bc; 7.fg; 7.h-k;)
- Deep stocks

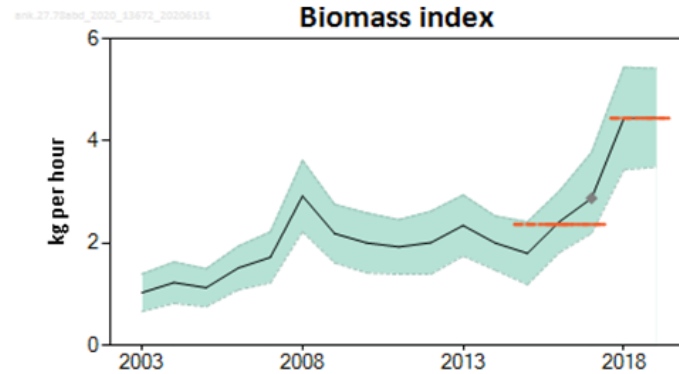
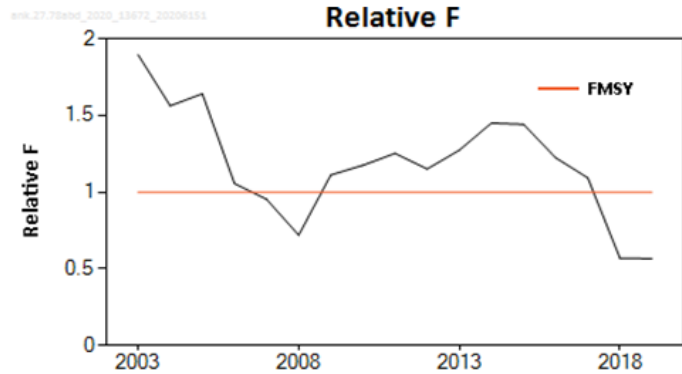
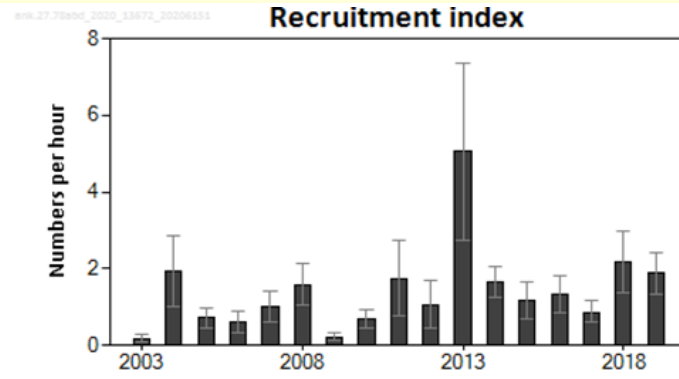
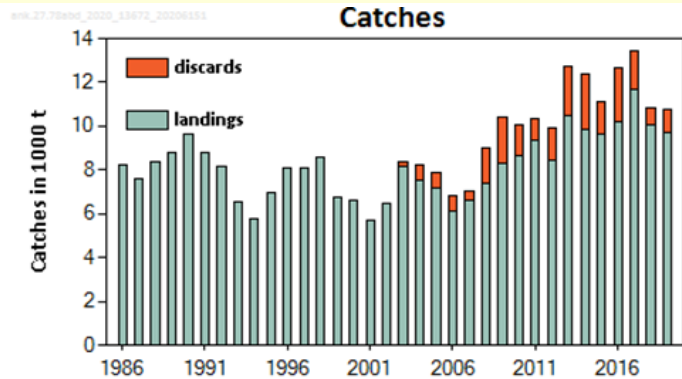
Advice for 2021 provided in previous year

- Plaice 7.h-k
- Some deep stocks, tusk, ling, greater silver smelt



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

Advice for 2021 : PA: Catch $\leq 15\,551$ t



- Fishing mortality declined below F_{MSY} .
- Spawning stock increase since 2015
- Recruitment index above average in the last two years.

	Fishing pressure			Stock size					
		2017	2018	2019	2017	2018	2019		
Maximum sustainable yield	$F_{MSYproxy}$	✘	✔	✔ Below	MSY	?	?	?	Undefined
Precautionary approach	F_{pa}, F_{lim}	?	✔	✔ Below possible reference points	B_{pa}, B_{lim}	?	?	?	Undefined
Management plan	F_{MGT}	✘	✔	✔ *Below F_{MSY} proxy	B_{MGT}	?	?	?	Undefined
Qualitative evaluation		—	—	— Not applicable	-	↗	↗	→	Stable

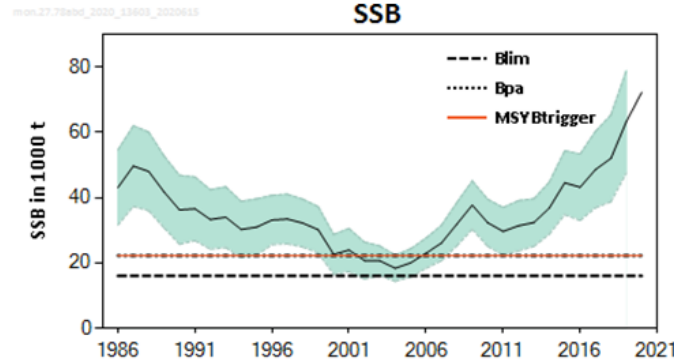
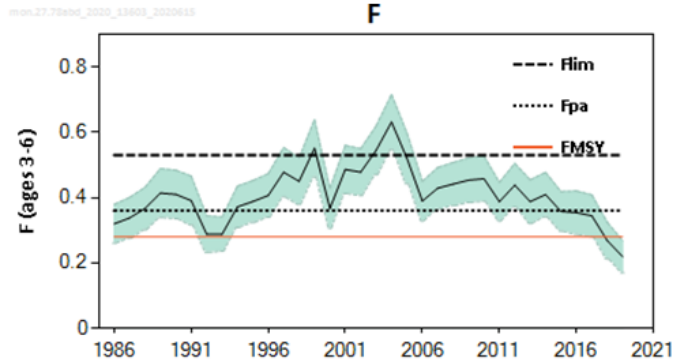
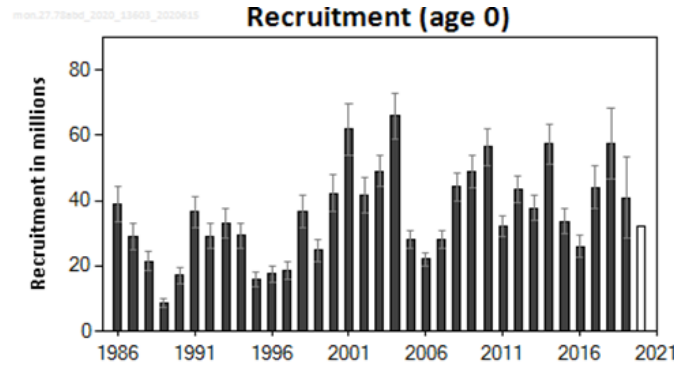
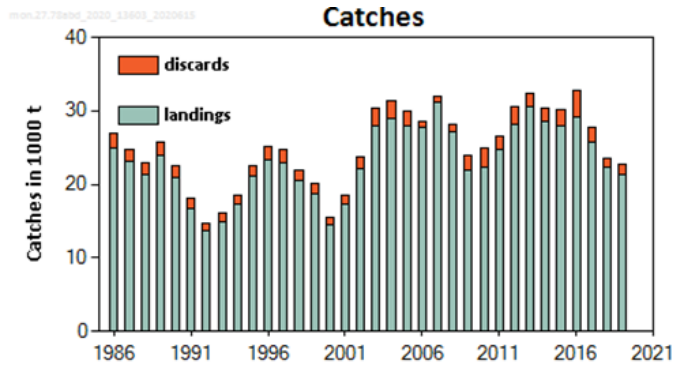
Black-bellied anglerfish in divisions 7.b–k, 8.a–b, and 8.d

Catch (2019) = 10 764 t (10 % discards)

Index A (2018–2019)		4.4 kg/h
Index B (2015–2017)		2.4 kg/h
Index ratio (A/B)		1.88
Uncertainty cap	Applied	1.2
Advised catches in 2020		12959 tonnes
Discard rate (average of 2017–2019)		10%
Precautionary buffer	Not applied	-
Catch advice **		15551 tonnes
Projected landings corresponding to advice ***		13996 tonnes
% advice change ^		20%

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

Advice for 2021 : EU MAP: Catch: 23 320 to 45996 t ($F_{MSY}=34\ 579\ t$)



- Spawning stock increasing since 2005 and highest in time-series.
- Fishing pressure decreasing, below F_{MSY} in 2018.
- Recruitment variable but above average in 2017-2019.
- 2 anglerfish species not totally separated in landings
- Under combined TAC with Black Bellied anglerfish.

	Fishing pressure				Stock size					
	2017	2018	2019		2018	2019	2020			
Maximum sustainable yield	F_{MSY}	✘	✔	✔	Appropriate	MSY $B_{trigger}$	✔	✔	✔	Above trigger
Precautionary approach	F_{pa}, F_{lim}	✔	✔	✔	Harvested sustainably	B_{pa}, B_{lim}	✔	✔	✔	Full reproductive capacity
Management plan	F_{MGT}	✔	✔	✔	Within the range	B_{MGT}	✔	✔	✔	Above

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

Catch (2019) : 22 710 t (6 % discards)

$F(2020) = 0.22$ (Recent fishing pressure (20167-2019, rescaled to 2019));

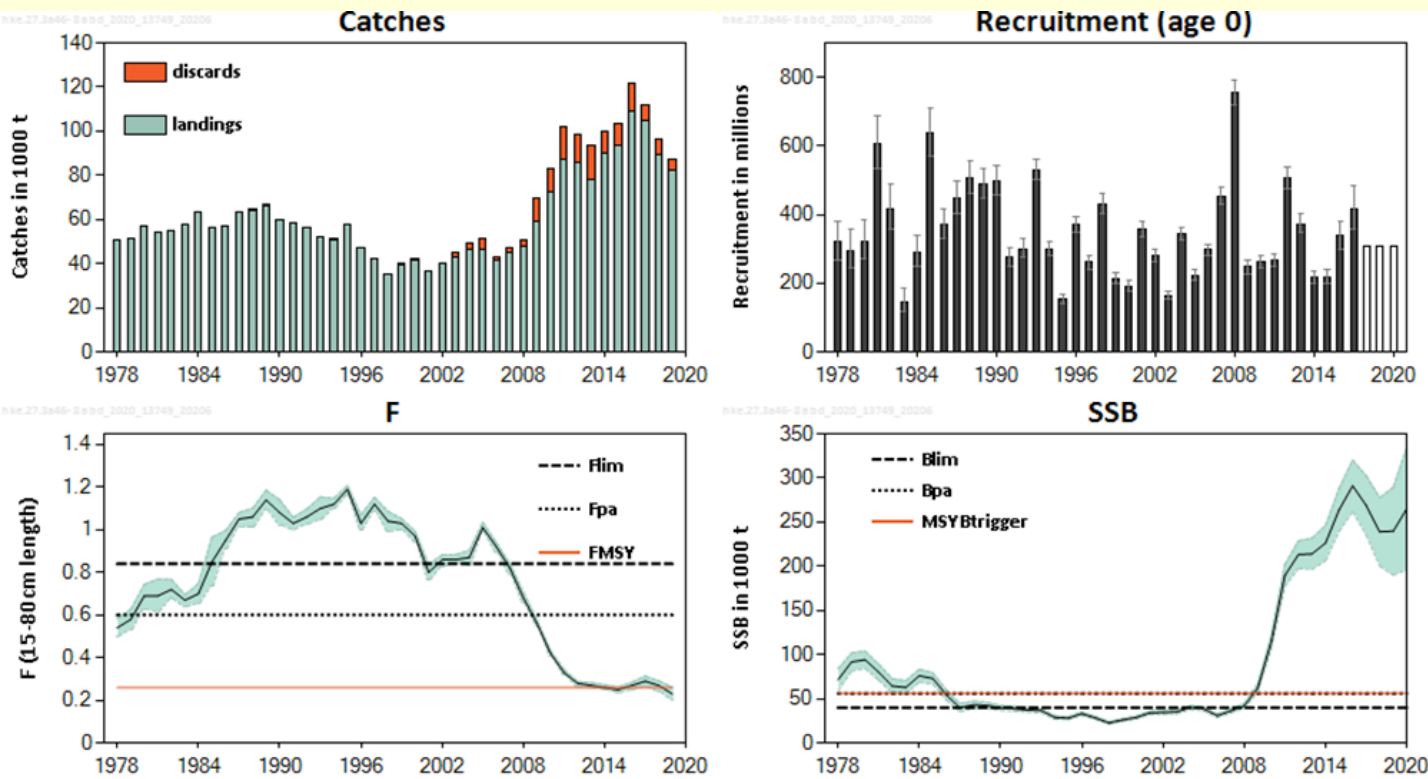
$SSB(2021) = 72\,213\text{t} > MSY_{Btrigger} (22\,278\text{t}) \quad F_{MSY} = 0.28$



Basis	Total catch (2021)	Projected landings* (2021)	Projected discards* (2021)	Ftotal (2021)	F _{Projected} landings (2021)	F _{Projected} discards (2021)	SSB (2022)	% SSB change**	% advice change***
ICES advice basis									
EU MAP^: FMSY	34579	33100	1479	0.28	0.28	0.00122	80416	11.4	8.8
F = MAP FMSY lower	23320	22330	989	0.181	0.18	0.0008	87686	21.4	9.8
F = MAP FMSY upper	45996	44012	1984	0.39	0.38	0.0017	73101	1.23	8.7
Other scenarios									
MSY approach = FMSY	34579	33100	1479	0.28	0.28	0.00122	80416	11.4	8.8
F = 0	0	0	0	-	-	-	102907	42.5	-100
Fpa	42990	41140	1850	0.36	0.36	0.00157	75021	3.9	35
Flim	59034	56460	2574	0.53	0.53	0.002	64824	-10.2	86
SSB2022 = Blim	140139	133423	6717	2.2	2.3	0.0099	16032	-78	341
SSB2022 = Bpa = MSY Btrigger	129085	123010	6075	1.9	1.8	0.008	22278	-69	306
F = F2020	27802	26619	1183	0.22	0.22	0.00096	84785	17.4	-12.6

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

Advice for 2021: MSY: Catch = 98 657 t



- Spawning stock above $MSY B_{trigger}$ since 2009, near highest values.
- Recruitment variable with no trend.
- Fishing pressure declined and around F_{MSY} since 2013.
- Some reduction in advice due to revised perception of the stock.
- Advice based on MSY but EU MAP option provided.

	Fishing pressure			Stock size				
	2017	2018	2019	2018	2019	2020		
Maximum sustainable yield	F_{MSY}	✗	✗	✓	Below			
Precautionary approach	F_{pa}, F_{lim}	✓	✓	✓	Harvested sustainably			
Management plan	F_{MGT}	—	—	—	Not applicable			
				$MSY B_{trigger}$	✓	✓	✓	Above trigger
				B_{pa}, B_{lim}	✓	✓	✓	Full reproductive capacity
				B_{MGT}	—	—	—	Not applicable

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

Catch (2019) : 87 238 t (5.7 % discards)

F(2020) = 0.263 Average F₂₀₁₇₋₂₀₁₉

SSB (2021)= 257 712 t > MSY_{Btrigger} (56 000 t)

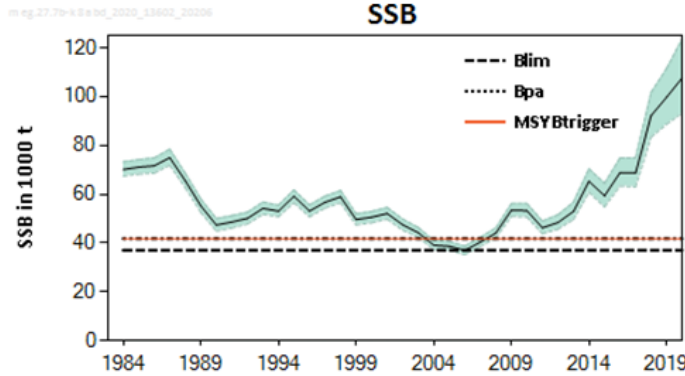
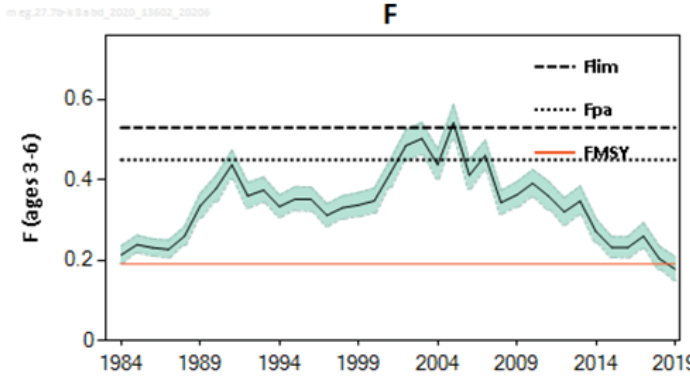
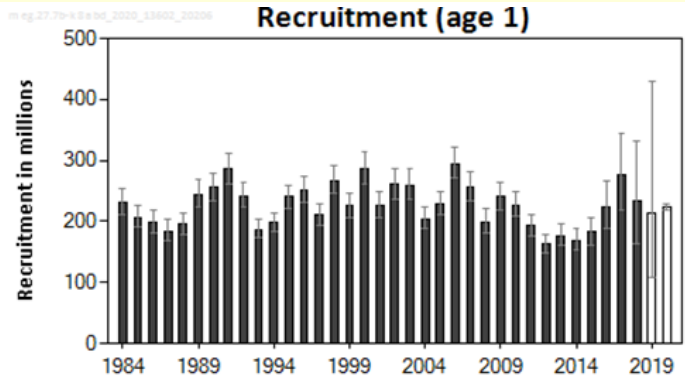
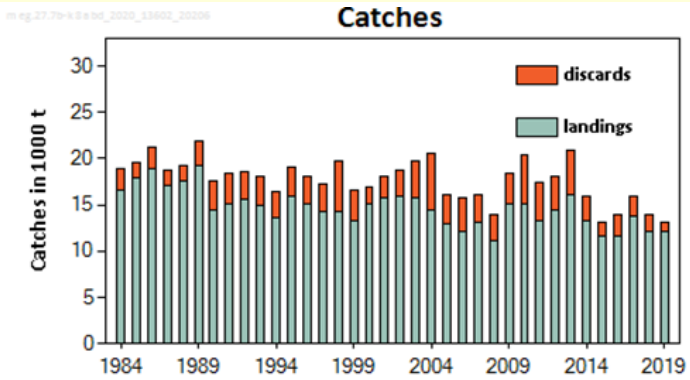
F_{MSY} = 0.26



Basis	Total catch (2021)	Projected landings [^] (2021)	Projected discards [^] (2021)	F _{total} (2021)	F _{projected} landings (2021)	F _{projected} discards (2021)	SSB (2022)	% SSB change *	% advice change **
ICES advice basis									
MSY approach = F _{MSY}	98657	92821	5835	0.26	0.21	0.047	249402	-3.2	-5.8
Other scenarios									
EU MAP ***: F _{MSY}	98657	92821	5835	0.26	0.21	0.047	249402	-3.2	-5.8
F = MAP F _{MSY} lower	71881	67712	4169	0.18	0.148	0.032	274972	6.7	-31
F = MAP F _{MSY} upper	139206	130693	8513	0.4	0.33	0.072	210729	-18.2	33
F = 0	0	0	0	0	0	0	343745	33	-100
F _{pa}	185639	173764	11875	0.6	0.49	0.108	166515	-35	77
F _{lim}	227603	212300	15302	0.84	0.69	0.151	126601	-51	117
SSB (2022) = B _{lim}	317994	292478	25516	1.96	1.61	0.35	39987	-84	204
SSB (2022) = B _{pa}	301541	278435	23106	1.61	1.32	0.29	56005	-78	188
SSB (2022) = MSY B _{trigger}	301541	278435	23106	1.61	1.32	0.29	56005	-78	188
F = F ₂₀₂₀	99750	93845	5905	0.263	0.216	0.047	248359	-3.6	-4.8

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

Advice for 2021: EU MAP: Catch $\leq 12\,706 - 27\,748$ t ($F_{MSY} = 19\,184$ t)



- Spawning stock has been above $MSY B_{trigger}$ since 2008.
- Some tendency to overestimate SSB.
- The fishing pressure has decreased since 2004 and below F_{MSY} in 2019.
- Recruitment has been relatively stable.

	Fishing pressure			Stock size			
		2017	2018	2019	2018	2019	2020
Maximum sustainable yield	F_{MSY}	✗	✗	✓ Below	MSY	✓	✓ Above trigger
Precautionary approach	F_{pa}, F_{lim}	✓	✓	✓ Harvested sustainably	B_{pa}, B_{lim}	✓	✓ Full reproductive capacity
Management plan	F_{MGT}	✓	✓	✓ Within the range	B_{MGT}	✓	✓ Above

Assessment includes Spanish and Irish commercial indices.

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

Catch (2019) : 13 153 t (8 % discards)

F(2020) = 0.21 (F (2017-2019));

SSB (2021)= 111 674 t > MSY_{Btrigger} (41 800 t) $F_{MSY} = 0.191$

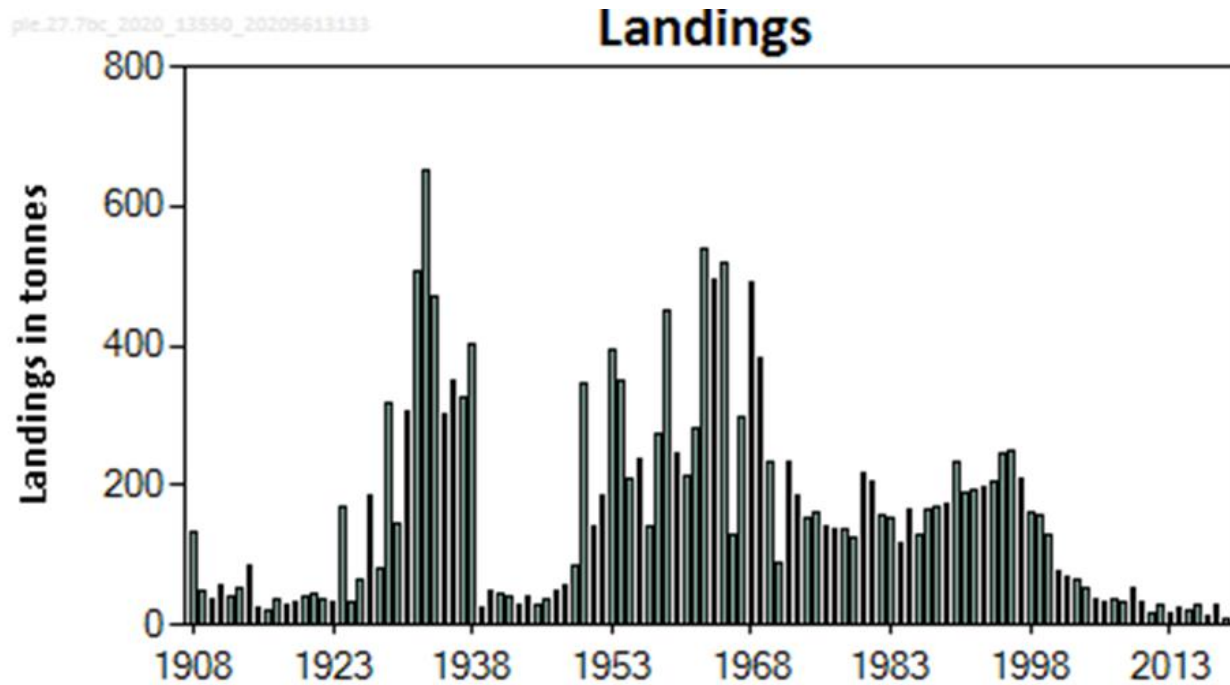


Basis	Total catch (2021)	Projected landings (2021)	Projected discards (2021)	Ftotal (2021)	SSB (2022)	% SSB change *	% Advice change *
ICES advice basis							
EU MAP**: FMSY	19184	16454	2730	0.191	115734	3.6	-4
F = MAP FMSY lower	12706	10911	1795	0.122	122644	9.8	-3.9
F = MAP FMSY upper	27748	23756	3992	0.289	106695	-4.5	-3.8
Other scenarios							
MSY approach = FMSY	19184	16454	2730	0.191	115734	3.6	-4
F = 0	0	0	0	0	136281	22	-100
Fpa	40123	34250	5874	0.451	93752	-16	101
Flim	45727	38978	6749	0.533	87852	-21	129
SSB (2022) = Blim	96223	80131	16092	1.871	37100	-67	382
SSB (2022) = Bpa	91298	76284	15014	1.649	41800	-63	357
SSB (2022) = MSY Btrigger	91298	76284	15014	1.649	41800	-63	357
F = F2020	21310	18269	3041	0.21	113491	1.63	6.6

- The ICES advice is for *L. whiffiagonis*, whereas the TAC is for *L. whiffiagonis* and *L. boscii* combined and includes 7.a and 8.e..

Plaice of the West of Ireland (7.b and 7.c)

Advice for 2021, 2022, 2023: PA: Catch \leq 19 t

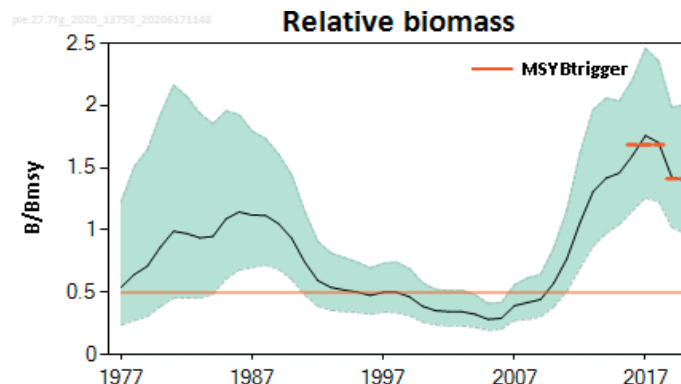
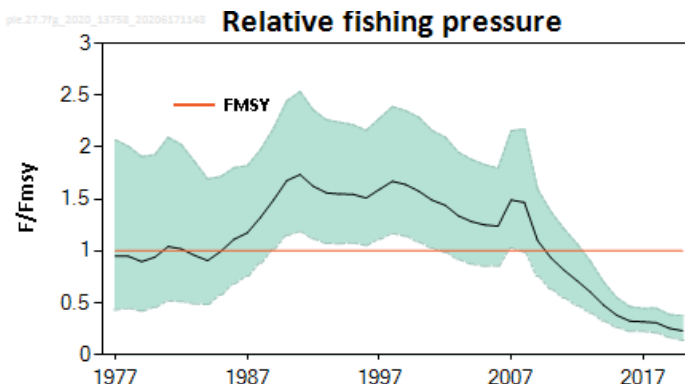
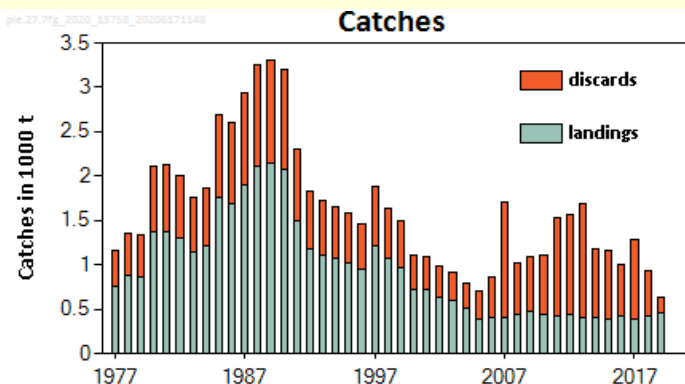


- State of the stock unknown.
- Landings in 2019 = 9 t
- Discards rates uncertain.
- Precautionary reduction in advised catches from 24 t to 19 t.

	Fishing pressure				Stock size					
		2017	2018	2019		2017	2018	2019		
Maximum sustainable yield	F_{MSY}	?	?	?	Unknown	$MSY B_{trigger}$?	?	?	Unknown
Precautionary approach	F_{pa}, F_{lim}	?	?	?	Unknown	B_{pa}, B_{lim}	?	?	?	Unknown
Management plan	F_{MGT}	—	—	—	Not applicable	B_{MGT}	—	—	—	Not applicable

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

Advice for 2021: PA: Catch \leq 1 911 t



- Fishing pressure has declined and well below F_{MSY} proxy.
- Spawning stock has increased since 2005 and is well above $MSY_{Btrigger}$ proxy.
- Caught in mixed fishery with sole, high discard rates (51 % during 2017-2019)

	Fishing pressure			Stock size			
		2017	2018	2019	2018	2019	2020
Maximum sustainable yield	F_{MSY}	✓	✓	✓ Below proxy	$MSY_{B_{trigger}}$	✓	✓ Above proxy
Precautionary approach	F_{pa}, F_{lim}	✓	✓	✓ Below possible reference points	B_{pa}, B_{lim}	✓	✓ Above possible reference points
Management plan	F_{MGT}	—	—	— Not applicable	B_{MGT}	—	— Not applicable

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

Catch (2019) = 642 t (28 % discards)

Index A (2019–2020)		1.41
Index B (2016–2018)		1.69
Index ratio (A/B)		0.83
Uncertainty cap	Not applied	-
Recent advised catch (for 2019)		2295 tonnes
Discard rate (2015-2019)		0.55
Precautionary buffer	Not applied	-
Catch advice		1911 tonnes
Projected landings corresponding to advice		857 tonnes
% Advice change		-17

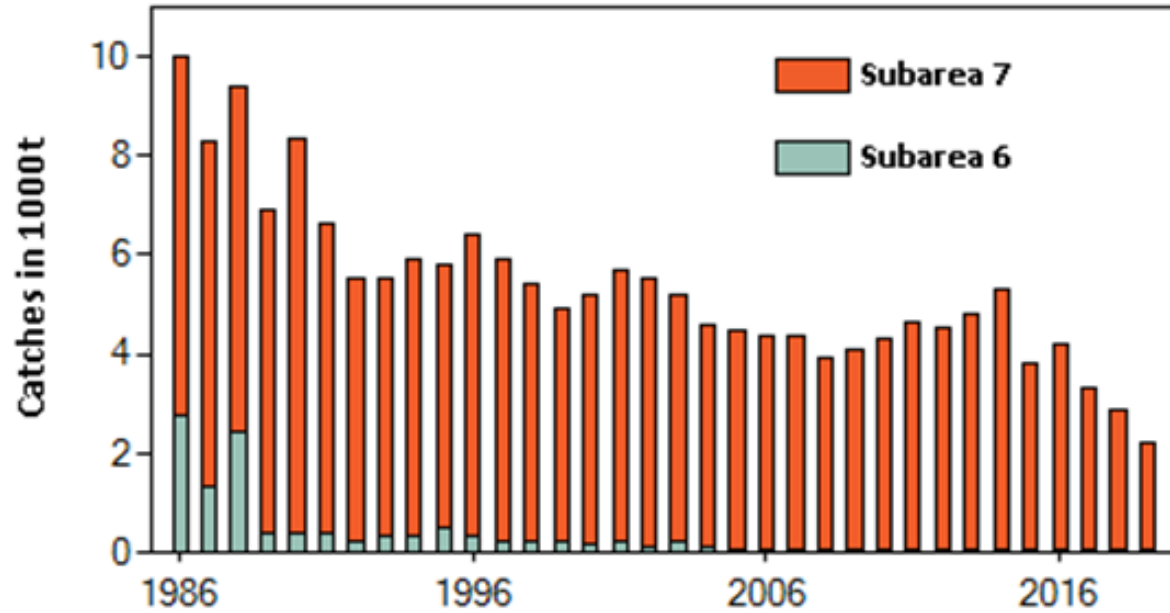
- Decrease in advice due to recent decrease in spawning stock index
- High discards of plaice in mixed sole and plaice fishery: mismatch between selectivity and minimum landing size & relatively low market value of plaice.

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

Advice for 2021 : PA: Catch $\leq 3\ 360$ t

pol.27.67_2020_13591_2020061514340

Catches



- Limited information available on pollack in this area.
- Catches have declined since the late 1980's, lowest in 2019
- Recreational catch unknown, but thought to be significant.

	Fishing pressure				Stock size					
		2017	2018	2019		2017	2018	2019		
Maximum sustainable yield	F_{MSY}	?	?	?	Unknown	B_{MSY}	?	?	?	Unknown
Precautionary approach	F_{pa}, F_{lim}	?	?	?	Unknown	B_{pa}, B_{lim}	?	?	?	Unknown
Management plan	F_{MGT}	-	-	-	Not applicable	B_{MGT}	-	-	-	Not applicable
Qualitative evaluation	-	✓	✓	✓	Below possible reference points	-	?	?	?	Unknown

- Fishing pressure considered to be below reference points

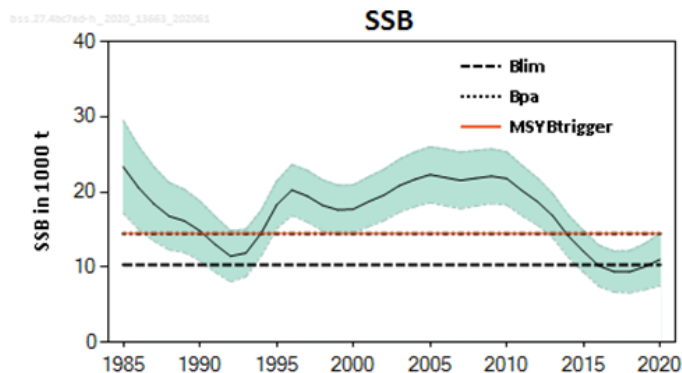
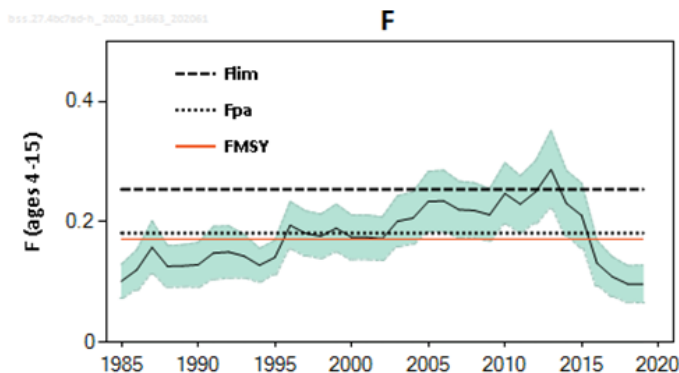
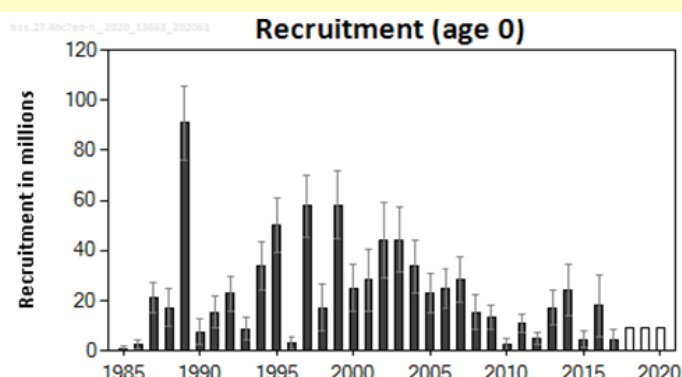
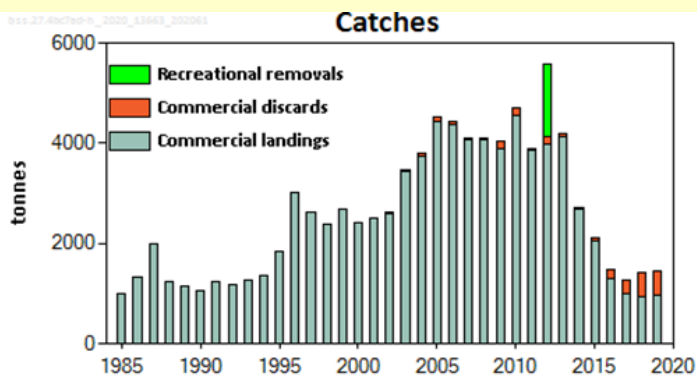
Catch (2019) = 2 219 t (discards negligible but recreational catch unknown)

Advised commercial landings for 2020		3360 tonnes
Discard rate		<1%
Precautionary buffer	Not applied (Last applied in 2018)	-
Commercial catches advice for 2021		3360 tonnes
% Advice change		0

- **Advice unchanged**

Sea bass in divisions 4.b–c, 7.a, and 7.d–h

Advice for 2021; EU MAP: Catch: 1 680 – 2 000 t ($F_{MSY} = 2\ 000$ t)



- Spawning stock slightly above $B_{lim.}$ in 2020.
- Fishing pressure is below F_{MSY} .
- Recruitment poor except for 2013-2014 and 2016

	Fishing pressure			Stock size			
		2017	2018	2019	2018	2019	2020
Maximum sustainable yield	F_{MSY}	✓	✓	✓ Below	$MSY B_{trigger}$	✗	✗ Below trigger
Precautionary approach	F_{pa}, F_{lim}	✓	✓	✓ Harvested sustainably	B_{pa}, B_{lim}	✗	✗ Increased risk
Management plan	F_{MGT}	✓	✓	✓ Below the range	B_{MGT}	✗	✗ Below trigger

Sea bass in divisions 4.b–c, 7.a, and 7.d–h

Catch 2019: 1 709 t (972 t commercial, 464 t discards and 273 t recreational)

F (2020)= 0.11 (F_{sq} for commercial fishery and full compliance in recreational)

SSB(2021) = 11 451 t > B_{lim} 10 313 t but < MSY B_{trigger} = 14 439 t F_{MSY} = 0.1713



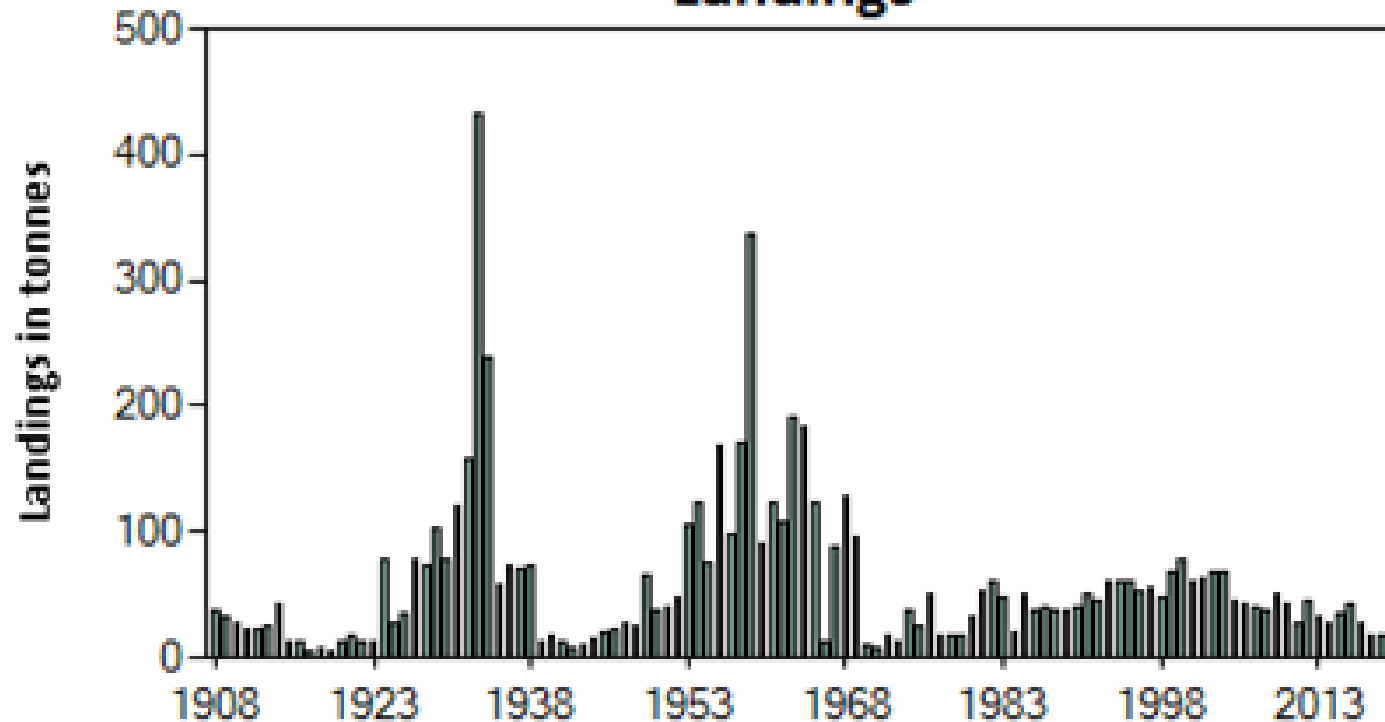
Basis	Total catch* (2021)	Commercial landings (2021)	Commercial discards (2021)	Recreational removals (2021)	F _{total} (2021)	F _{commercial} landings (2021)	F _{commercial} discards (2021)	F _{recreational} removals (2021)	SSB (2022)	% SSB change **	% advice change ***
ICES advice basis											
EU MAP [#] : F _{MSY} × SSB ₂₀₂₁ / MSY B _{trigger}	2000	1353	121	526	0.136	0.095	0.0047	0.037	11209	-2.1	2.8
EU MAP [#] : F _{MSY upper} × SSB ₂₀₂₁ / MSY B _{trigger}	2000	1353	121	526	0.136	0.095	0.0047	0.037	11209	-2.1	2.8 ^
EU MAP [#] : F _{MSY lower} × SSB ₂₀₂₁ / MSY B _{trigger}	1680	1137	101	442	0.113	0.079	0.0039	0.03	11472	0.18	2.8 ^
Other scenarios											
MSY approach: F _{MSY} × SSB ₂₀₂₁ / MSY B _{trigger}	2000	1353	121	526	0.136	0.095	0.0047	0.037	11209	-2.1	2.8
F = F _{MSY}	2478	1676	151	651	0.171	0.119	0.0059	0.046	10817	-5.5	27
F = 0	0	0	0	0	0	0	0	0	12864	12.3	-100
F _{pa}	2613	1767	159	687	0.182	0.127	0.0062	0.049	10706	-6.5	34
F _{lim}	3530	2384	217	928	0.254	0.177	0.0087	0.068	9957	-13.0	81
SSB ₂₀₂₂ = B _{lim}	3093	2091	190	813	0.219	0.152	0.0075	0.059	10313	-9.9	59
SSB ₂₀₂₂ = B _{pa} ^^											
SSB ₂₀₂₂ = MSY B _{trigger} ^^											
F = F ₂₀₂₀	1635	1107	99	430	0.11	0.077	0.0038	0.029	11510	0.52	-16.0

Sole in the West of Ireland (7.bc)

Advice for 2021, 2022 and 2023: PA: Catch \leq 19 t

sol.17.7bc_2020_13627_202005111352

Landings



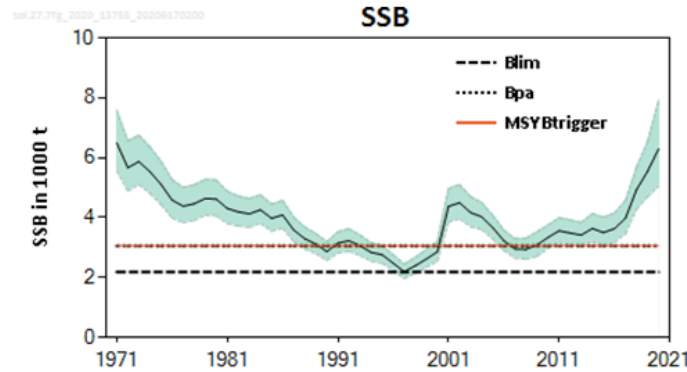
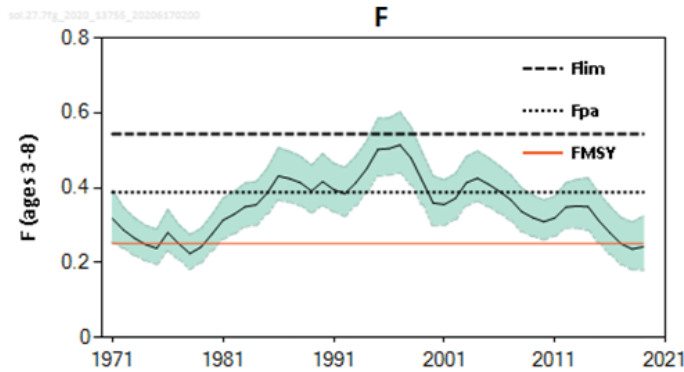
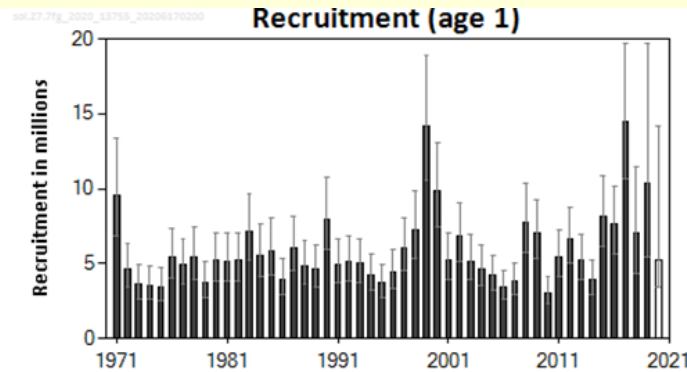
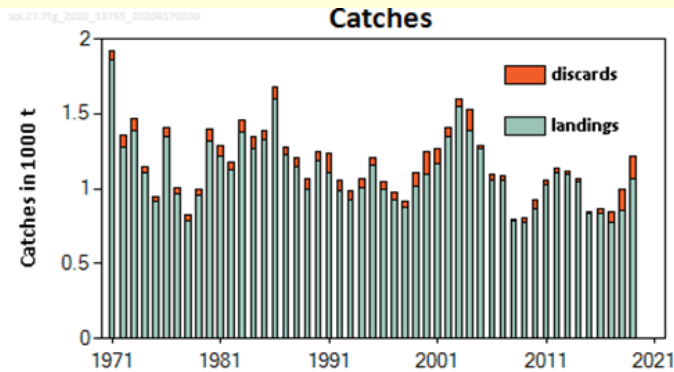
- State of the stock unknown.
- Landings in 2019, 18 t; discards considered negligible.
- Precautionary reduction advised from 24 t to 19 t.

	Fishing pressure				Stock size					
		2017	2018	2019		2017	2018	2019		
Maximum sustainable yield	F_{MSY}	?	?	?	Unknown	$MSY B_{trigger}$?	?	?	Unknown
Precautionary approach	$F_{pa} F_{lim}$?	?	?	Unknown	$B_{pa} B_{lim}$?	?	?	Unknown
Management plan	F_{MGT}	-	-	-	Not applicable	B_{MGT}	-	-	-	Not applicable

Advised catches for 2020	24 tonnes	
Discard rate	Negligible	
Precautionary buffer	Applied	0.8
Catch advice**	19 tonnes	
% Advice change***	-21	

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

Advice for 2021: EU MAP: Catch $\leq 811 - 2\,364$ t ($F_{MSY} = 1\,413$ t)



- Benchmarked in 2020, has led to an upward revision of SSB.
- Spawning stock near highest in time-series.
- Fishing pressure has declined and has been below F_{MSY} since 2017.
- Advice lower than that for 2020 mainly because new F_{MSY} (0.251) is lower than previously (0.297).

	Fishing pressure			Stock size			
		2017	2018	2019	2018	2019	2020
Maximum sustainable yield	F_{MSY}	✓	✓	✓	Below	$B_{trigger}$	✓ Above trigger
Precautionary approach	F_{pa}, F_{lim}	✓	✓	✓	Harvested sustainably	B_{pa}, B_{lim}	✓ Full reproductive capacity
Management plan	F_{MGT}	✓	✓	✓	Within the range	B_{MGT}	✓ Above trigger

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

Catch (2019) : 1 213 t (12 % discards)

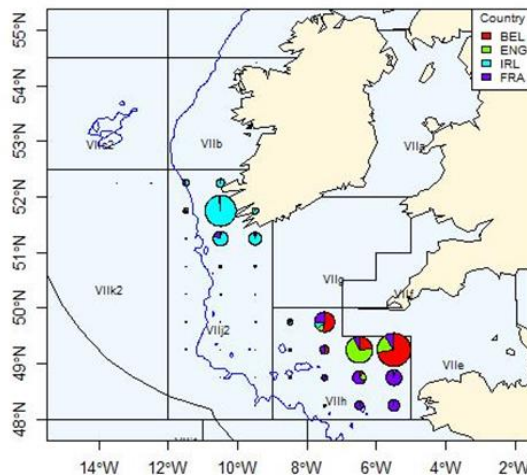
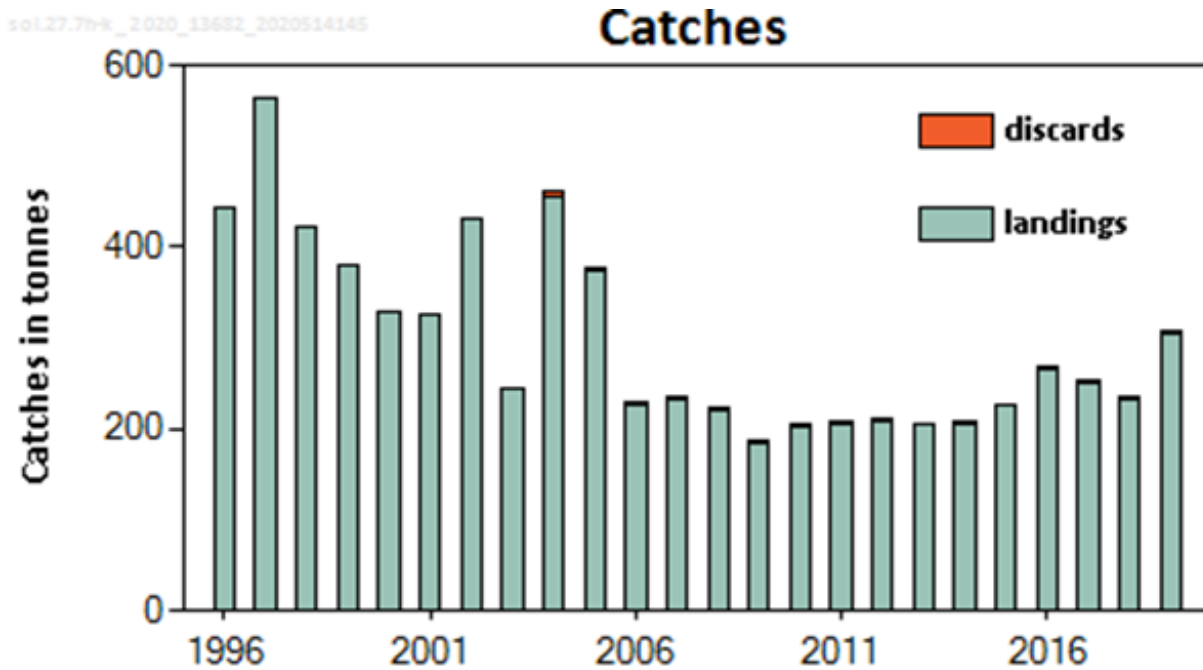
F(2020) = 0.296 Catch constraint - TAC

SSB (2021)= 6 197 t > MSY_{Btrigger} (2 400 t) **F_{MSY} = 0.251 (previously 0.297)**

Basis	Total catch (2021)	Projected landings* (2021)	Projected discards* (2021)	F _{total} (2021)	F _{Projected} landings (2021)	F _{Projected} discards (2021)	SSB (2022)	% SSB change **	% TAC change ***	% Advice change ^
ICES advice basis										
EU MAP ^^: F _{MSY}	1413	1308	105	0.251	0.239	0.012	6009	-3	-14.5	-16.2
EU MAP F _{MSY} lower	811	752	59	0.136	0.129	0.007	6623	6.9	-51	-18.3^^^
EU MAP F _{MSY} upper	2364	2186	178	0.462	0.439	0.023	5030	-18.8	43	-9^^^
Other scenarios										
F = 0	0	0	0	0	0	0	7462	20	-100	-100
F _{pa}	2055	1900	155	0.388	0.368	0.02	5344	-13.8	24	22
F _{lim}	2678	2476	202	0.543	0.515	0.028	4710	-24	62	59
SSB ₂₀₂₂ = B _{lim}	5044	4620	424	1.574	1.494	0.08	2184	-65	205	199
SSB ₂₀₂₂ = B _{pa} = MSY B _{trigger}	4169	3834	335	1.081	1.026	0.055	3057	-49	152	147
F = F ₂₀₂₀	1636	1515	121	0.296	0.281	0.015	5772	-6.9	-0.97	-35

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

Advice for 2021: PA: Catch \leq 213 t



- Benchmarked in 2020.
- Little information on stock identity possibility of 2 stocks based on fishery distribution.
- No appropriate method for evaluating stock status and trends – sampling not representative.
- Catch in 2019 = 309 t (few discards).
- Advice based on recent catches reduced by 20%.

Average catch (2017–2019)		266 tonnes
Discard rate		< 1%
Precautionary buffer	Applied	0.8
Catch advice*		213 tonnes

* Average catch (2017–2019) × precautionary buffer

SUMMARY

Stock	Exploitation	State of stock	Advice 2021	Advice 2020	Catch 2019	TAC 2020
B-B Anglerfish 7, 8.a–b, 8.d	✓	?	15551	12959	10764	44307
W.anglerfish 7, 8.a–b, 8.d	✓	✓	34579 (23320-45996)	31798 (21248-42331)	22710	44307
Hake 4,6,7, 3.a, 8.ab,d	✓	✓	98657	104763	87238	112903
Megrim 7.b-k, 8.ab,d	✓	✓	19184 (12706-27748)	19982 (13218-28838)	13153	20526
Plaice 7bc	?	?	19	24	9	74
Plaice 7.fg	✓	✓	1911	2295	642	2003
Pollack 6-7	?	?	3360	3360	2219	12401
Sea bass 4.b–c, 7.a, and 7.d–h	✓	X	2000 (1680-2000)	1946 (1634-1946)	1709	-
Sole 7.bc	?	?	19	24	18	42
Sole 7.fg	✓	✓	1413 (811-2364)	1686 (1020-2665)	1213	1652
Sole 7.h-k	?	?	213	213	309	329

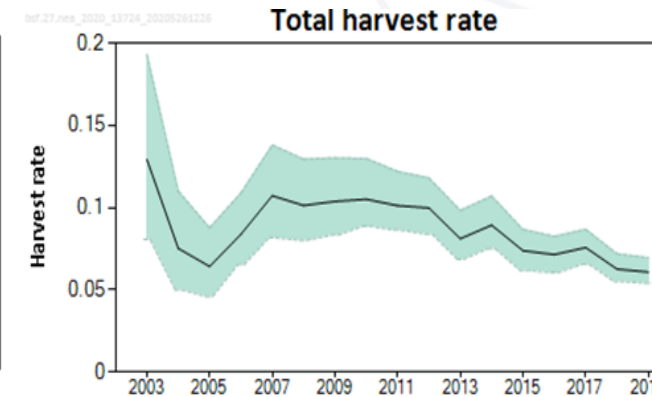
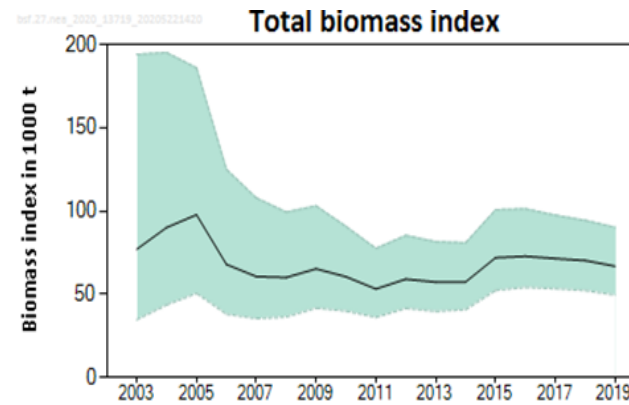
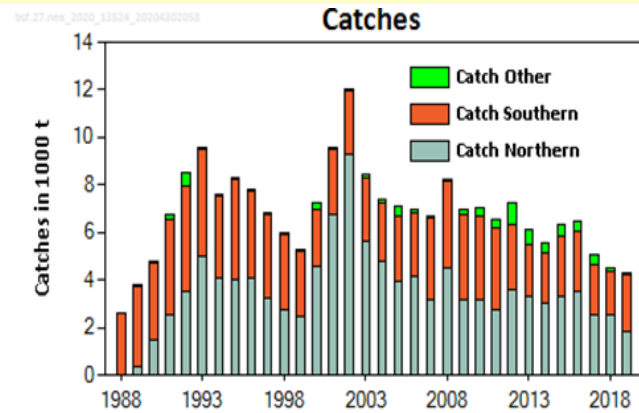
Colours indicate that the value for the Advice for 2021 is either above (green) or below (red) the Advice for 2020. For TAC 2020 in blue, area or species differ from the advice.

ICES advice provided in previous years

Stock	Advice 2021 (t)	Year advice provided
Plaice 7.h-k	0	2019

Black scabbardfish in the Northeast Atlantic and Arctic Ocean

Advice for 2021 and 2022, PA: Catch \leq 4 506 t



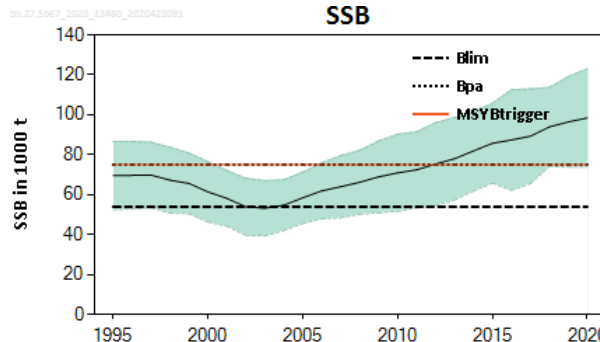
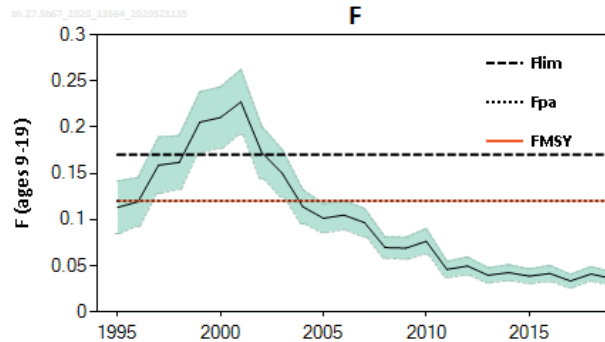
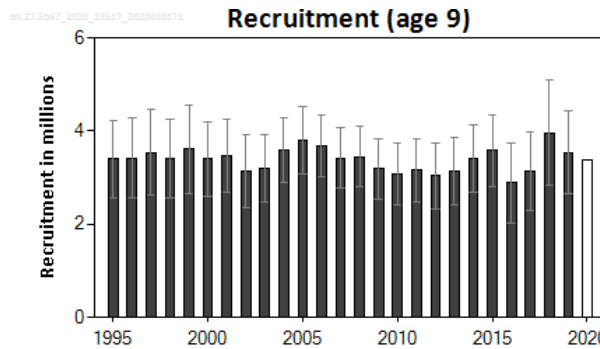
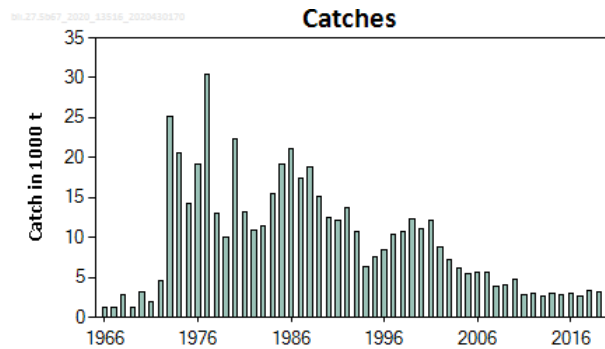
	Fishing pressure			Stock size						
		2017	2018	2019	2017	2018	2019			
Maximum sustainable yield	F_{MSY}	?	?	?	Undefined	$MSY B_{trigger}$?	?	?	Undefined
Precautionary approach	$F_{pa} F_{lim}$?	?	?	Undefined	$B_{pa} B_{lim}$?	?	?	Undefined
Management plan	F_{MGT}	-	-	-	Not applicable	B_{MGT}	-	-	-	Not applicable
Qualitative evaluation	-	↗	↘	→	Stable	-	→	→	→	Stable

Minimum slope of the two component	-0.048
Uncertainty cap	Not applied
Recent advised catch for 2019–2020 iss	5914 tonnes
Discard rate	Negligible
Precautionary buffer	Applied
Catch advice **	4506 tonnes
% advice change ***	-24%

- Catches in 2019 = 4, 317 t (discards negligible)
- Single stock
- Migrates through NE Atlantic
- Total abundance with slight decline over recent years.
- Advice split by areas: \leq 2 143 t in 6, 7, 5.b and 12.b; \leq 2 084 t in 8 and 9.a; \leq 280 tonnes in 1, 2, 4, 10, 3.a and 5.a.

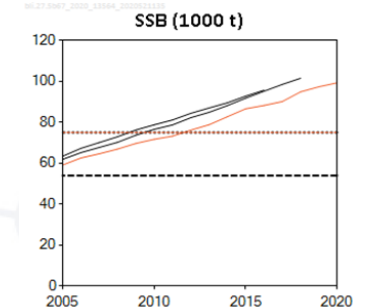
Blue ling in 6–7 and 5.b (Celtic Seas, English Channel, and Faroes grounds)

Advice for 2021 and 2022, MSY: Catch \leq 11 522 t and 10 859 t



- Stock increased since 2004 and has been above $MSY_{Btrigger}$ since 2010.
- Fishing mortality been lower than $FMSY$ since 2004.
- Recruitment is estimated to be stable.
- Discarding is negligible.
- Advice is lower due to revision downwards in perception of the stock.

	Fishing pressure			Stock size		
	2017	2018	2019	2018	2019	2020
Maximum sustainable yield	F_{MSY} ✓	✓	✓ Below	$MSY_{Btrigger}$ ✓	✓	✓ Above trigger
Precautionary approach	$F_{pa} F_{lim}$ ✓	✓	✓ Harvested sustainably	$B_{pa} B_{lim}$ ✓	✓	✓ Full reproductive capacity
Management plan	F_{MGT} —	—	— Not applicable	B_{MGT} —	—	— Not applicable



SUMMARY

Stock	Exploitation	State of stock	Advice 2021	Advice 2020	Catch 2019	TAC 2020
Alfonsinos - NEA	?	?	224	224	294	252
Black scabbardfish - NEA	?	?	4506	5914	4317	5311
Greater forkbeard - NEA	?	?	861	1346	1850	-
Blackspot seabream 6, 7, 8	?	X	0	0	98	105
Roundnose grenadier 6, 7, 5.b, 12.b	?	?	3177	3971	689	4839
Blue ling 5.b, 6-7	✓	✓	11522	11150	3218	-
Tusk 6.b	?	?	280	280	112	-

Colours indicate that the value for the Advice for 2021 is either above (green) or below (red) the Advice for 2020. For TAC 2020 in blue, area or species differ from the advice.

ICES advice provided in previous years

Stock	Advice 2021 (t)	Year advice provided
G. Silver smelt 7-10, 12, 6.b	193	2019
Tusk 4,7-9,3.a, 5.b,6.a,12.b	8627	2019
Ling 6-9,12,14,3.a,4.a	18516	2019



**Thank you
for your
attention!**



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