

# ICES advice for North Western Waters stocks for 2023

NWWAC meeting, July 4, 2022

IRISH SEA

Joanne Morgan  
ICES ACOM vice-chair

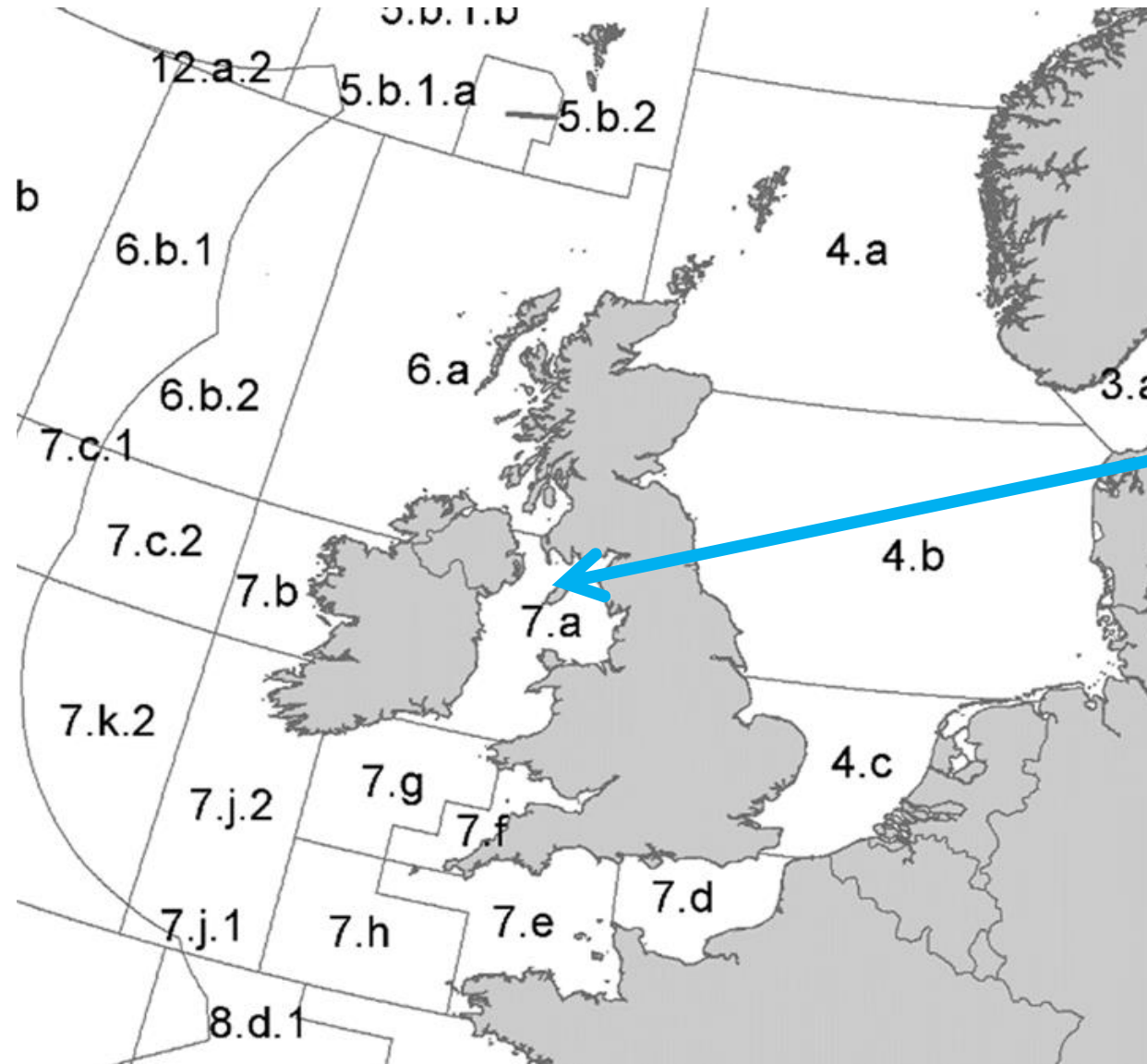


Image Dirk Vonten, Fotolia

## Introduction – Irish Sea

- Includes advice released up to 30 June 2022.
- COVID-19 impacts usually 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.
- Any changes to advice rules documented in sheets.
- Other advice to be released in the autumn for the following stocks:
  - Nephrops (FUs 14-15-19)
  - Elasmobranchs

# Irish Sea (7.a)



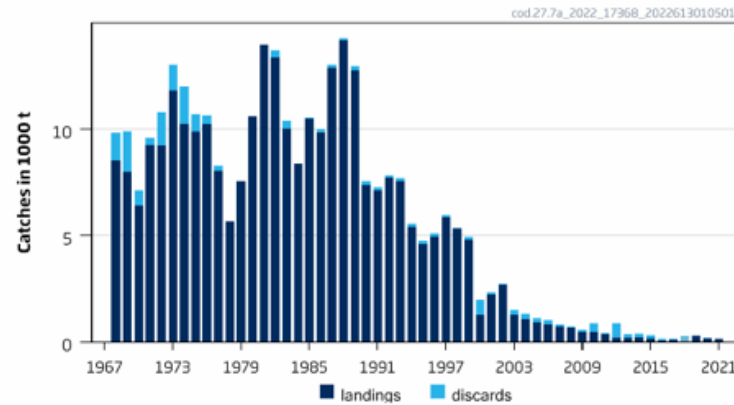
- Cod
  - Haddock
  - Sole
  - Plaice
  - Seabass
  - Whiting (advice from 2021)
- IN AUTUMN:**
- Nephrops (FUs 14-15-19)
  - Rays and skates
  - Spurdog



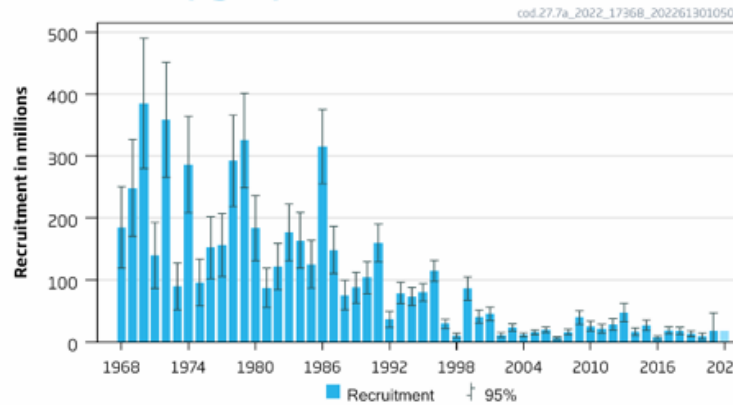
# Cod in the Irish Sea (7.a)

**Advice for 2023, MSY: Catch 0 t**

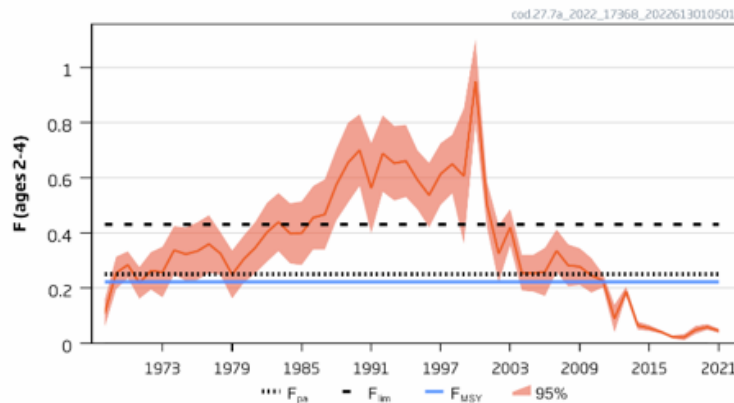
Catches



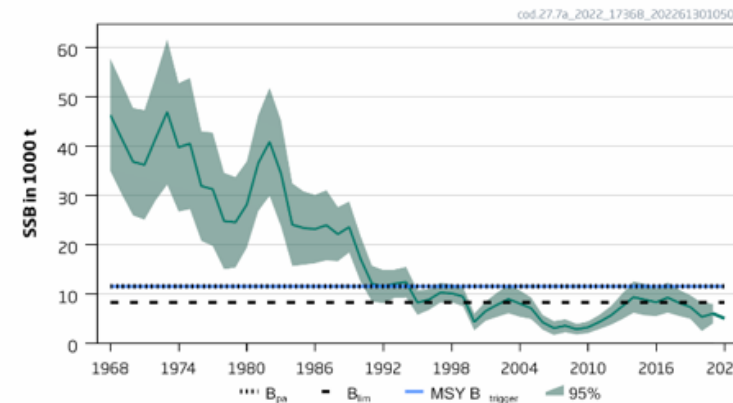
Recruitment (age 0)



F



SSB



Fishing pressure on the stock is below  $F_{MSY}$   
Spawning-stock size is below  $B_{lim}$   
There are no catch scenarios that will rebuild the stock above  $B_{lim}$  by 2024  
The assessment was benchmarked in 2022 and changed from category 3 to category 1

# Cod in the Irish Sea (7.a)

**Catch (2021) : 137 t (4 t discards)**

**Technical service**

**caught mainly in nephrops and haddock fisheries**

**unavoidable bycatch estimated to be 159 t**

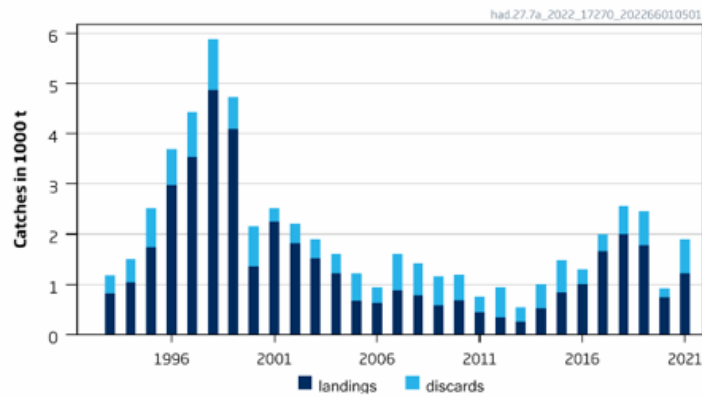
ICES advice basis	Total catch (2023)	Projected landings (2023)	Projected discards (2023)	F <sub>total</sub> (2023)	F <sub>wanted</sub> (2023)	F <sub>unwanted</sub> (2023)	SSB (2024)	% SSB change*
<b>Fishing basis options</b>								
F = 0	0	0	0	0	0	0	5 410	11.7
F = F <sub>sq</sub>	170	161	9	0.038	0.037	0.00148	5 232	8.0
F = F <sub>MSY lower</sub>	704	667	37	0.168	0.162	0.0065	4 677	-3.4
F <sub>MSY</sub> × SSB (2023)/MSY B <sub>trigger</sub>	403	382	21	0.093	0.090	0.0036	4 988	3.0
F <sub>MSY lower</sub> × SSB (2023) / MSY B <sub>trigger</sub>	308	292	16	0.071	0.068	0.0027	5 087	5.1
F <sub>ECO</sub> × SSB (2023) / MSY B <sub>trigger</sub>	347	329	18	0.080	0.077	0.0031	5 047	4.2
F = F <sub>MSY</sub>	908	861	48	0.22	0.21	0.0086	4 466	-7.8
F = F <sub>ECO</sub>	788	747	41	0.19	0.183	0.0074	4 589	-5.2
<b>TAC basis options</b>								
TAC <sub>2022</sub>	227	215	12	0.051	0.049	0.00199	5 172	6.8
Catch = Bycatch estimate	159	151	8	0.036	0.034	0.00138	5 244	8.3
<b>SSB basis options</b>								
SSB <sub>2024</sub> = SSB <sub>2023</sub>	544	516	28	0.128	0.123	0.0049	4 842	0

**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.**

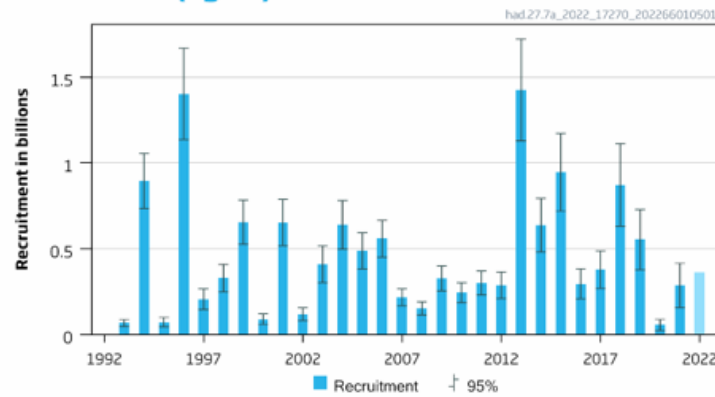
# Haddock in the Irish Sea (7.a)

**Advice for 2023, MSY:** Catch:  $\leq 2648$  t 12% decrease advice

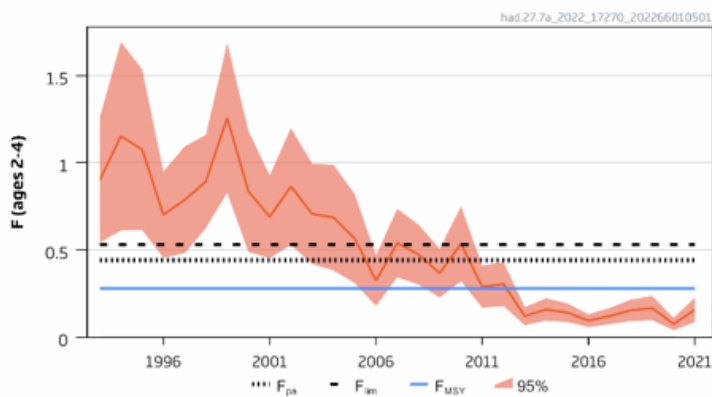
Catches



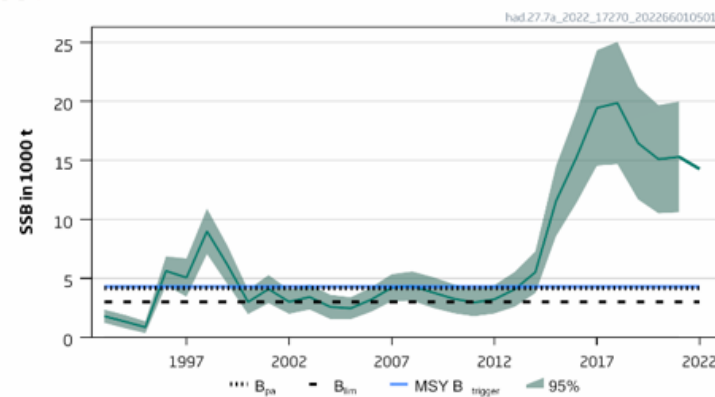
Recruitment (age 0)



F



SSB



- Sampling considered adequate but still below pre-Covid levels.
- Spawning stock high in 2022 but declining.
- Fishing pressure on the stock is below  $F_{MSY}$ .
- Poor recruitment in 2020 decreases SSB further in 2024.

**EU MAP :** Catch: 1956 – 3 216 t ( $F_{MSY}$ : 2648 t)

# Haddock in the Irish Sea (7.a)

Catch (2021) : 1219 t (672 t discards)

F(2022) = 0.159 (Average F<sub>2018-2021</sub> excluding 2020 - sampling);

SSB (2023)= 11817t > MSY<sub>Btrigger</sub> (4 281 t) F<sub>MSY</sub> = 0.28

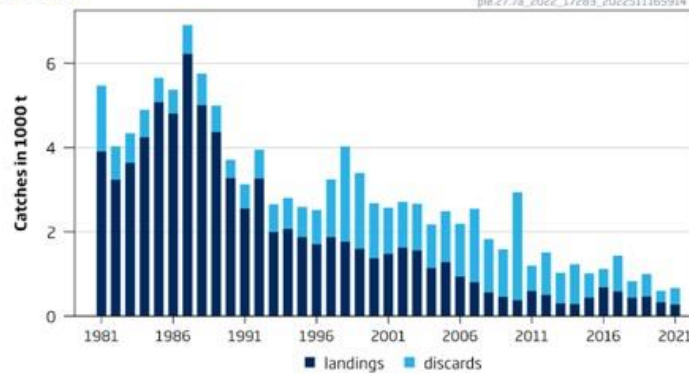
Basis	Total catch (2023)	Projected landings (2023)	Projected discards (2023)	F <sub>total</sub> (2023)	F projected landings (2023)	F projected discards (2023)	SSB (2024)	% SSB change*	% advice change**
ICES advice basis									
MSY approach: F <sub>MSY</sub>	2648	2107	541	0.28	0.171	0.109	9321	-21	-12.8
Other scenarios									
EU MAP***: F <sub>MSY</sub>	2648	2107	541	0.28	0.171	0.109	9321	-21	-12.8
EU MAP*** F <sub>MSY</sub> lower	1956	1560	396	0.2	0.122	0.078	10044	-15	-36
EU MAP*** F <sub>MSY</sub> upper	3216	2554	661	0.35	0.21	0.137	8732	-26	5.9
F = 0	0	0	0	0	0	0	12115	2.5	-100
F = F <sub>pa</sub>	3676	2915	761	0.41	0.25	0.160	8258	-30	21
F = F <sub>lim</sub>	4323	3421	903	0.5	0.3	0.195	7597	-36	42
SSB <sub>2024</sub> = B <sub>lim</sub>	9125	7029	2095	1.526	0.93	0.6	2994	-75	200
SSB <sub>2024</sub> = B <sub>pa</sub>	7834	6092	1742	1.158	0.71	0.45	4160	-65	158
SSB <sub>2024</sub> = SSB <sub>2023</sub>	280	224	56	0.027	0.0162	0.0104	11817	0	-91
SSB <sub>2024</sub> = MSY B <sub>trigger</sub>	7704	5997	1708	1.13	0.69	0.44	4281	-64	154
F = F <sub>2022</sub>	1587	1267	320	0.159	0.097	0.062	10432	-11.7	-48

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

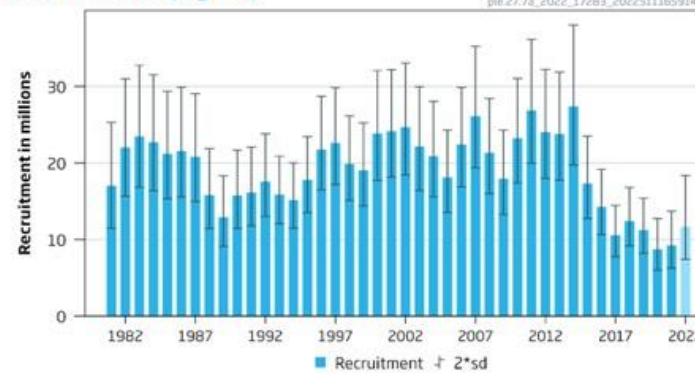
# Plaice in the Irish Sea (7.a)

**Advice for 2023, MSY:** Catch  $\leq$  2039t 30% decrease advice

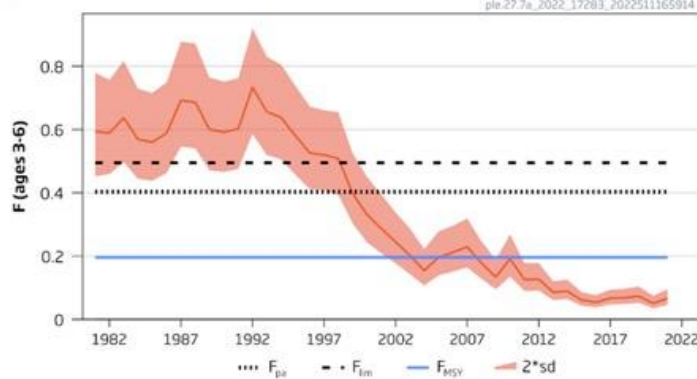
Catches



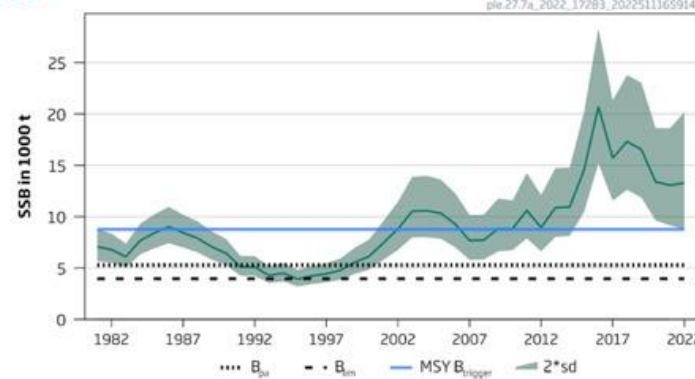
Recruitment (age 1)



F



SSB



Spawning stock is well above MSY  $B_{trigger}$ .  
 Fishing pressure below  $F_{MSY}$  since 2011.  
 Recruitment lower since 2016.  
 Discarding high and variable, 40% assumed to survive.

Assumes discard rates and selection do not change



# Plaice in the Irish Sea (7.a)

Catch (2021) : 668 t (59 % discards, but 40% of these esimated to survive)

$F(2022) = 0.064$  (Average  $F_{2019-2021}$  )

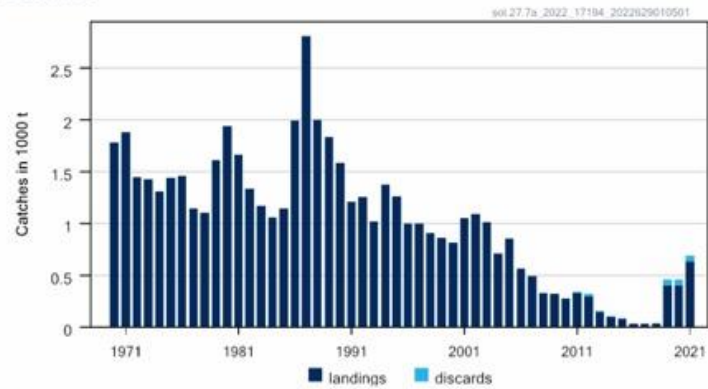
$SSB(2023) = 13514t > MSY_{Btrigger} (8757t)$   $F_{MSY} = 0.196$

Basis	Total catch (2023)	Projected landings (2023)	Projected Surviving discards (2023)	Projected dead discards (2023)	Total projected discards* (2023)	$F_{total}$ (2023)	$F_{projected}$ landings (2023)	$F_{projected}$ discards** (2023)	SSB (2024)	% SSB change***	% advice change^
ICES advice basis											
MSY approach: $F = F_{MSY}$	2039	967	429	643	1072	0.196	0.061	0.135	12629	-6.5	-30
Other scenarios											
$F = F_{MSY lower}$	1418	672	298	447	745	0.133	0.042	0.091	13169	-2.5	-52
$F = F_{MSY upper}$	2945	1397	620	929	1549	0.29	0.091	0.20	11901	-11.9	0.70
$F = F_{pa}$	3903	1851	821	1231	2052	0.40	0.126	0.28	11089	-17.9	33
$F = 0$	0	0	0	0	0	0	0	0	14305	5.9	-100
$F = F_{lim}$	4649	2205	978	1467	2445	0.50	0.155	0.34	10468	-23	59
$SSB_{2024} = B_{lim}$	13047	6187	2744	4116	6860	2.33	0.73	1.60	3958	-71	350
$SSB_{2024} = B_{pa}$	11370	5391	2391	3587	5978	1.75	0.55	1.21	5294	-61	290
$SSB_{2024} = MSY B_{trigger}$	6895	3269	1450	2175	3625	0.81	0.25	0.56	8757	-35	140
Rollover advice	2925	1387	615	923	1538	0.29	0.091	0.20	11913	-11.8	0.0
$F = F_{2022}$	696	330	146	220	366	0.064	0.020	0.044	13745	1.70	-76
$SSB_{2024} = SSB_{2023}$	990	469	208	312	520	0.091	0.029	0.063	13514	0	-65

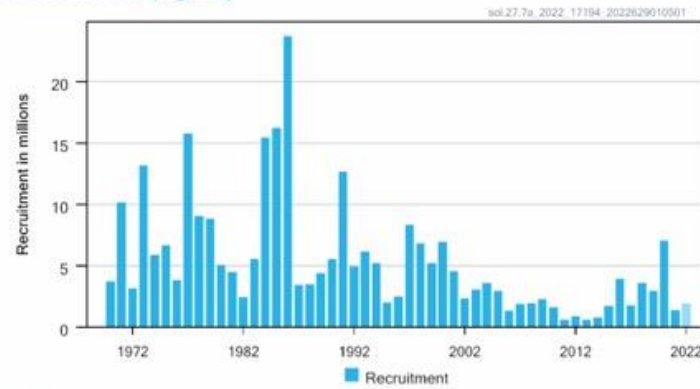
# Sole in the Irish Sea (7.a)

**Advice for 2023, MSY:** Catch  $\leq$  605 t advice -23%

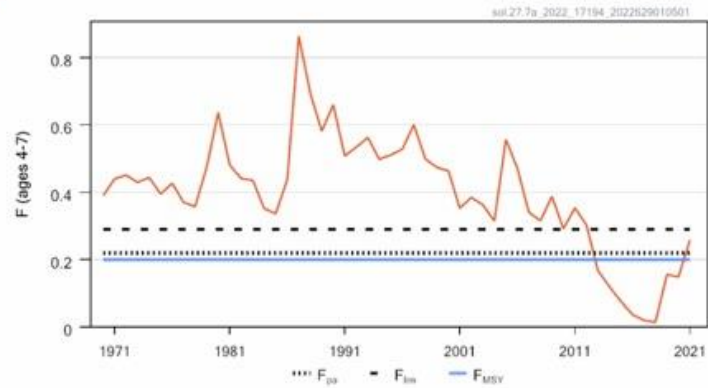
Catches



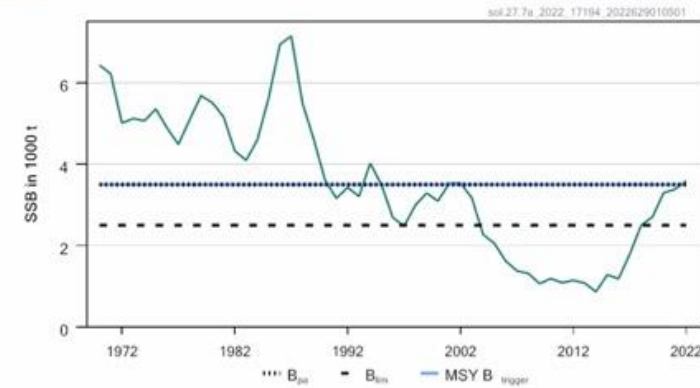
Recruitment (age 2)



F



SSB



- Spawning stock above  $B_{trigger}$ .
- Fishing pressure above  $F_{MSY}$ .
- Recruitment low in 2021.

# Sole in the Irish Sea (7.a)

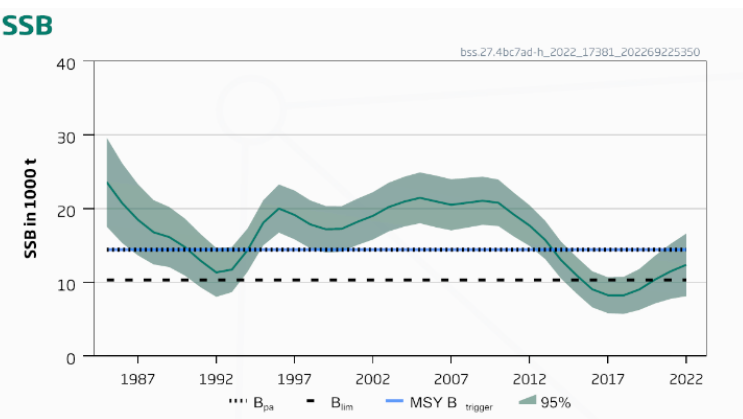
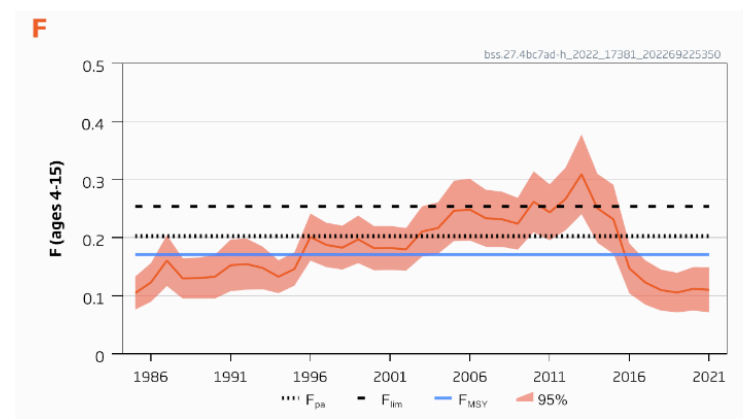
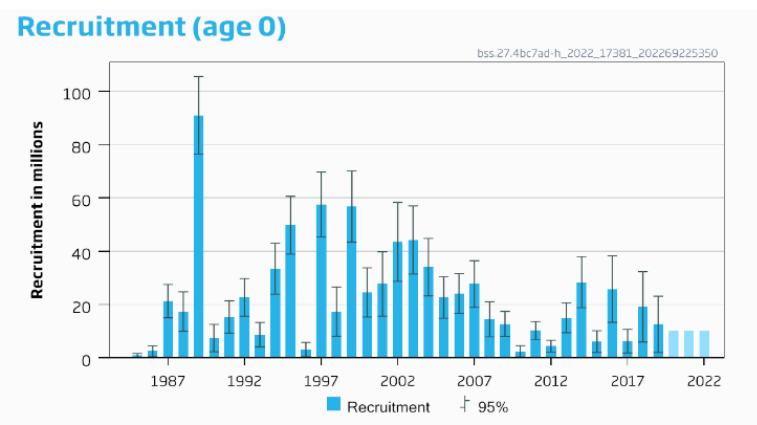
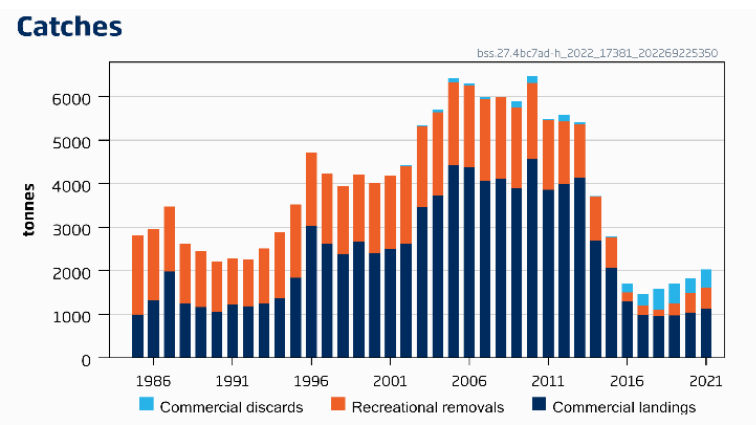
Catch (2021) : 690 t (10 % discards)

F(2022) = 0.22 (Assumed 2022 landings of 696 t));

SSB (2023)= 3299 < MSY<sub>Btrigger</sub> (3 500) F<sub>MSY</sub>= 0.20

Basis	Total catch * (2023)	Projected landings (2023)	Projected discards* (2023)	F <sub>projected landings</sub> (2023)	SSB (2024)	% SSB change**	% TAC change***	% advice change <sup>h</sup>
ICES advice basis								
MSY approach: F = F <sub>MSY</sub> × SSB <sub>2023</sub> /MSY B <sub>trigger</sub>	605	535	70	0.189	3129	-5.2	-23	-23
Other scenarios								
F = F <sub>MSY lower</sub> × SSB <sub>2023</sub> /MSY B <sub>trigger</sub>	492	435	57	0.151	3230	-2.1	-37	-37
F = 0	0	0	0	0	3674	11.4	-100	-100
F = F <sub>pa</sub>	695	615	81	0.22	3047	-7.6	-11.6	-11.6
F = F <sub>lm</sub>	888	786	103	0.29	2874	-12.9	12.9	12.9
SSB <sub>2024</sub> = B <sub>lm</sub>	1305	1154	151	0.46	2500	-24	66	66
SSB <sub>2024</sub> = B <sub>pa</sub> = MSY B <sub>trigger</sub>	192	170	22	0.056	3500	6.1	-76	-76
SSB <sub>2024</sub> = SSB <sub>2023</sub>	415	367	48	0.126	3299	0	-47	-47
F = F <sub>2022</sub>	687	608	80	0.22	3054	-7.4	-12.7	-12.7
F = F <sub>MSY lower</sub>	520	460	60	0.16	3205	-2.9	-34	-34
F = F <sub>MSY</sub>	638	564	74	0.2	3099	-6.1	-18.9	-18.9
F = F <sub>MSY upper</sub>	752	665	87	0.24	2996	-9.2	-4.5	-4.5

**Advice for 2023, MSY: Catch ≤ 2 542 t: advice +14.7%**



- Spawning stock above  $B_{lim}$  and  $B_{pa}$  but below  $MSY$   $B_{trigger}$
- Fishing pressure is below  $F_{MSY}$
- Under advised catch, stock expected to decrease remaining below  $MSY$   $B_{trigger}$

**EU MAP :** Catch: 2133 – 2542t ( $F_{MSY}$ : 2542t)



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

**Catch 2021: 2027 t (1126 t commercial, 412 t discards and 489 t recreational)**

**F (2021)= 0.114 (F<sub>sq</sub> for commercial fishery and full compliance in recreational)**

**SSB(2022) = 12 052 t > B<sub>lim</sub> 10 313 t but < MSY B<sub>trigger</sub> = 14 439 t F<sub>MSY</sub> = 0.1713**

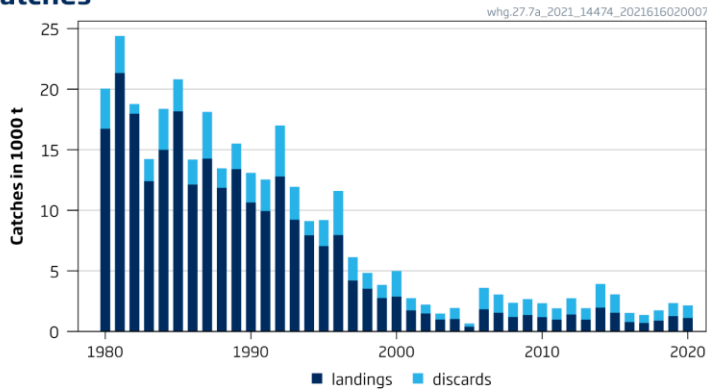


Basis	Total removals* (2023)	F <sub>total</sub> (2023)	SSB (2024)	% SSB change**	% advice change***
ICES advice basis					
MSY approach: F = F <sub>MSY</sub> × SSB <sub>2023</sub> /MSY B <sub>trigger</sub>	2542	0.153	12631	-2.1	14.7
Other scenarios					
EU MAP <sup>^</sup> : F <sub>MSY</sub> × SSB <sub>2023</sub> /MSY B <sub>trigger</sub>	2542	0.153	12631	-2.1	14.7
EU MAP <sup>^</sup> : F <sub>MSY upper</sub> × SSB <sub>2023</sub> /MSY B <sub>trigger</sub>	2542	0.153	12631	-2.1	14.7
EU MAP <sup>^</sup> : F <sub>MSY lower</sub> × SSB <sub>2023</sub> /MSY B <sub>trigger</sub>	2133	0.127	12964	0.50	-3.7
F = F <sub>MSY</sub>	2821	0.171	12405	-3.8	27
F = 0	0	0	14716	14.1	-100
F <sub>pa</sub>	3294	0.20	12021	-6.8	49
F <sub>lim</sub>	4096	0.25	11430	-11.4	85
SSB <sub>2024</sub> = B <sub>lim</sub>	5422	0.36	10313	-20	145
SSB <sub>2024</sub> = B <sub>pa</sub>	336	0.0190	14439	11.9	-85
SSB <sub>2024</sub> = MSY B <sub>trigger</sub>	336	0.0190	14439	11.9	-85
F = F <sub>2022</sub>	1906	0.113	13149	1.94	-14.0
SSB <sub>2024</sub> = SSB <sub>2023</sub>	2213	0.132	12899	0.00	-0.135

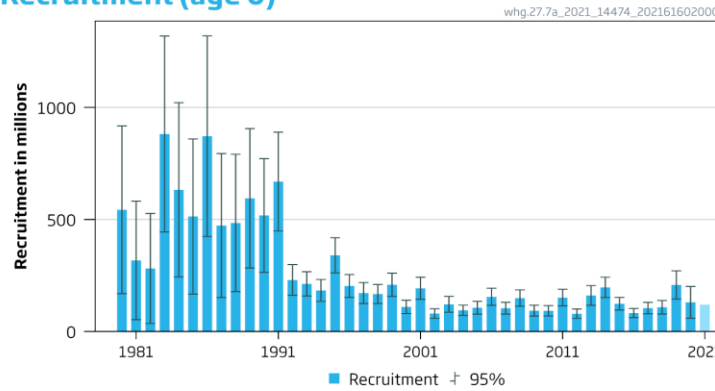
# Whiting in the Irish Sea (7.a)

**Advice for 2022 and 2023, MSY: Catch = 0**

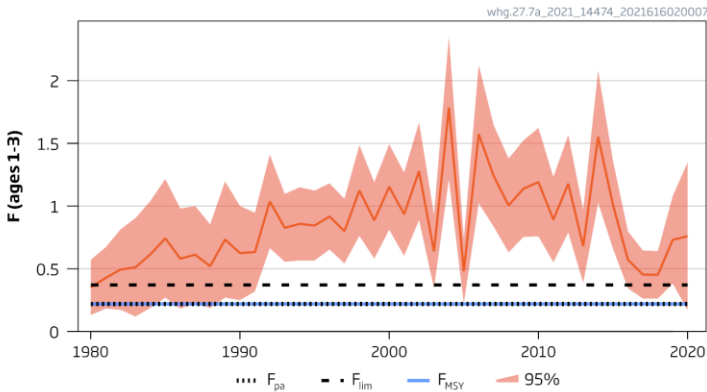
Catches



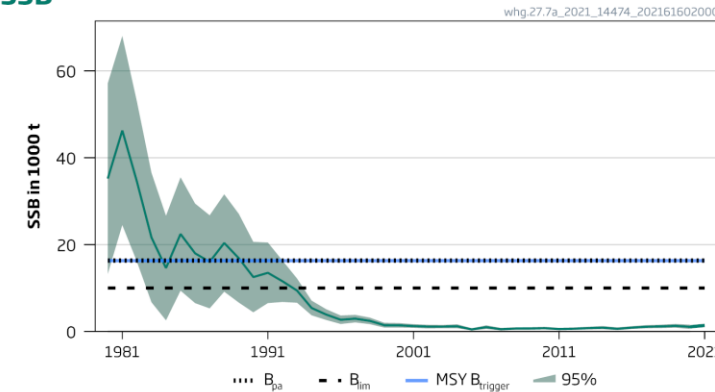
Recruitment (age 0)



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

No advice 2022 – technical service

# Whiting in the Irish Sea (7.a)

**Catch 2020: 1 662 t ( 95% discards)**

**Technical service:**

**Based on bycatch in the Nephrops fishery, in 2023 estimated at 1125 t**

ICES advice basis	Total catch (2023)	Projected landings (2023)	Projected discards (2023)	F <sub>total</sub> (2023)	F <sub>wanted</sub> (2023)	F <sub>unwanted</sub> (2023)	SSB (2024)	% SSB change
<b>Fishing basis options</b>								
F = 0	0	0	0	0	0	0	2 211	80
F = F <sub>sq</sub>	1 393	257	1136	0.78	0.119	0.66	1 031	-15.7
F = F <sub>MSY lower</sub>	355	68	287	0.158	0.024	0.134	1 893	54.78
F = F <sub>MSY</sub>	481	92	389	0.22	0.034	0.185	1 783	45.79
<b>TAC basis options</b>								
TAC <sub>2022</sub>	721	136	585	0.35	0.053	0.29	1 573	28.62
Catch = Bycatch estimate	1 125	210	916	0.59	0.091	0.5	1 237	1.15
<b>SSB basis options</b>								
SSB = Stable 2023	1149	214	935	0.6	0.092	0.51	1 223	0.00
SSB = SSB <sub>2023</sub> + 20%	834	157	677	0.42	0.064	0.35	1 468	20.0



**Thank you  
for your  
attention!**

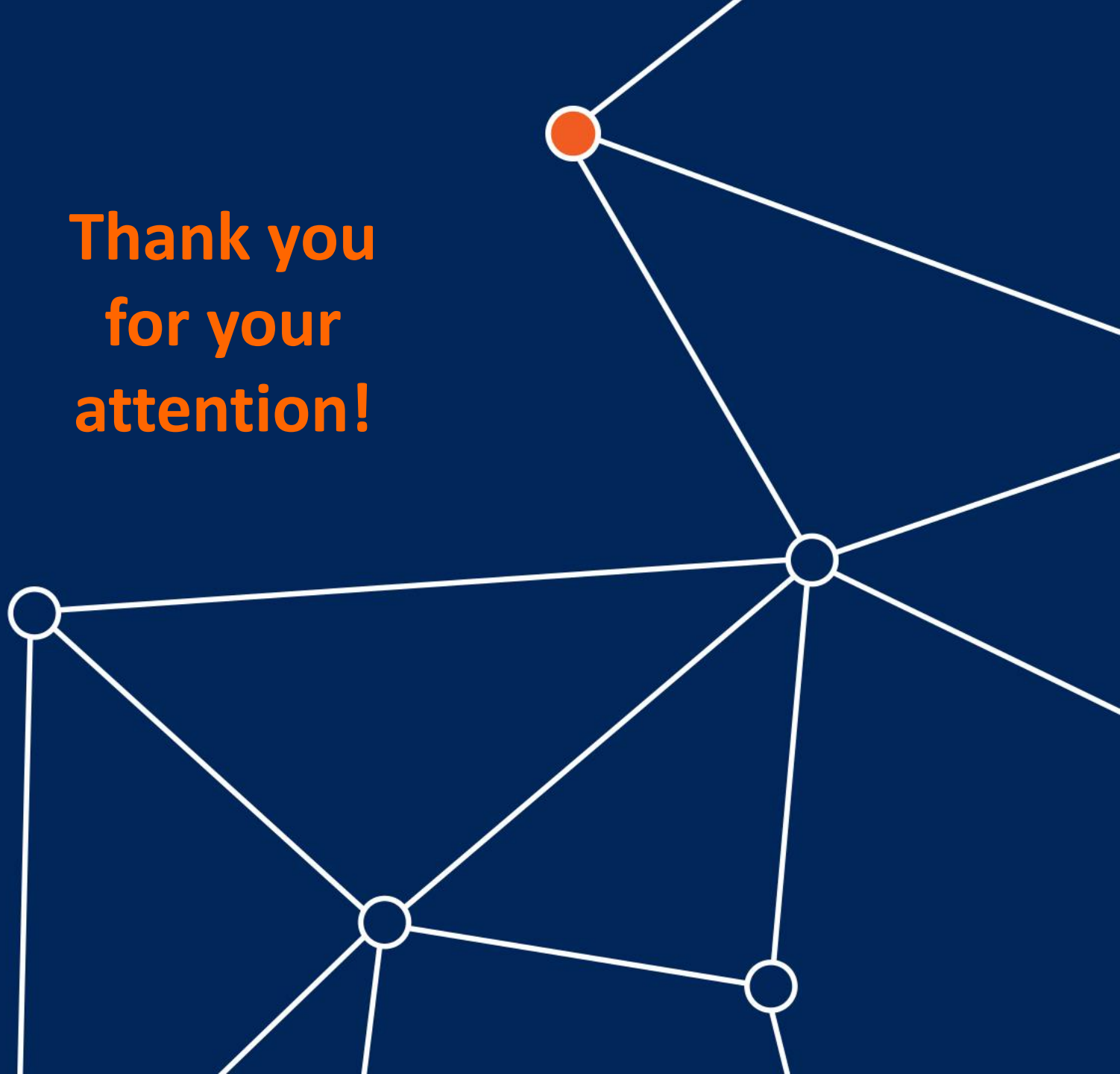


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Science for sustainable seas



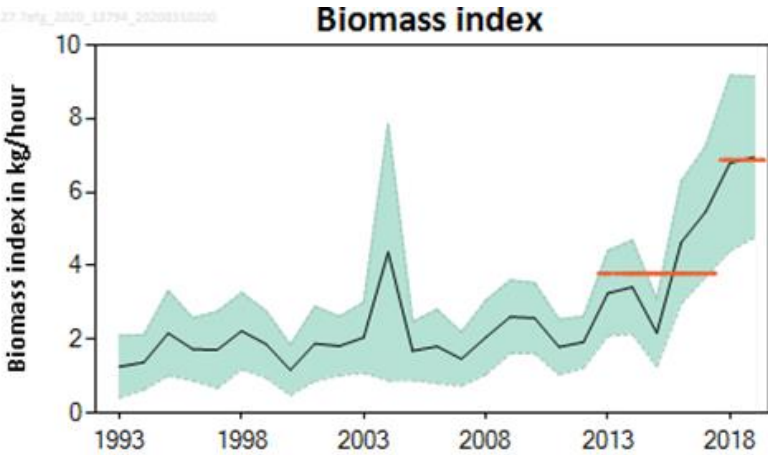


# Skates and rays

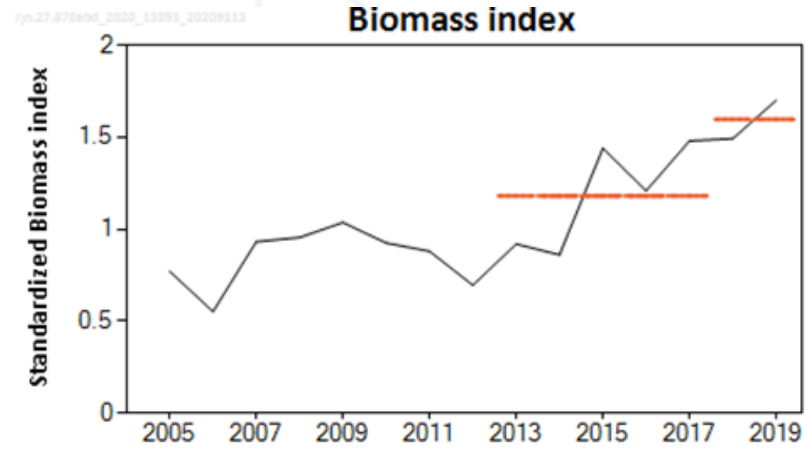
- Advice issued in 2020 for 2021/2022

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

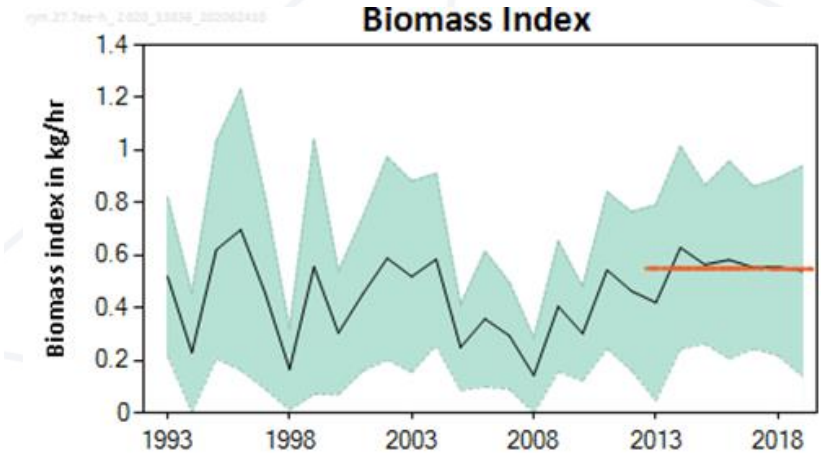
Thornback ray in 7.a, fg



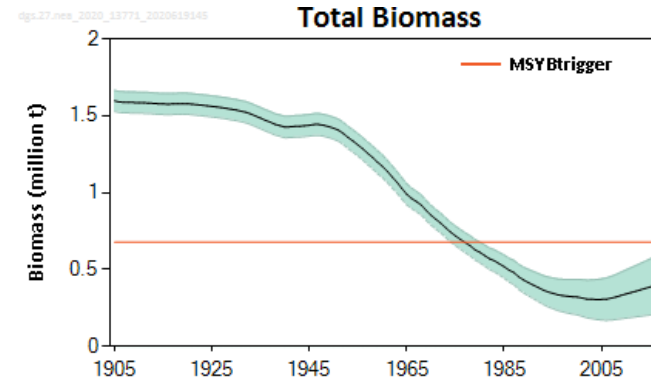
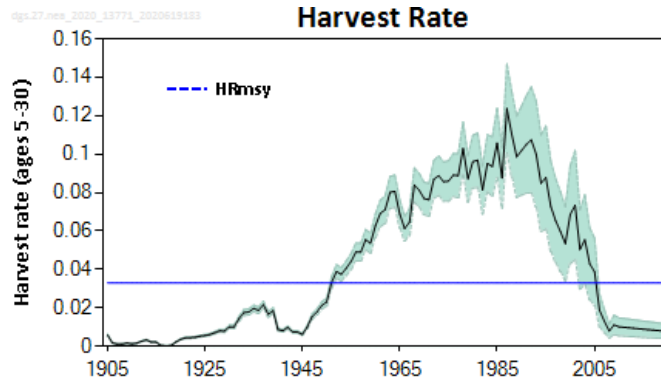
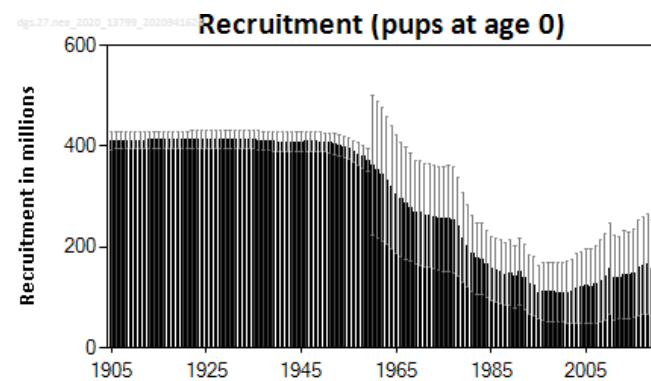
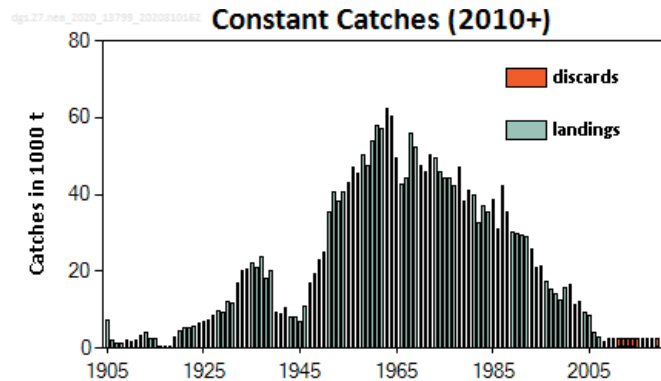
Cuckoo ray in 6, 7, 8 abd



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.