

ICES advice for North Western Waters stocks for 2022

NWWAC meeting, July 2, 2021

WORKING GROUP 4 - IRISH SEA

Ghislain Chouinard
ICES ACOM vice-chair

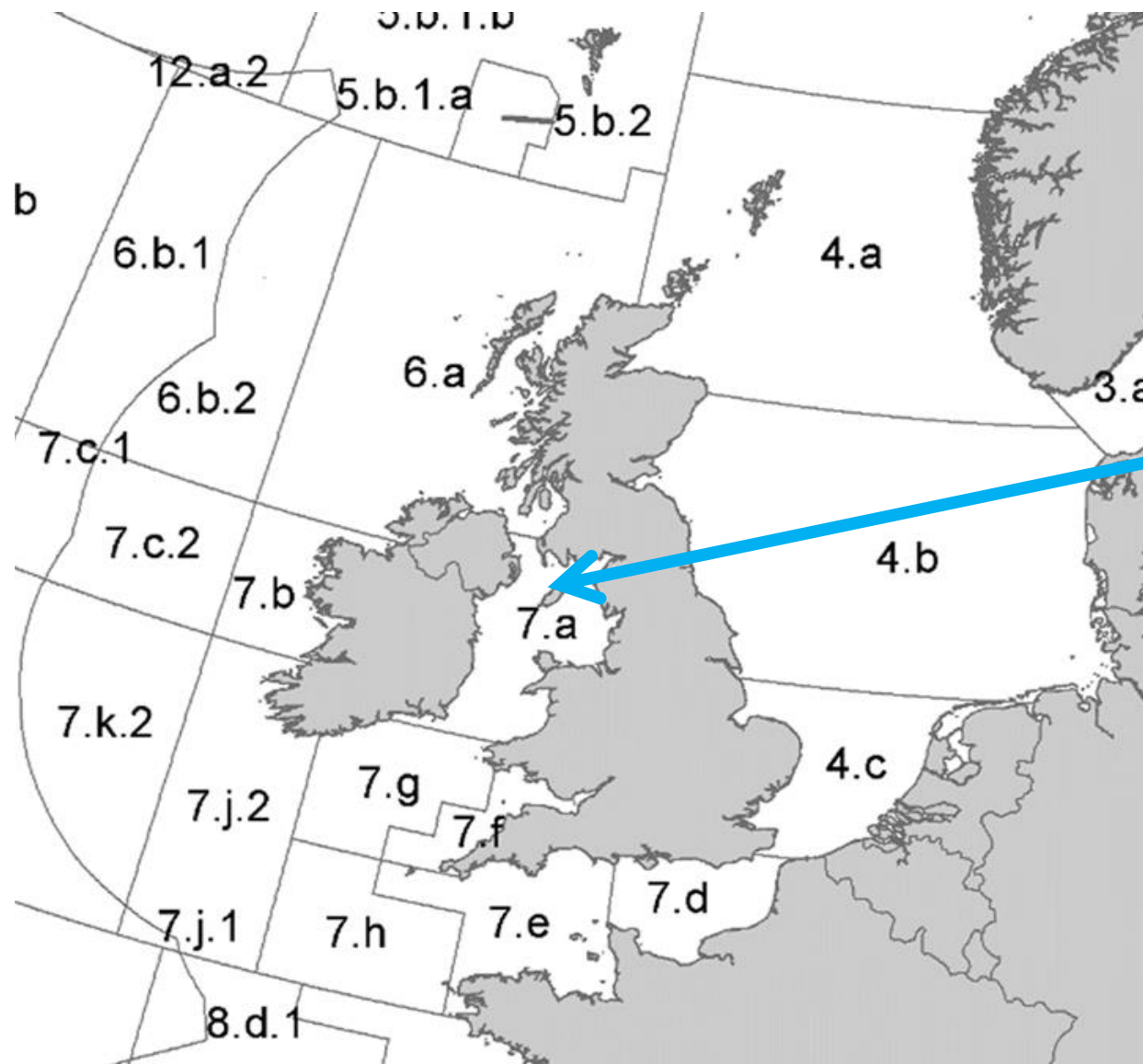


Image Dirk Vonten, Fotolia

Introduction – Irish Sea

- Includes advice released up to 30 June 2021.
- Full advice sheets for all stocks. COVID-19 impacts inserted in Quality of the assessment.
- 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.
- Advice rules applied by ICES in developing advice on fishing opportunities similar to previous years.
- 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
- Seabass
- Whiting
- Rays and skates
- Spurdog

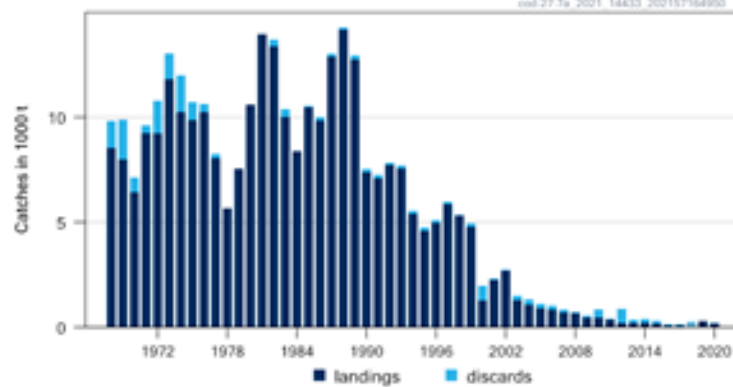
IN AUTUMN:

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

Cod in the Irish Sea (7.a)

Advice for 2022, PA: Catch ≤ 74 t

Catches



Harvest Rate



Biomass index



- Harvest rate declined to low level but slightly higher in 2018-2020.
- Biomass index near long-term low
- Reduction in advised catch due to reduction in ratio of the recent biomass index.

Cod in the Irish Sea (7.a)

Catch (2020) : 206 t (12 % discards)

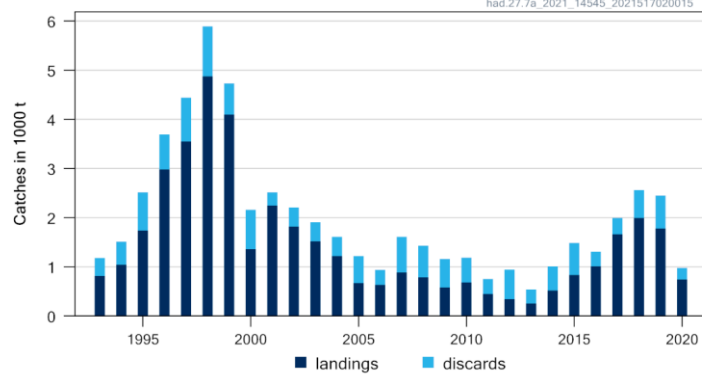
Index A (2020, 2021)		0.42
Index B (2017, 2018, 2019)		0.67
Index ratio (A/B)		0.62
Uncertainty cap	Not applied	0.8
Advised catch for 2021		93 tonnes
Precautionary buffer	Not applied	-
Catch advice **		74 tonnes
Discard rate (2016–2020)		0.23
Projected landings corresponding to advice		57 tonnes
% change in advice ***		–20

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.

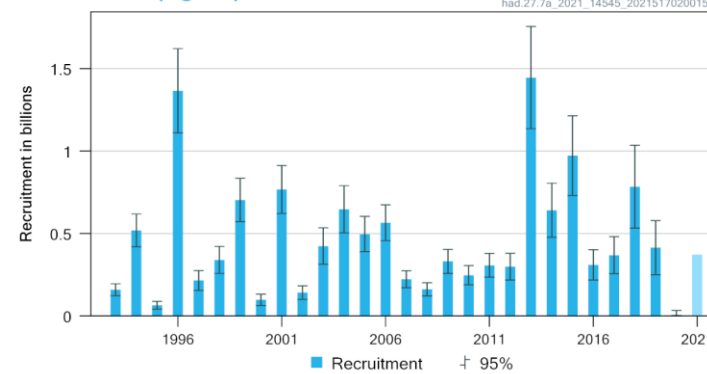
Haddock in the Irish Sea (7.a)

Advice for 2022, MSY: Catch: ≤ 2761 t

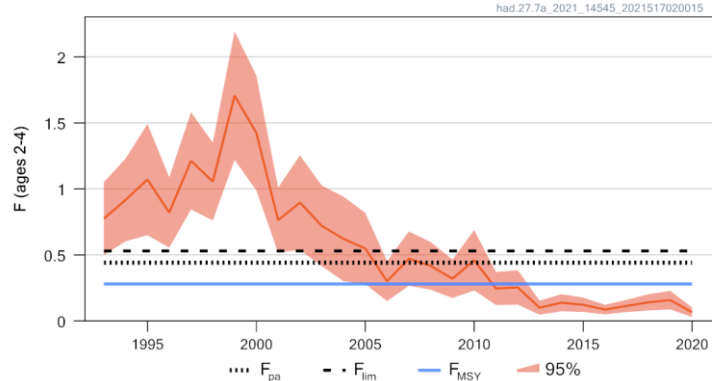
Catches



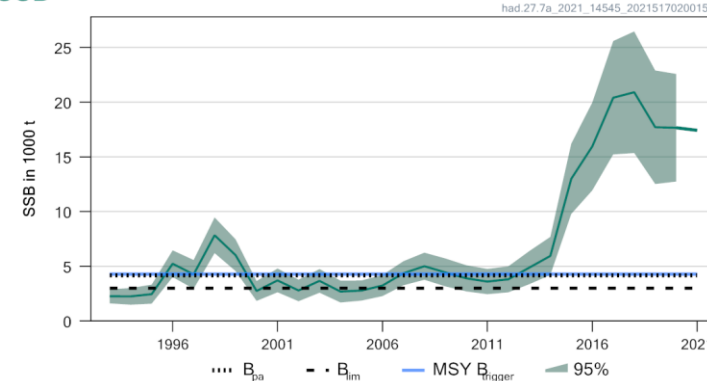
Recruitment (age 0)



F



SSB



- NIMIK survey not available in 2020.
- Spawning stock high in 2021.
- Fishing pressure has declined and below F_{MSY} since 2012.
- Recruitment variable, estimated to be very poor in 2020, lowest in 25 years.
- Stock anticipated to decline.

EU MAP : Catch: 2 044 – 3 346t (F_{MSY} : 2761 t)

Haddock in the Irish Sea (7.a)

Catch (2020) : 976 t (24 % discards)

$F(2021) = 0.138$ (Average $F_{2017-2019}$ rescaled to 2019);

$SSB(2022) = 13\,692\text{ t} > MSY_{Btrigger} (4\,281\text{ t}) \quad F_{MSY} = 0.28$

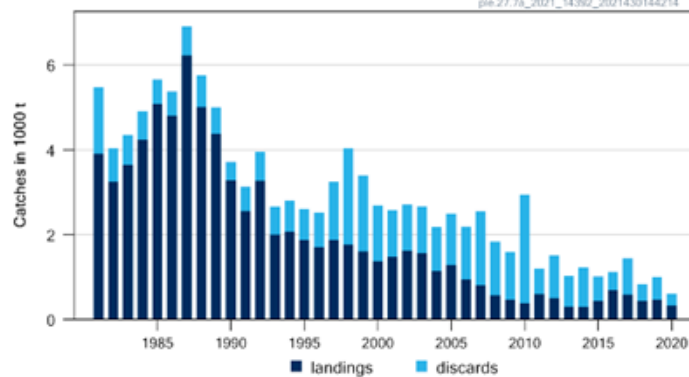
Basis	Total catch (2022)	Projected landings (2022)	Projected discards (2022)	F_{total} (2022)	$F_{projected\ landings}$ (2022)	$F_{projected\ discards}$ (2022)	SSB (2023)	% SSB change *	% advice change*
ICES advice basis									
MSY approach: F_{MSY}	2761	2517	244	0.28	0.17	0.11	8681	-37	-18.1
Other scenarios									
EU MAP***: F_{MSY}	2761	2517	244	0.28	0.17	0.11	8681	-37	-18.1
$F = MAP\ F_{MSY\ lower}$	2044	1863	181	0.2	0.121	0.079	9404	-31	-39
$F = MAP\ F_{MSY\ upper}$	3346	3050	296	0.35	0.21	0.138	8094	-41	-0.74
$F = 0$	0	0	0	0	0	0	11487	-16.1	-100
$F = F_{pa}$	3819	3481	338	0.41	0.25	0.162	7622	-44	13.3
$F = F_{lim}$	4481	4085	397	0.5	0.3	0.197	6966	-49	33
$SSB_{2023} = B_{lim}$	8654	7885	769	1.34	0.81	0.53	2994	-78	157
$SSB_{2023} = B_{pa}$	7388	6733	655	1.015	0.62	0.4	4160	-70	119
$SSB_{2023} = SSB_{2022}^{\wedge}$									
$SSB_{2023} = MSY_{Btrigger}$	7260	6616	644	0.99	0.6	0.39	4281	-69	115
$F = F_{2021}$	1447	1319	128	0.138	0.083	0.054	10009	-27	-57

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

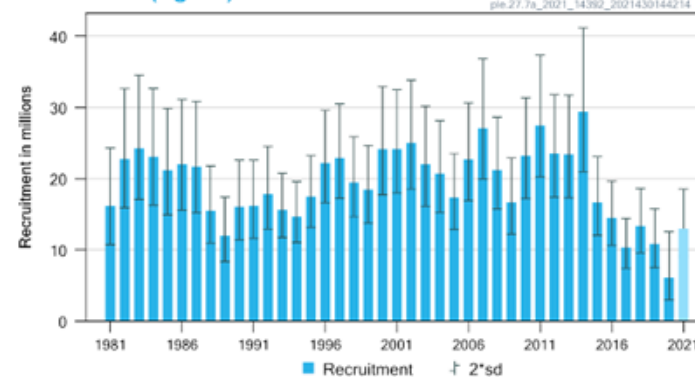
Plaice in the Irish Sea (7.a)

Advice for 2022, MSY: Catch $\leq 2\,747$ t

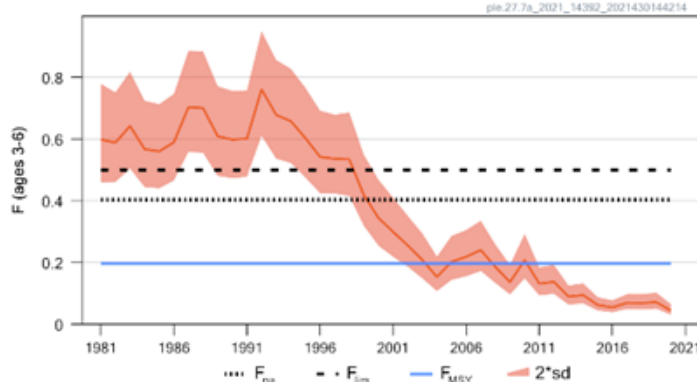
Catches



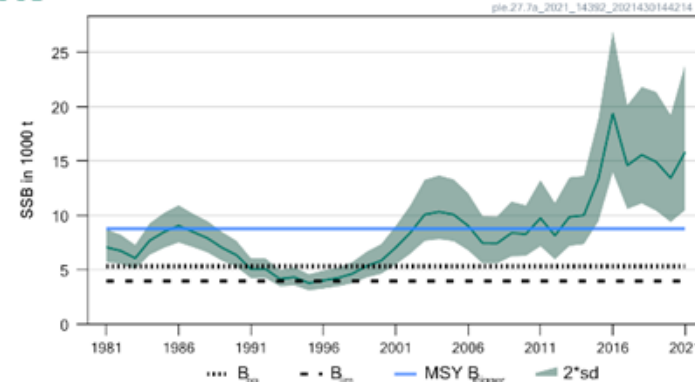
Recruitment (age 1)



F



SSB



- UK (E&W)-BTS-Q3 survey unable to cover Div. 7.a; estimates of young fish more uncertain.
- Perception revised downwards.
- 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, 40% assumed to survive.

Plaice in the Irish Sea (7.a)

Catch (2020) : 601 t (45 % discards, but 40% of these esimated to survive)

$F(2021) = 0.061$ (Recent average fishing pressure (2018-2020));

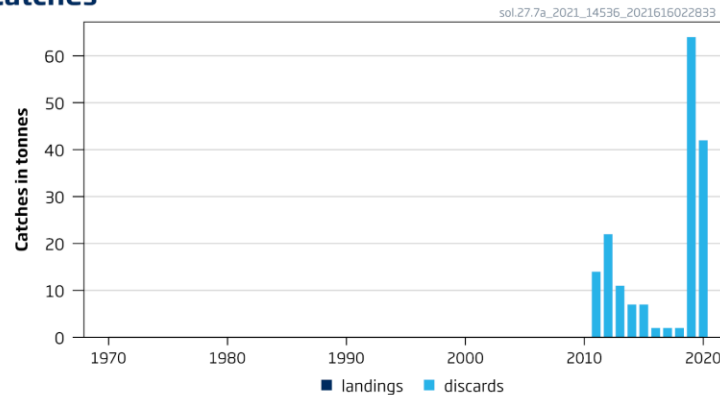
$SSB(2022) = 16160 \text{ t} > MSY_{Btrigger} (8757 \text{ t}) \quad F_{MSY} = 0.196$

Basis	Total catch (2022)	Projected Surviving discards (2022)	Projected dead discards (2022)	Total projected discards * (2022)	F_{total} (2022)	$F_{projected}$ landings (2022)	$F_{projected}$ discards ** (2022)	SSB (2023)	% SSB change ***	% advice change ^
ICES advice basis										
F_{MSY}	2747	536	805	1341	0.196	0.061	0.135	14628	-9.5	-3.5
Other scenarios										
$F_{MSY \text{ lower}}$	1911	373	560	933	0.133	0.041	0.092	15335	-5.1	-33
$F_{MSY \text{ upper}}$	3967	774	1162	1936	0.29	0.091	0.2	13536	-16.2	39
F_{pa}	5236	1022	1533	2555	0.4	0.125	0.28	12534	-22	84
$F = 0$	0	0	0	0	0	0	0	17180	6.3	-100
$F = F_{lim}$	6218	1214	1821	3035	0.5	0.154	0.34	11863	-27	118
$SSB_{2023} = B_{lim}$	15756	3076	4614	7690	2.1	0.66	1.47	3958	-76	450
$SSB_{2023} = B_{pa}$	14233	2779	4168	6947	1.68	0.52	1.16	5294	-67	400
$SSB_{2023} = MSY_{Btrigger}$	10093	1970	2956	4926	0.94	0.29	0.65	8758	-46	250
Rollover advice	2846	556	833	1389	0.2	0.06	0.14	14562	-9.9	0
$F = F_{2021}$	905	177	265	442	0.061	0.019	0.042	16210	0.3	-68
$SSB_{2023} = SSB_{2022}$	982	192	287	479	0.067	0.02	0.046	16160	0	-66

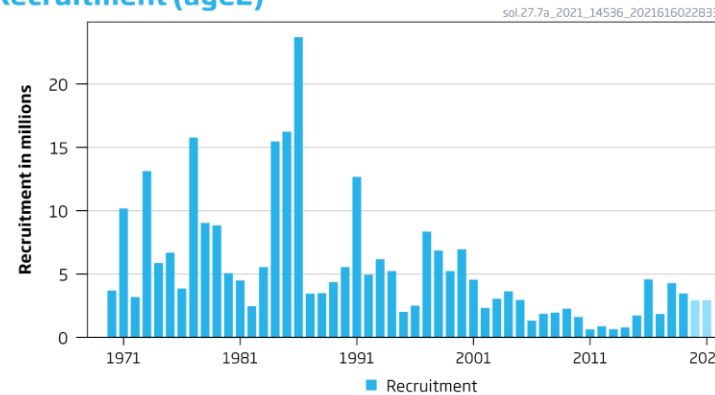
Sole in the Irish Sea (7.a)

Advice for 2022, MSY: Catch ≤ 787 t

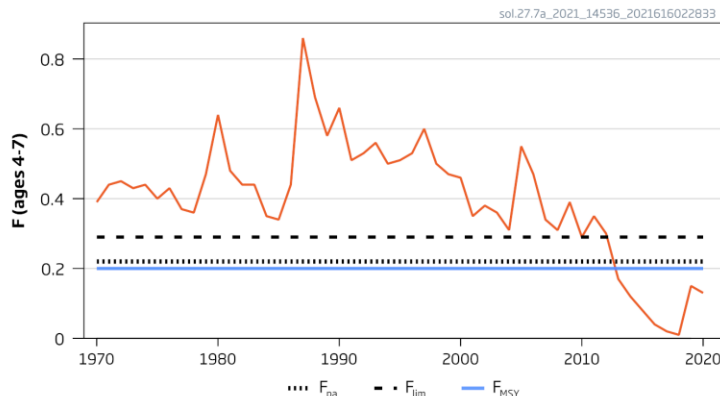
Catches



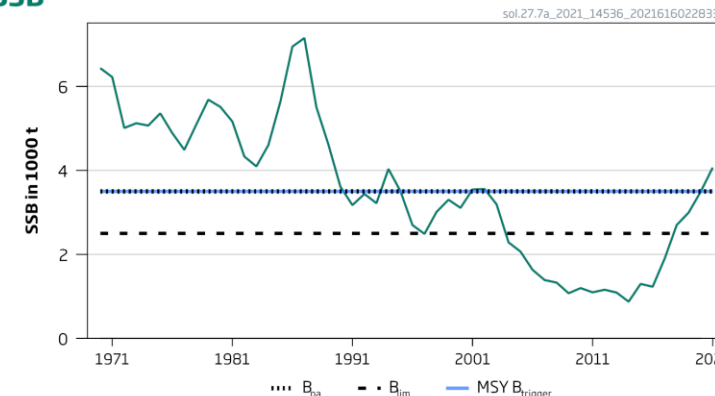
Recruitment (age2)



F



SSB



- UK (E&W)-BTS-Q3 survey was unable to cover Division 7.a , assessment conducted without index.
- Spawning stock below B_{lim} until 2017 but has increased and now above $MSY B_{trigger}$.
- Fishing pressure below F_{MSY} .
- Recent recruitment is higher than in the early 2010's.

Sole in the Irish Sea (7.a)

Catch (2020) : 446 t (10 % discards)

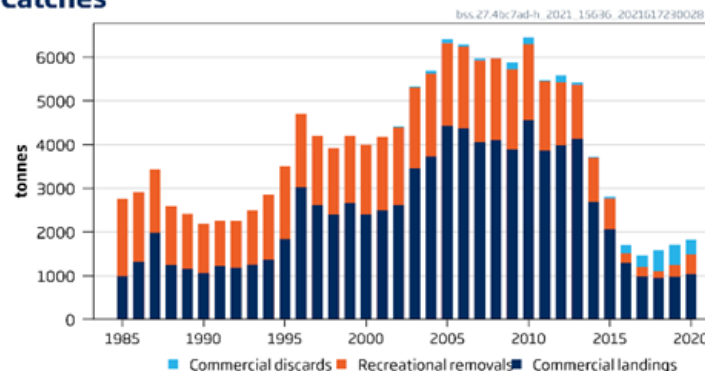
$F(2021) = 0.181$ (Catch constraint =(Catch advice for 2021= 768 t));

$SSB(2022) = 3\,974 > MSY_{B_{trigger}} (3\,500)$ $F_{MSY} = 0.20$

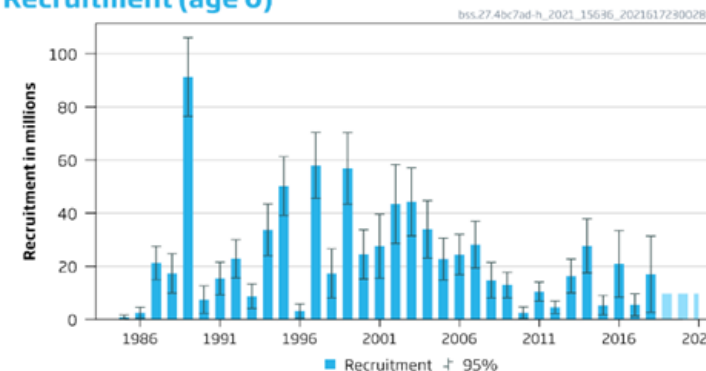
Basis	Total catch * (2022)	Projected landings (2022)	Projected discards * (2022)	$F_{\text{projected}}$ landings (2022)	SSB (2023)	% SSB change **	% TAC change ***	% advice change ^
ICES advice basis								
MSY approach: F_{MSY}	787	708	79	0.2	3834	-3.5	2.4	2.4
Other scenarios								
$F_{MSY \text{ lower}}$	642	578	64	0.16	3966	-0.2	-16.4	-16.4
$F_{MSY \text{ upper}}$	927	834	93	0.24	3707	-6.7	21	21
$F = 0$	0	0	0	0	4551	14.5	-100	-100
F_{pa}	858	772	86	0.22	3770	-5.1	11.7	11.7
F_{lim}	1094	985	109	0.29	3555	-10.5	43	43
$SSB_{2023} = B_{lim}$	2263	2037	226	0.73	2500	-37	195	195
$SSB_{2023} = B_{pa} = MSY B_{trigger}$	1154	1039	115	0.31	3500	-11.9	50	50
$F = F_{2021}$	722	650	72	0.182	3893	-2	-6.0	-6
$SSB_{2023} = SSB_{2022}$	633	570	63	0.158	3974	0	-17.5	-17.5

Advice for 2022, MSY: Catch $\leq 2\,216$ t

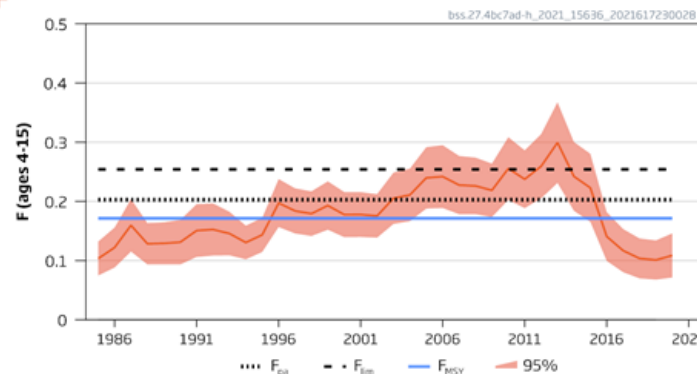
Catches



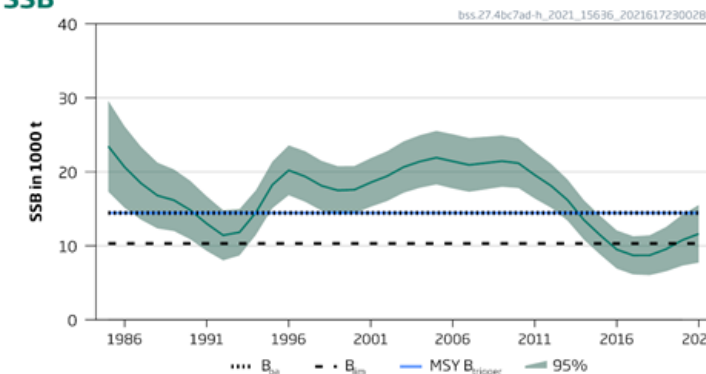
Recruitment (age 0)



F



SSB



- Spawning stock above B_{lim} in 2020 and 2021.
- Fishing pressure is below F_{MSY} .
- Recruitment poor except for 2013-2014 and 2016.
- Under advised catch, stock to remain just above B_{lim}

EU MAP : Catch: 1 859 – 2 216 t (F_{MSY} : 2 216t)

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

Catch 2020: 1 814 t (1042 t commercial, 325 t discards and 447 t recreational)

F (2021)= 0.114 (F_{sq} for commercial fishery and full compliance in recreational)

SSB(2022) = 12 052 t > B_{lim} 10 313 t but < MSY B_{trigger} = 14 439 t F_{MSY} = 0.1713



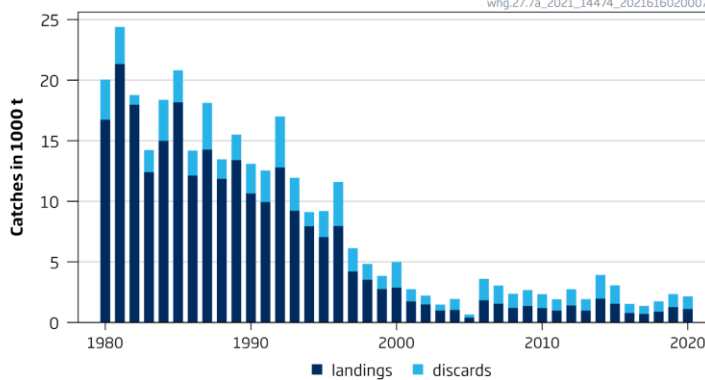
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Basis	Total removals * (2022)	Projected landings (2022)	Projected discards (2022)	Recreational removals (2022)	F _{total} (2022)	F _{projected} landings (2022)	F _{projected} discards (2022)	F recreational removals (2022)	SSB (2023)	% SSB change **	% advice change ***
ICES advice basis											
MSY approach: F_{MSY} × SSB₂₀₂₂ / MSY B_{trigger}	2216	1469	164	583	0.143	0.099	0.0057	0.038	11827	-1.87	10.8
Other scenarios											
EU MAP [^] : F _{MSY} × SSB ₂₀₂₂ / MSY B _{trigger}	2216	1469	164	583	0.143	0.099	0.0057	0.038	11827	-1.87	10.8
EU MAP [^] : F _{MSY upper} × SSB ₂₀₂₂ / MSY B _{trigger}	2216	1469	164	583	0.143	0.099	0.0057	0.038	11827	-1.87	10.8
EU MAP [^] : F _{MSY lower} × SSB ₂₀₂₂ / MSY B _{trigger}	1859	1233	137	489	0.119	0.082	0.0047	0.032	12121	0.57	-7.1
F = F _{MSY}	2620	1736	195	690	0.171	0.119	0.0068	0.046	11496	-4.6	31
F = 0	0	0	0	0	0	0	0	0	13660	13.3	-100
F _{pa}	3059	2025	229	805	0.2	0.141	0.0081	0.054	11137	-7.6	53
F _{lim}	3738	2472	282	984	0.25	0.176	0.0101	0.068	10584	-12.2	87
SSB ₂₀₂₃ = B _{lim}	4072	2691	308	1073	0.28	0.194	0.0112	0.075	10313	-14.4	104
SSB ₂₀₂₃ = B _{pa}											
SSB ₂₀₂₃ = MSY B _{trigger}											
F = F ₂₀₂₁	1790	1188	132	471	0.114	0.079	0.0045	0.03	12177	1.03	-10.5
SSB ₂₀₂₃ = SSB ₂₀₂₂	1941	1288	143	511	0.124	0.086	0.0049	0.033	12052	0	-2.9

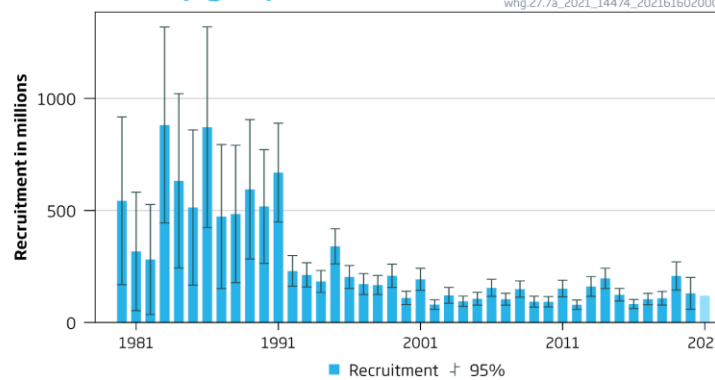
Whiting in the Irish Sea (7.a)

Advice for 2022 and 2023, MSY: Catch = 0

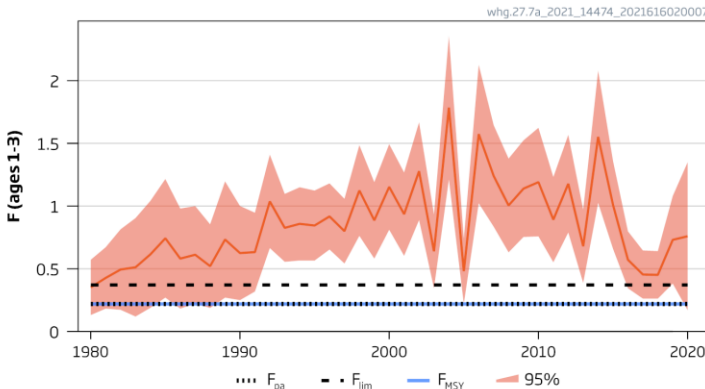
Catches



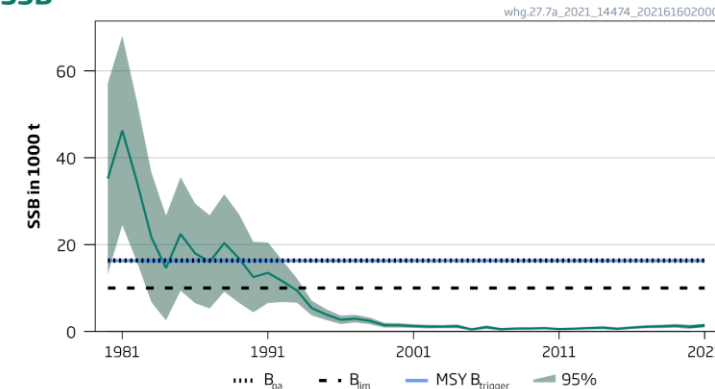
Recruitment (age 0)



F



SSB



- 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 2020.
- Discarding high; 97% in 2020 on catches of 1 118 t
- Technical service: based on bycatch in the Nephrops fishery

Whiting in the Irish Sea (7.a)

Catch 2020: 1 118 t (92% discards)

Technical service:

Based on bycatch in the Nephrops fishery, likely catches in 2022 would be 957 t

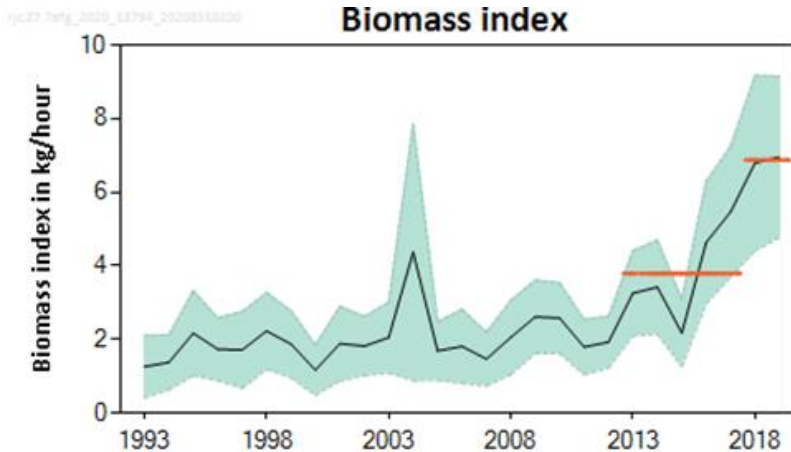
ICES advice basis	Total catch (2022)	Projected catch (2022)	Projected discards (2022)	F _{total} (2022)	F _{wanted} (2022)	F _{unwanted} (2022)	SSB (2023)	% SSB change
Fishing basis options								
F = 0	0	0	0	0	0	0	2334	76
F = F _{sq}	1254	267	987	0.65	0.089	0.56	1240	-6.5
F = F _{MSY lower}	368	81	288	0.158	0.022	0.136	2000	51
F = F _{MSY}	498	109	390	0.22	0.03	0.189	1884	42
TAC basis options								
TAC ₂₀₂₁	721	155	566	0.33	0.046	0.29	1688	27
Catch = Bycatch estimate	957	205	752	0.46	0.064	0.4	1485	12
SSB basis options								
SSB = Stable 2022	1149	245	904	0.58	0.08	0.5	1326	0
SSB = SSB ₂₀₂₂ + 20%	834	180	654	0.39	0.054	0.34	1591	20

Skates and rays

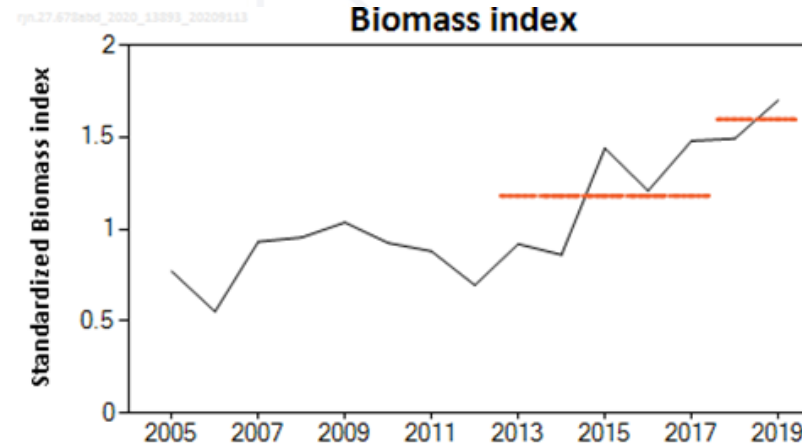
- Advice issued in 2020 for 2021/2022

Stock	Landings (2020)	Advice for 2022 Landings	Rationale
Thornback ray in 7.a and f-g	909	1596	PA - based on survey index (UK(E&W)-BTS-Q3)
Cuckoo ray in 6,7, 8abd	2453	3150	PA - based on survey indices (IGFS and EVHOE)
Spotted ray in 7.a and 7.e-h	741	1041	PA - based on survey index (UK(E&W)-BTS-Q3)
Blonde ray in 7.a and f-g	716	1703	PA - based on historical landings

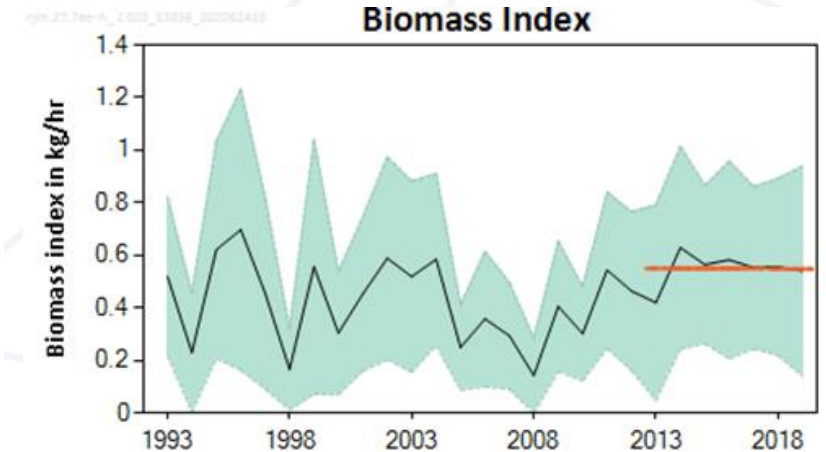
Thornback ray in 7.a, fg



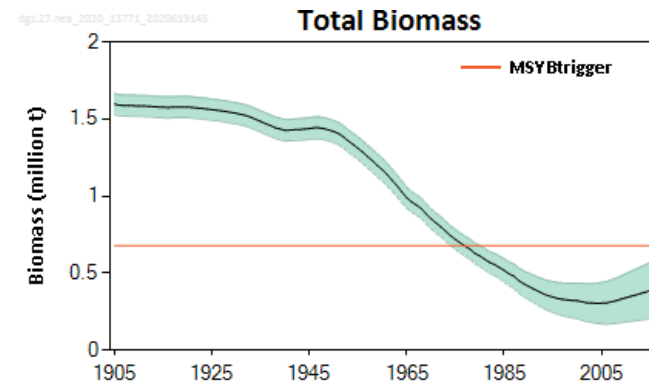
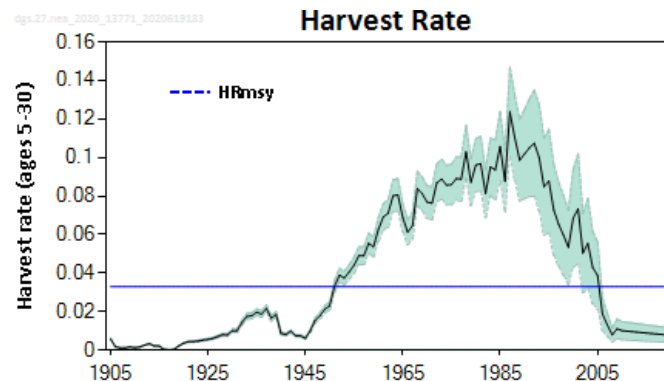
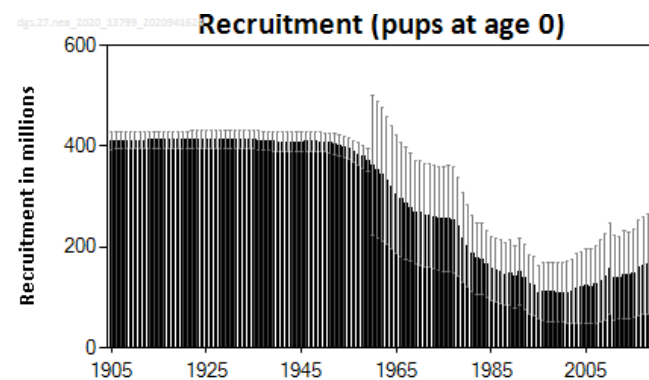
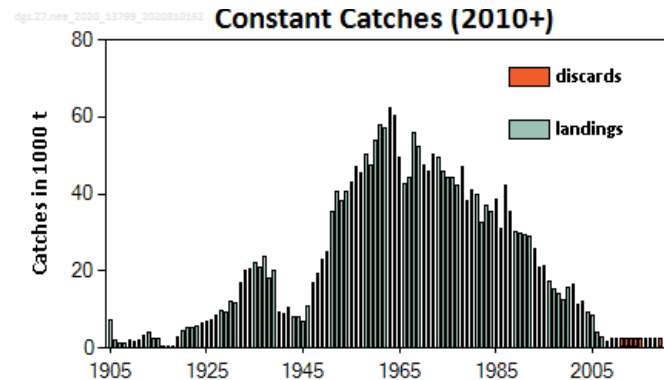
Cuckoo ray in 6, 7, 8 abd



Spotted ray in 7.a , 7e-h



Advice issued in 2020 for 2021/2022: No targeted fisheries.



- Catch in 2019 - 3620 t
- Stock benchmarked in 2021.
 - New catch estimates including discards.
 - Additional survey indices
 - Fecundity data
 - Reference points
- New assessment using the benchmark results in 2022.

Irish Sea (7.a)

SUMMARY

Stock	Exploitation	State of stock	Advice 2022	Advice 2021	Catch 2020	TAC 2021
Cod 7.a	?	?	74	108	206	206
Haddock 7.a	✓	✓	2761	3371 (2491-4092)	976	3371
Plaice 7.a	✓	✓	2747	2846	601	2846
Sea bass 4.b–c, 7.a, and 7.d–h	✓	O	2216	2000 (1680-2000)	1814	-
Sole 7.a	✓	✓	787	768	446	768
Whiting 7.a	X	X	0	0	1118	721

Colours indicate that the value for the Advice for 2022 is either above (green) or below (red) the Advice for 2021.



**Thank you
for your
attention!**



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