

ICES advice for North Western Waters stocks for 2021

NWWAC meeting, July 7-8 2020

WORKING GROUP 4 - IRISH SEA

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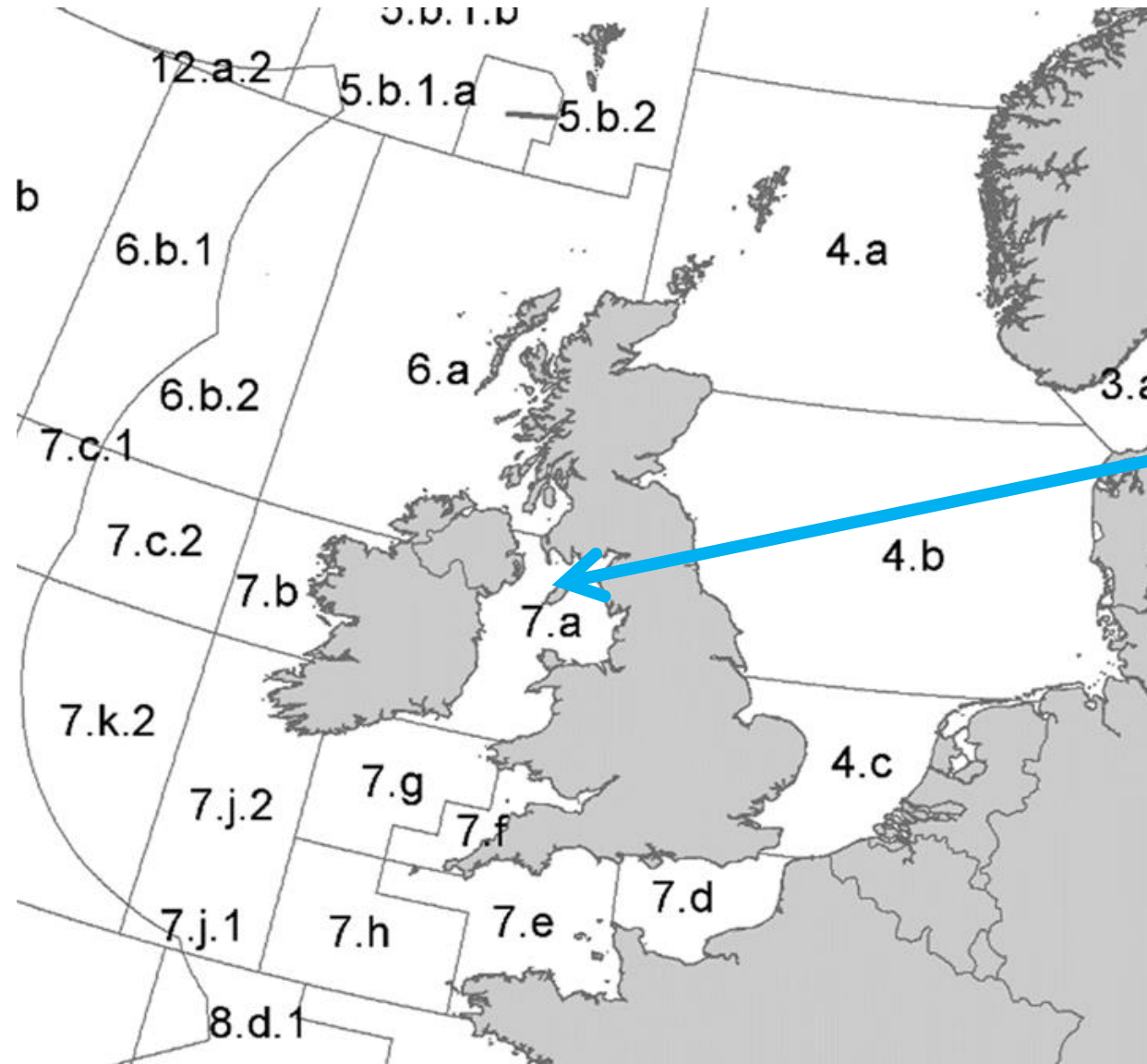


Image Dirk Vonten, Fotolia

Introduction – Irish 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.
- Other advice to be released in the autumn for the following stocks:
Nephrops (FUs 14-15-19)

Irish Sea (7.a)



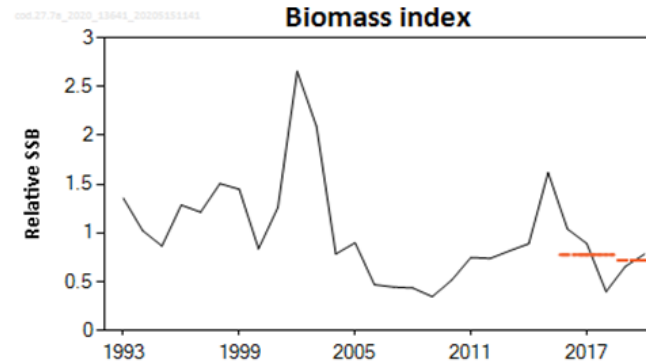
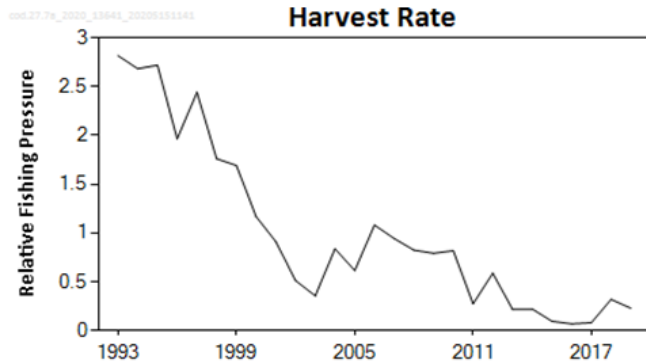
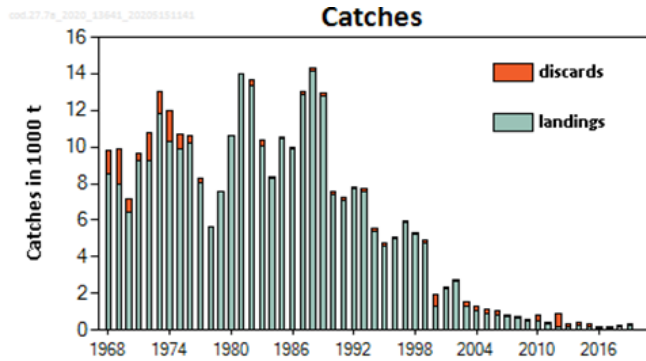
- Cod
- Haddock
- Sole
- Plaice
- Whiting (Advice from 2019)

IN AUTUMN:

- *Nephrops* (FUs 14-15-19)

Cod in the Irish Sea (7.a)

Advice for 2021 PA: Catch ≤ 108 t



- Harvest rate declined to low level but slightly higher in 2018-2019.
- Biomass index below long-term average.
- Slight reduction in advised catch due to ratio of the recent biomass index.

		Fishing pressure			Stock size					
		2017	2018	2019	2018	2019	2020			
Maximum sustainable yield	F_{MSY}	?	?	?	Undefined	MSY	?	?	?	Undefined
Precautionary approach	$F_{pa}F_{lim}$?	?	?	Undefined	$B_{pa}B_{lim}$?	?	?	Undefined
Management plan	F_{MGT}	?	?	?	Undefined	B_{MGT}	?	?	?	Undefined
Qualitative evaluation	-	✓	✓	✓	Below possible reference points	-	↘	↗	↗	Increasing

Cod in the Irish Sea (7.a)

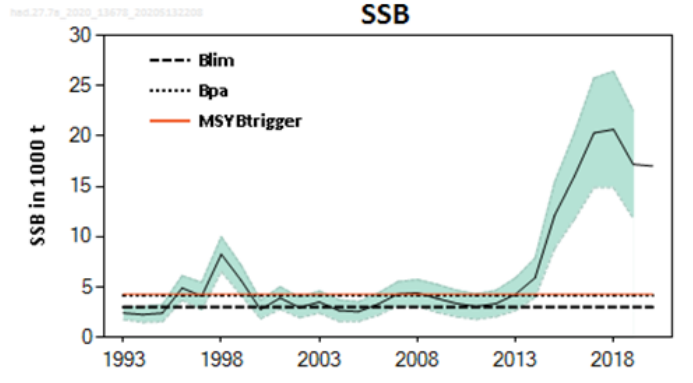
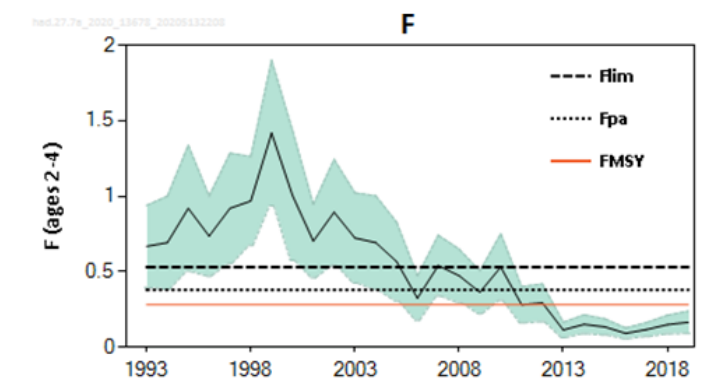
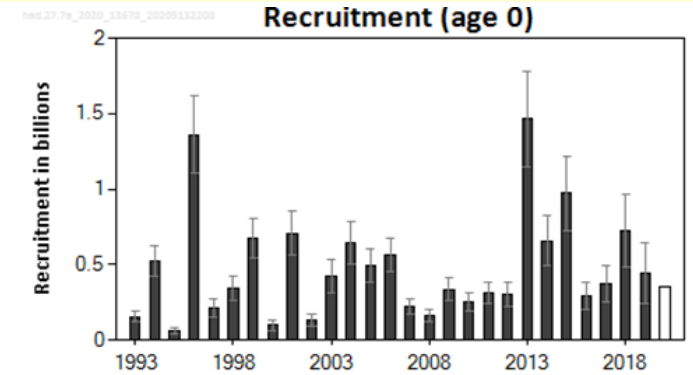
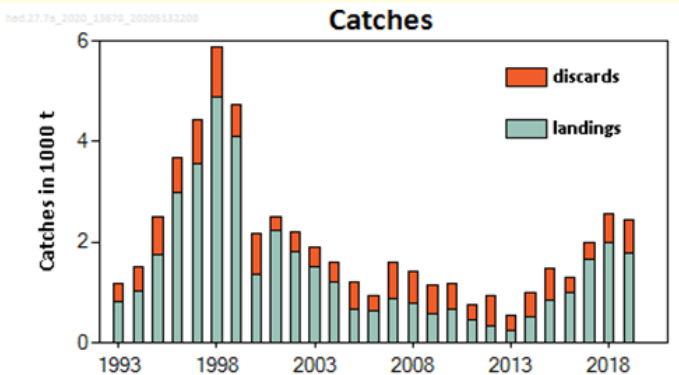
Catch (2019) : 302 t (2 % discards)

Index A (2019, 2020)		0.72
Index B (2016, 2017, 2018)		0.78
Index ratio (A/B)		0.93
Uncertainty cap	Not applied	-
Advised catch for 2020		116 tonnes
Precautionary buffer	Not applied	-
Catch advice **		108 tonnes
Discard rate (2015–2019)		0.3
Projected landings corresponding to advice		76 tonnes
% change in advice ***		-6.9

Landings from south of Division 7.a (rectangles 33E2-3) are not considered part of this stock (included in cod 7.e-k stock) → To be considered when setting catch options for 7.a and 7.e-k.

Haddock in the Irish Sea (7.a)

Advice for 2021: EU MAP : Catch: 2 491 – 4 092 t (F_{MSY} : 3 371 t)



- Spawning stock near high level in 2020
- Fishing pressure has declined and below F_{MSY} since 2012. Some increase recently.
- Recruitment variable, slightly above average in 2017-2019.
- Stock anticipated to decline.

	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}	✓	✓	✓ Below the range	B_{MGT}	✓	✓ Above trigger

Haddock in the Irish Sea (7.a)

Catch (2019) : 2 450 t (27 % discards)

F(2020) = 0.165 (Average F₂₀₁₇₋₂₀₁₉ rescaled to 2019);

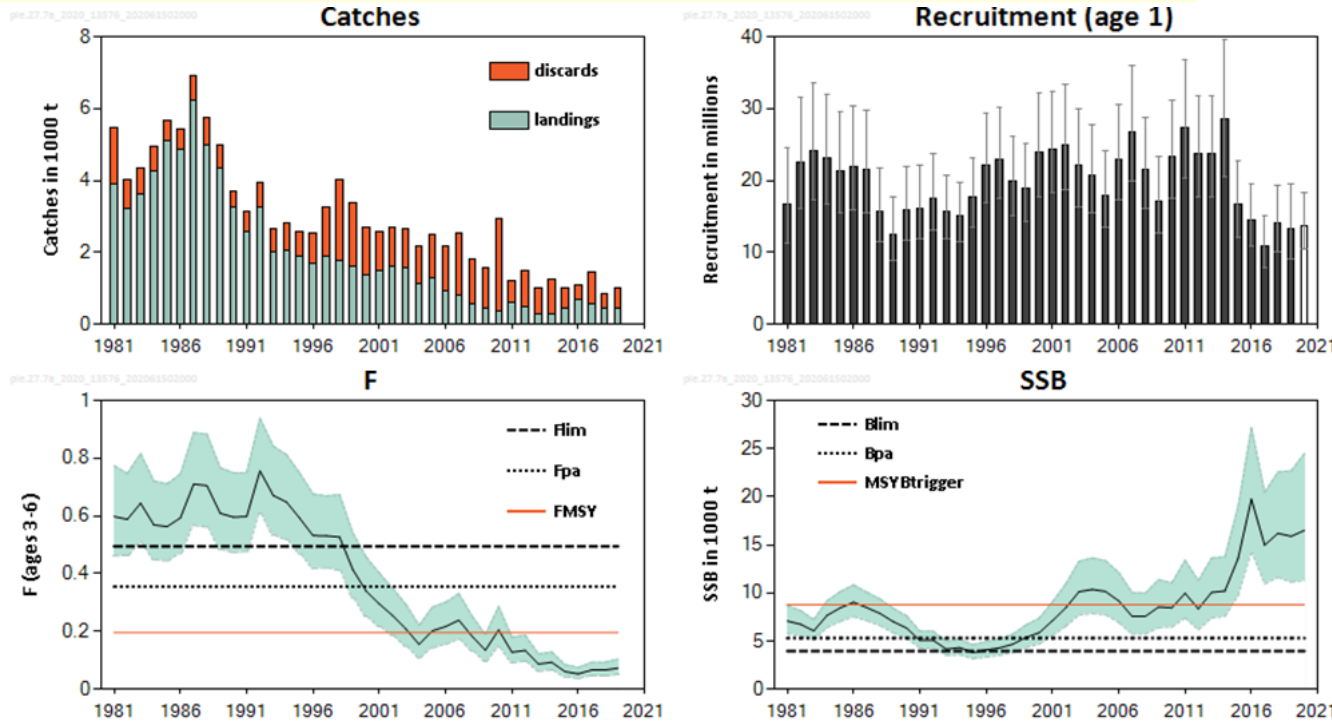
SSB (2021)= 15 458 t > MSY_{Btrigger} (4 281 t) F_{MSY}= 0.28

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									
EU MAP ***: F _{MSY}	3371	2622	748	0.28	0.18	0.1	12343	-20	7
F = MAP F _{MSY} lower	2491	1941	550	0.2	0.129	0.071	13316	-14	7 ^
F = MAP F _{MSY} upper	4092	3179	913	0.35	0.23	0.125	11551	-25	7 ^
Other scenarios									
F = 0	0	0	0	0	0	0	16109	4	-100
F = F _{pa}	4387	3406	981	0.38	0.24	0.135	11228	-27	39
F = F _{lim}	5496	4257	1240	0.5	0.32	0.178	10025	-35	74
SSB ₂₀₂₂ = B _{lim}	12503	9430	3073	1.81	1.16	0.65	2994	-81	300
SSB ₂₀₂₂ = B _{pa}	11229	8530	2699	1.45	0.93	0.52	4160	-73	260
Rollover TAC	3156	2456	700	0.26	0.17	0.09	12580	-19	0
SSB ₂₀₂₂ = MSY B _{trigger}	11101	8438	2663	1.42	0.91	0.5	4281	-72	250
F = F ₂₀₂₀	2081	1623	458	0.165	0.106	0.059	13773	-11	-34

Landings from south of Division 7.a (rectangles 33E2-3) are not considered part of this stock

Plaice in the Irish Sea (7.a)

Advice for 2021: MSY: Catch \leq 2 846 t



- EU requested advice based on the MSY approach
- Spawning stock has increased since 2012 and is well above MSY B_{trigger}.
- Fishing pressure has declined and below F_{MSY} since 2011.
- Recruitment has fluctuated but decreasing since 2014.
- Discarding high and variable.

	Fishing pressure			Stock size			
		2017	2018	2019	2018	2019	2020
Maximum sustainable yield	F _{MSY}	✓	✓	✓ Below	MSY B _{trigger}	✓	✓ 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

Plaice in the Irish Sea (7.a)

Catch (2019) : 1 002 t (54 % discards, but 40% of these estimated to survive)

$F(2020) = 0.068$ (Recent average fishing pressure (2017-2019));

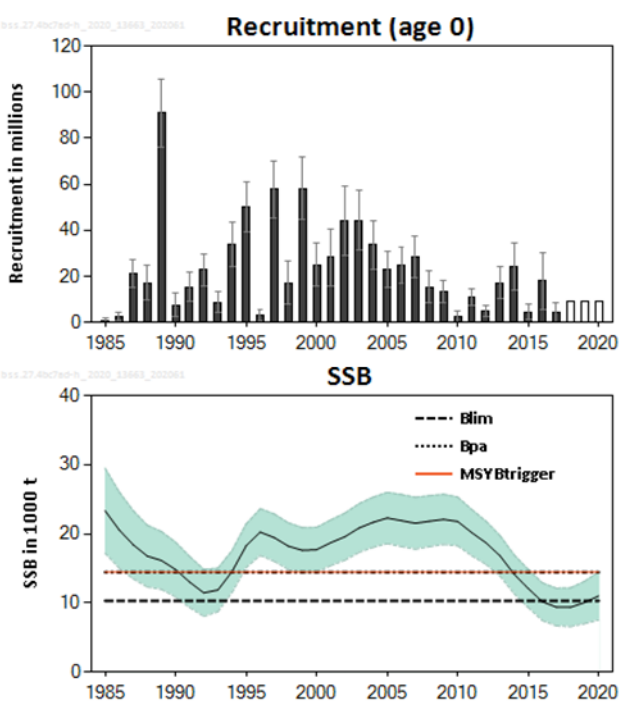
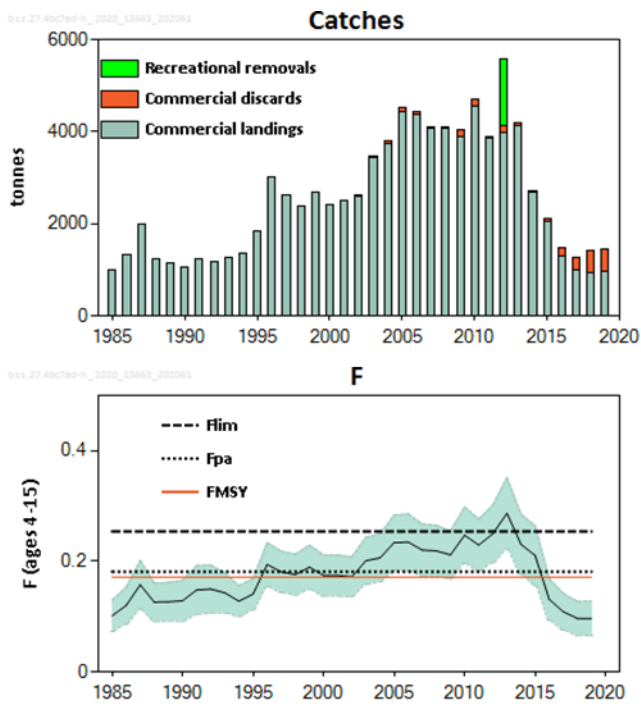
$SSB(2021) = 17\,344\text{ t} > MSY_{Btrigger} (8\,757\text{ t}) \quad F_{MSY} = 0.196$



Basis	Total catch (2021)	Projected landings (2021)	Projected Surviving discards (2021)	Projected dead discards (2021)	Total projected discards *	F_{total} (2021)	$F_{projected}$ landings (2021)	$F_{projected}$ discards ** (2021)	SSB (2022)	% SSB change ***	% advice change ^
ICES advice basis											
F_{MSY}	2846	1323	609	914	1523	0.196	0.047	0.149	16219	-6.5	-50
Other scenarios											
F_{MSY} lower	1976	919	423	634	1057	0.133	0.032	0.101	16912	-2.5	-65
F_{MSY} upper	4119	1915	882	1322	2204	0.293	0.071	0.22	15140	-12.7	-27
F_{pa}	4889	2273	1046	1570	2616	0.355	0.086	0.27	14520	-16.3	-13.3
$F = 0$	0	0	0	0	0	0	0	0	18774	8.2	-100
$F = F_{lim}$	6500	3022	1391	2087	3478	0.5	0.12	0.38	13317	-23	15
$SSB_{2022} = B_{lim}$	18201	8463	3895	5843	9739	2.6	0.62	1.95	3958	-77	220
$SSB_{2022} = B_{pa}$	16677	7754	3569	5354	8923	2	0.5	1.55	5294	-69	200
$SSB_{2022} = MSY B_{trigger}$	12365	5749	2646	3970	6616	1.17	0.28	0.89	8757	-50	120
Rollover TAC	2790	1297	597	896	1493	0.192	0.046	0.145	16264	-6.2	-51
$F = F_{2020}$	1039	483	222	333	556	0.068	0.0165	0.052	17743	2.3	-81

Note: Last year, ICES was requested to provide advice based on the Precautionary approach, this year ICES was asked for advice based on MSY. This explains most of the large % of advice change.

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)

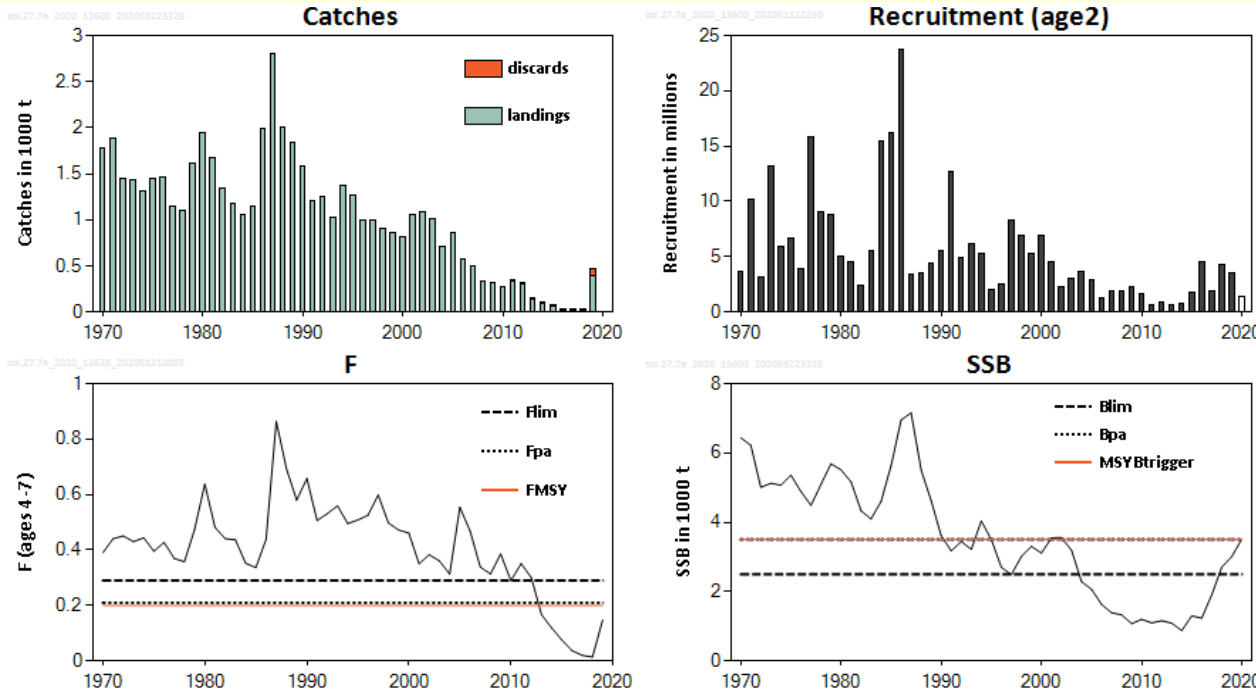
SSB(2021) = 11 451 t > B_{lim} 10 313 t but < MSY B_{trigger} = 14 439 t F_{MSY} = 0.1713



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 Irish Sea (7.a)

Advice for 2021: MSY: Catch \leq 768 t



- Spawning stock below B_{lim} until 2017 but has increased and now at MSY $B_{trigger}$.
- Fishing pressure below F_{MSY} .
- Recent recruitment in higher than in the early 2010's.

	Fishing pressure			Stock size		
	2017	2018	2019	2018	2019	2020
Maximum sustainable yield	F_{MSY}	✓	✓	✓	Below	MSY $B_{trigger}$ ✗ ✗ ✓ 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

Sole in the Irish Sea (7.a)

Catch (2019) : 463 t (14 % discards)

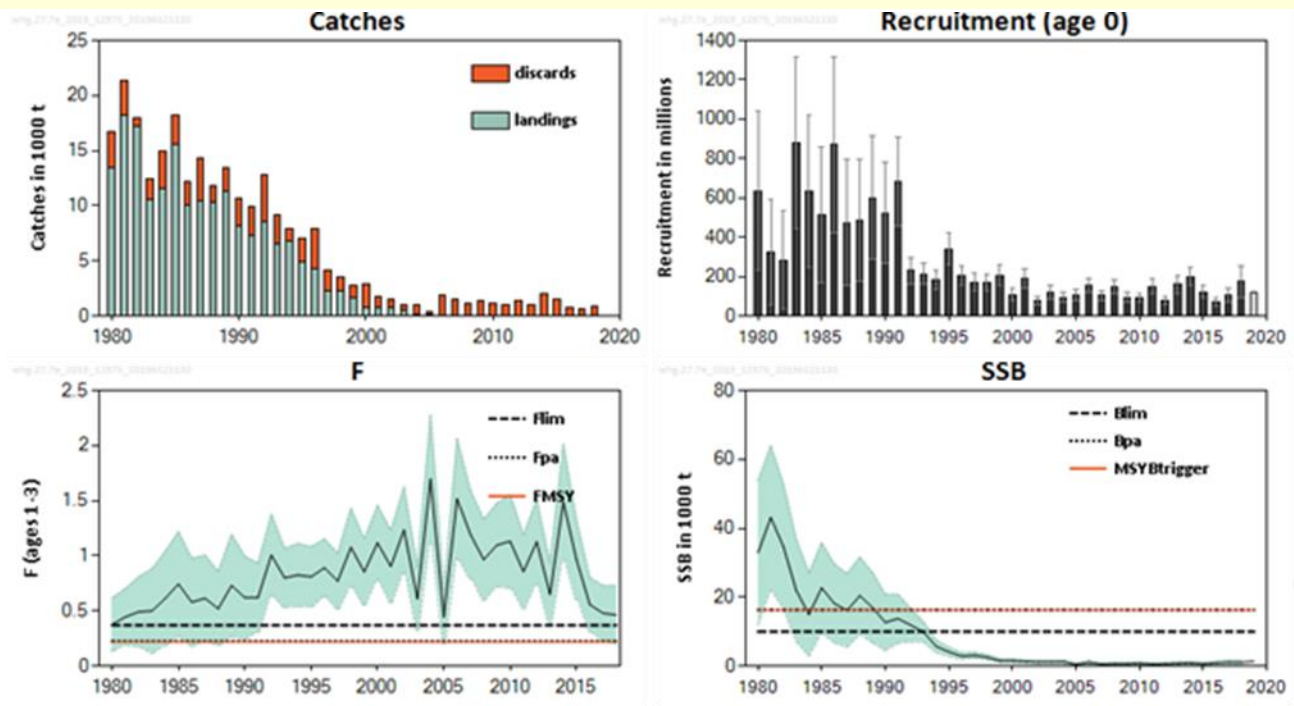
$F(2020) = 0.118$ (Catch constraint =(TAC 2020=457 t));

$SSB(2021) = 3\,616 > MSY_{B_{trigger}}(3\,500)$ $F_{MSY} = 0.20$

Basis	Total catch * (2021)	Projected landings (2021)	Projected discards * (2021)	$F_{projected}$ landings (2021)	SSB (2022)	% SSB change **	% TAC change ***	% advice change ^
ICES advice basis								
F_{MSY}	768	714	54	0.2	3288	-9.1	68	37
Other scenarios								
$F_{MSY\ lower}$	627	583	44	0.16	3418	-5.5	37	11.7
$F_{MSY\ upper}$	902	839	63	0.24	3164	-12.5	97	61
$F = 0$	0	0	0	0	3998	10.6	-100	-100
F_{pa}	802	746	56	0.21	3257	-9.9	76	43
F_{lim}	1063	989	74	0.29	3016	-16.6	133	90
$SSB_{2022} = B_{lim}$	1625	1511	114	0.49	2500	-31	256	190
$SSB_{2022} = B_{pa} = MSY\ B_{trigger}$	539	501	38	0.136	3500	-3.2	17.9	-4.0
$F = F_{2020}$	473	440	33	0.118	3560	-1.55	3.53	-15.7

Whiting in the Irish Sea (7.a)

Advice for 2020 and 2021: MSY: Catch = 0



- Stock size is extremely low.
- Spawning-stock biomass (SSB) well below B_{lim} since the mid-1990s.
- Recruitment has been low since the early 1990s.
- Fishing pressure (F) above F_{MSY} and F_{lim} in 2018.
- Discarding high; 86% in 2019 on catches of 1 272 t
- Technical service: based on bycatch in the Nephrops fishery, likely catches in 2021 would be 930 t

	Fishing pressure				Stock size					
	2016	2017	2018		2017	2018	2019			
Maximum sustainable yield	F_{MSY}	✗	✗	✗	Above	$B_{trigger}$	✗	✗	✗	Below trigger
Precautionary approach	F_{pa}, F_{lim}	✗	✗	✗	Harvested unsustainably	B_{pa}, B_{lim}	✗	✗	✗	Reduced 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
Cod 7.a	?	?	108	116	302	257
Haddock 7.a	✓	✓	3371 (2491-4092)	3156 (2333-3830)	2450	3156
Plaice 7.a	✓	✓	2846	5640	1002	2970
Sea bass 4.b–c, 7.a, and 7.d–h	✓	X	2000 (1680-2000)	1946 (1634-1946)	1709	-
Sole 7.a	✓	✓	768	561	463	457
Whiting 7.a	X	X	0	0	1261	721

Colours indicate that the value for the Advice for 2021 is either above (green) or below (red) the Advice for 2020.

ICES advice provided in previous years

Stock	Advice 2021 (t)	Year advice provided
Whiting in 7.a	0	2019



**Thank you
for your
attention!**



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