

# ICES advice

## Réunion du Conseil Consultatif des eaux Occidentales australes-CC-SUD

7 July 2022

Joanne Morgan

ICES ACOM vice-chair



Science for sustainable seas



Image Dirk Vonten, Fotolia

## Introduction –

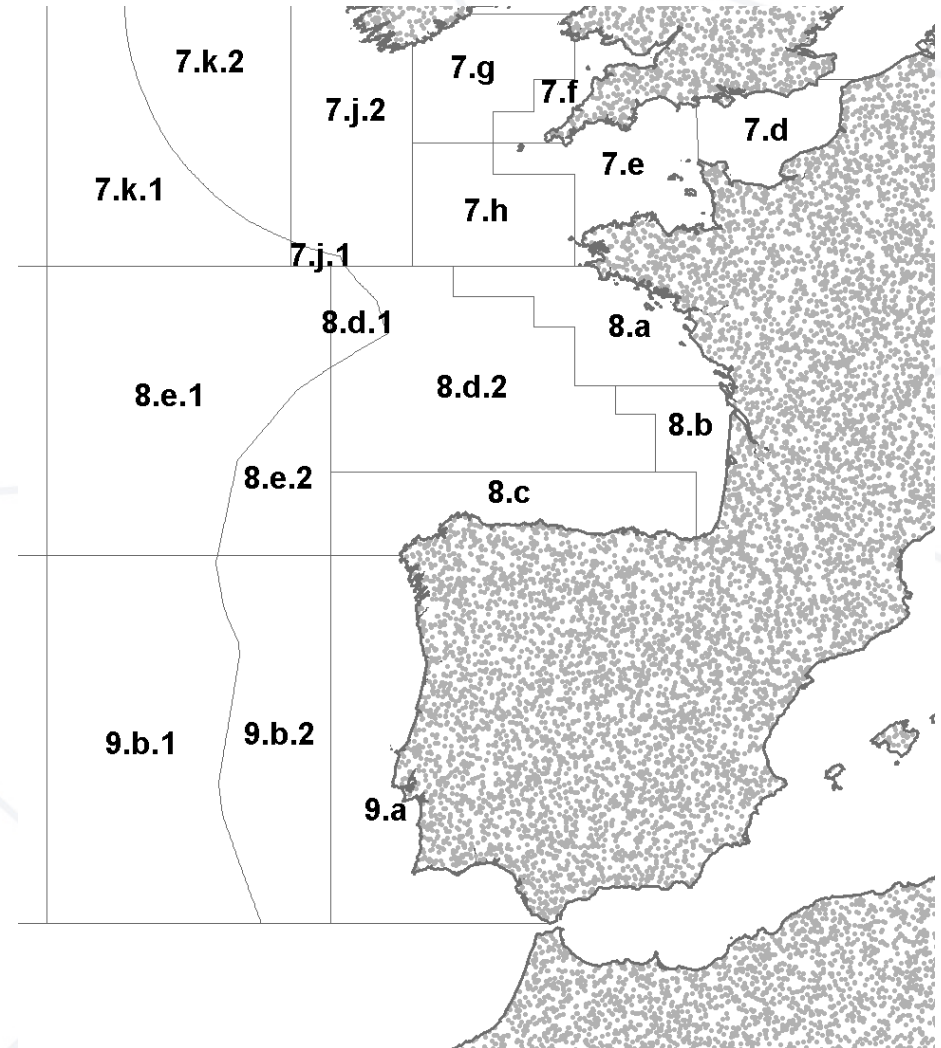
- Includes advice released up to 30 June 2022.
- COVID-19 impacts usually in Quality of the assessment.
- Any changes to advice rules applied by ICES in developing advice documented in sheets.

# Stocks covered

**Golfe de Gascogne et Eaux de la Péninsule Ibérique**  
Plie - plaice  
Lieu jaune - pollack  
Merlande -whiting

**Golfe de Gascogne**  
Baudroies – white anglerfish  
Cardines - megrims  
Langoustines -nephrops  
Merlu -hake  
Sole -sole  
Bar sea bass

**Eaux de la Péninsule Ibérique**  
Baudroies – black bellied and white anglerfish  
Cardines - megrims  
Langoustines -nephrops  
Merlu - hake  
Sole - sole  
Anchois - anchovy  
Bar –sea bass



# **Golfe de Gascogne et Eaux de la Péninsule Ibérique**

**No new advice this year**

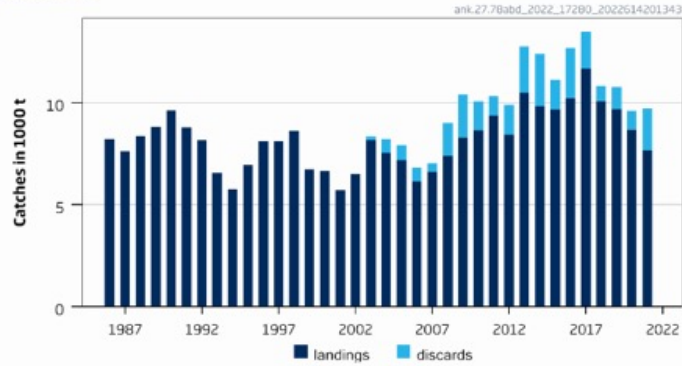
**Advice issued for 2022 and 2023 last year**

# Golfe de Gascogne

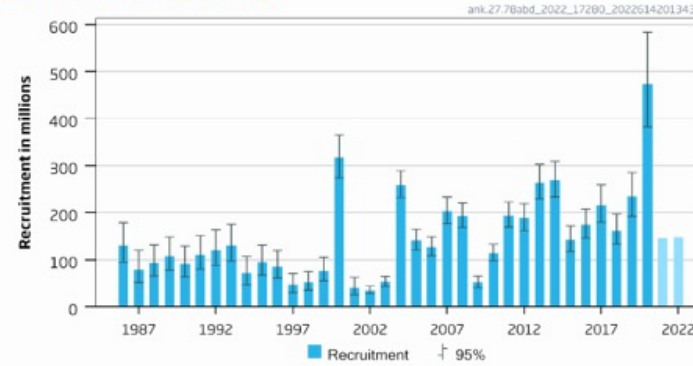
# Black-bellied anglerfish in Subarea 7 and divisions 8a-b and 8d

**Advice for 2023, MSY:** Catch  $\leq$  23 958 t advice +28%

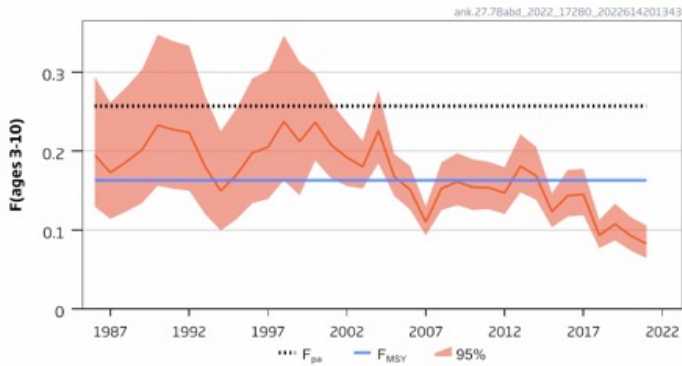
Catches



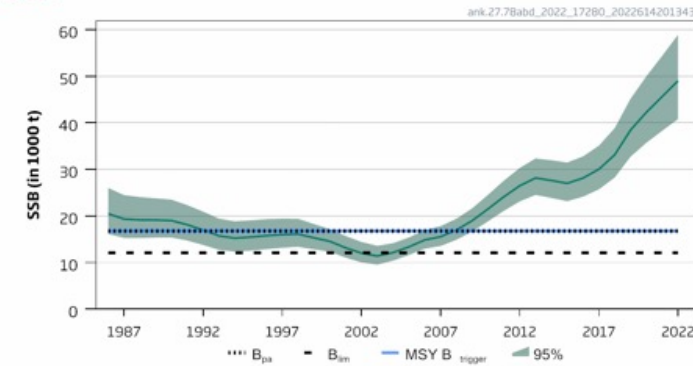
Recruitment (age 0)



F



SSB



- Benchmark 2022
- Category 1
- Perception of stock unchanged
- Fishing pressure below  $F_{MSY}$
- Spawning stock above MSY Btrigger
- Two species not separated in landing statistics
- TAC combined with white anglerfish

# Black-bellied anglerfish in Subarea 7 and divisions 8a-b and 8d

Catch (2021) : 9 708 t (21 % discards)

F(2022) = 0.094 (average F 2019-2021)

SSB(2023) = 50 317 t > MSY<sub>Btrigger</sub> (16 776t)    F<sub>MSY</sub> = 0.163

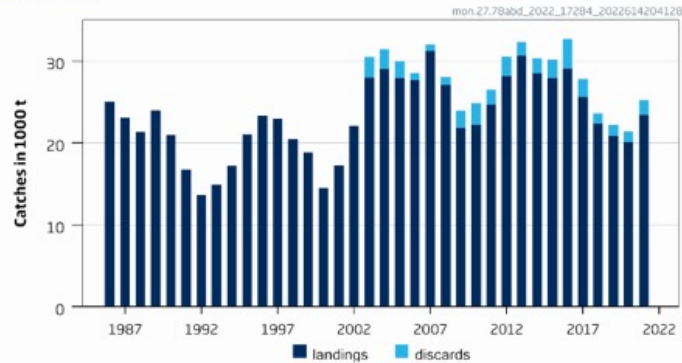
Basis	Total catch (2023)	Projected landings* (2023)	Projected discards** (2023)	F <sub>ages 3-10</sub> Total (2023)	F <sub>ages 3-10</sub> Projected landings (2023)	F <sub>ages 3-10</sub> Projected discards (2023)	SSB (2024)	% SSB change***	% advice change ^
ICES advice basis									
MSY approach = F <sub>MSY</sub>	23958	18867	5091	0.163	0.142	0.021	50837	1.03	28
Other options									
F <sub>MSY</sub> lower	16849	13272	3577	0.112	0.097	0.0147	53497	6.3	-9.7
F <sub>MSY</sub> upper	34704	27319	7385	0.24	0.21	0.032	46835	-6.9	86
F = 0	0	0	0	0	0	0	59836	18.9	-100
F <sub>pa</sub>	36209	28502	7707	0.26	0.22	0.034	46276	-8.0	94
SSB <sub>2024</sub> = B <sub>lim</sub>	132807	103933	28874	1.60	1.39	0.21	12073	-76	612
SSB <sub>2024</sub> = B <sub>pa</sub> = MSY B <sub>trigger</sub>	118624	92952	25672	1.27	1.11	0.166	16776	-67	536
SSB <sub>2024</sub> = SSB <sub>2023</sub>	25350	19963	5388	0.173	0.151	0.023	50317	0	36
F = F <sub>2022</sub>	14312	11274	3037	0.094	0.082	0.0123	54449	8.2	-23

Length based age structured stock synthesis

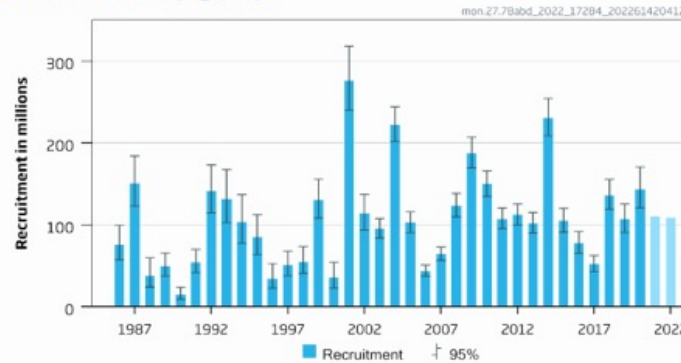
# White anglerfish in Subarea 7 and divisions 8a-b and 8d

**Advice for 2023, MSY:** Catch  $\leq$  34 476 t advice +0.59%

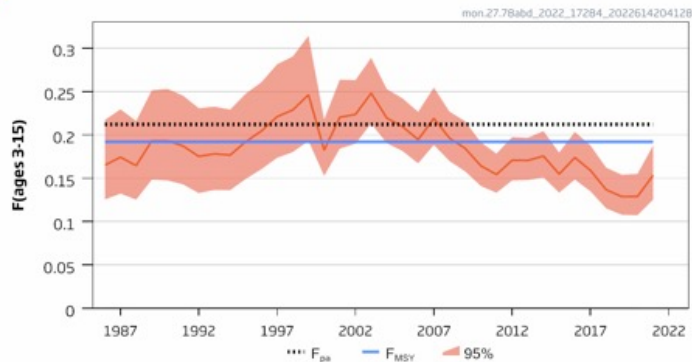
Catches



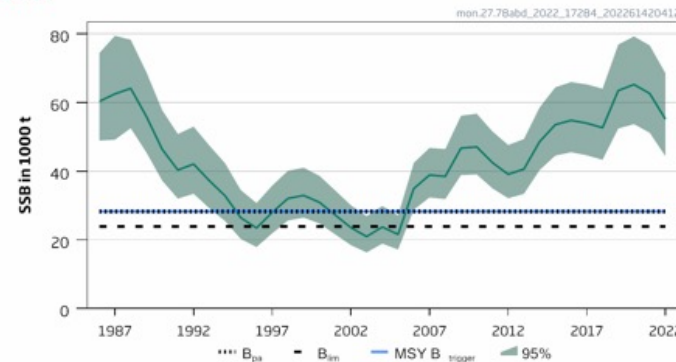
Recruitment (age 0)



F



SSB



- Benchmark 2022
- New reference points
- Perception of stock unchanged
- Fishing pressure below  $F_{MSY}$
- Spawning stock above MSY Btrigger
- Two species not separated in landing statistics
- TAC combined with black-bellied anglerfish



# White anglerfish in Subarea 7 and divisions 8a-b and 8

Catch (2021) : 25 243 t (7 % discards)

F(2022) = 0.137 (average F 2019-2021)

SSB(2023) = 55 576 t > MSY<sub>Btrigger</sub> (28 275 t)  $F_{MSY} = 0.192$

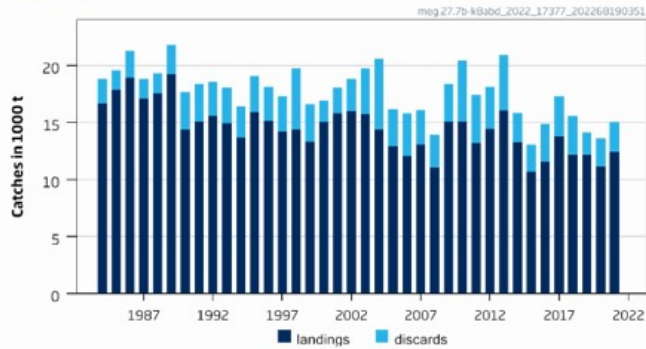
Basis	Total catch (2023)	Projected landings* (2023)	Projected discards** (2023)	F <sub>ages 3-15</sub> Total (2023)	F <sub>ages 3-15</sub> Projected landings (2023)	F <sub>ages 3-15</sub> Projected discards (2023)	SSB (2024)	% SSB change ***	% advice change^
ICES advice basis									
MSY approach = F <sub>MSY</sub>	34476	30053	4423	0.192	0.190	0.00171	52524	-5.8	0.59
Other scenarios									
F <sub>MSY</sub> lower	24269	21159	3110	0.131	0.130	0.00116	55954	0.68	4.78 <sup>^^</sup>
F <sub>MSY</sub> upper	37683	32847	4836	0.21	0.21	0.00188	51446	-7.4	-17.2 <sup>^^</sup>
F = 0	0	0	0	0	0	0	64104	15.3	-100
F <sub>pa</sub>	37683	32847	4836	0.21	0.21	0.00188	51446	-7.4	9.9
SSB <sub>2024</sub> = B <sub>lim</sub>	120004	104320	15684	0.95	0.95	0.0085	23868	-57	250
SSB <sub>2024</sub> = B <sub>pa</sub> = MSY B <sub>trigger</sub>	106744	92856	13888	0.79	0.78	0.0070	28275	-49	210
SSB <sub>2024</sub> = SSB <sub>2023</sub>	25395	22140	3254	0.138	0.136	0.00122	55576	0	-26
F = F <sub>2022</sub>	25338	22091	3247	0.137	0.136	0.00122	55595	0.030	-26

Length based age structured stock synthesis

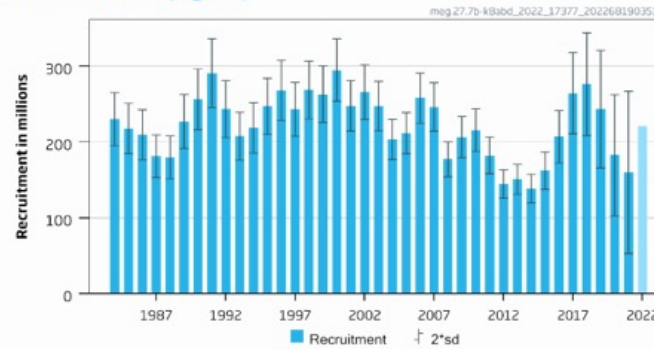
# Megrim in divisions 7b-k, 8a-b and 8d

**Advice for 2023, MSY:** Catch  $\leq$  24 176 t advice +5.3%

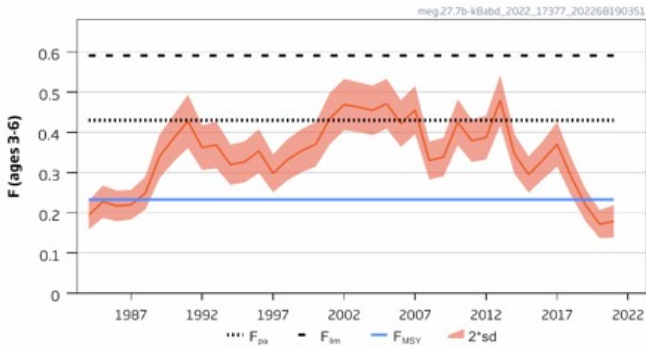
Catches



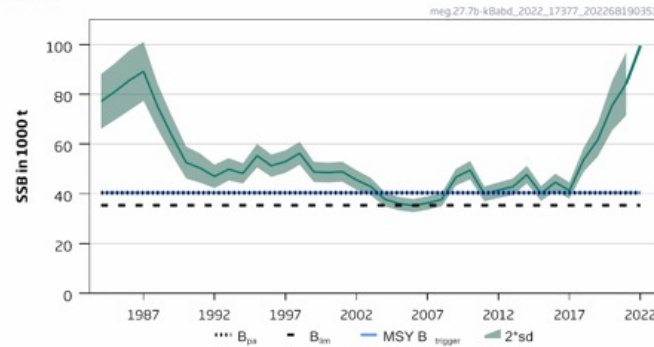
Recruitment (age 1)



F



SSB



- Benchmark 2022
- New reference points
- Perception of stock status unchanged
- Fishing pressure below  $F_{MSY}$
- Spawning stock above MSY  $B_{trigger}$
- Two species not separated in landing statistics
- TAC combined with four spot megrim

# Megrim in divisions 7b-k, 8a-b and 8d

Catch (2021) : 15 020t (17 % discards)

F(2022) = 0.190 (average F 2019-2021)

SSB(2023) = 98 527t > MSY<sub>Btrigger</sub> (40 444t)  $F_{MSY} = 0.233$

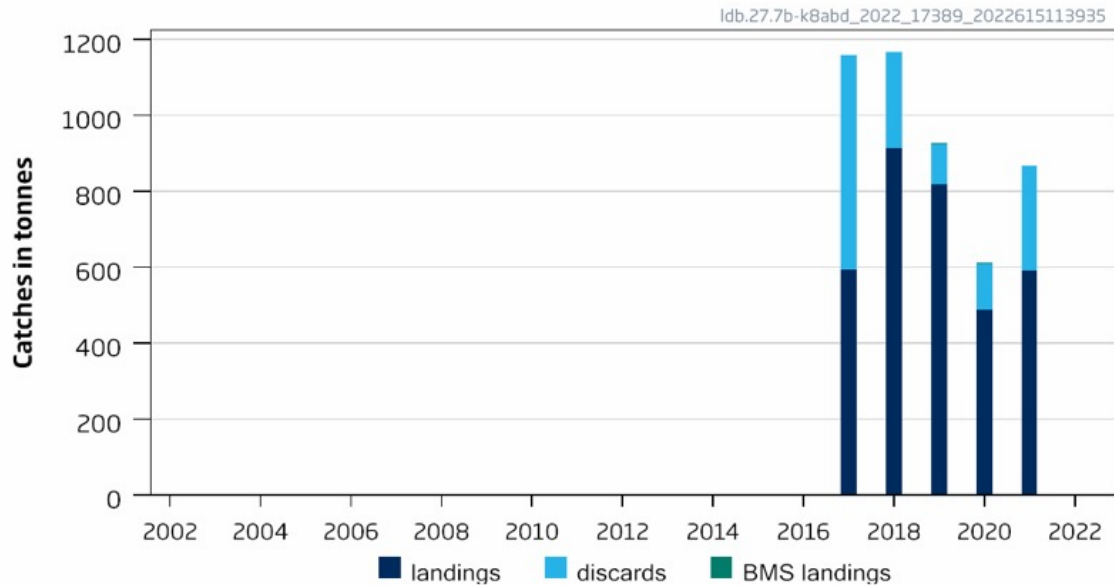
A4A

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

# Four-spot megrim in divisions 7b-k, 8a-b and 8d

**Advice for 2023, 2024 and 2025 : PA: catch  $\leq$  867t**

Catches



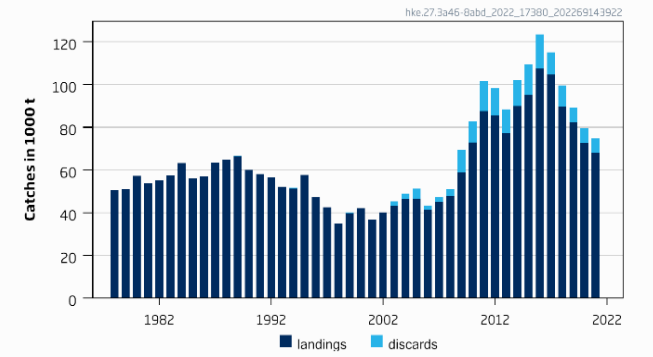
- Can not assess status
- Sampling impacted by covid: could not estimate complete catch 2020 and 2021
- Partial catch estimate for 2021 is 866 t -32% discards
- Two species not separated in landing statistics
- TAC combined with four spot megrim

Advice for 2022		867 tonnes
Discard rate (2017–2019)		27%
Precautionary buffer	Not applied	-
Catch advice for each of the years 2023, 2024, and 2025		867 tonnes**
% advice change		0

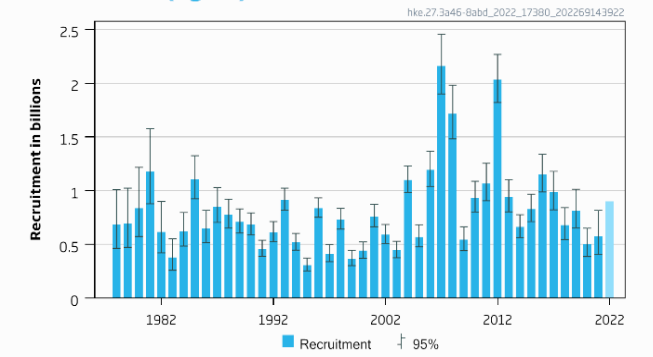
# Hake – Northern stock (3.a, 4, 6, 7, 8.abd)

**Advice for 2023: MSY:** Catch  $\leq$  83 130 t advice +10.8%

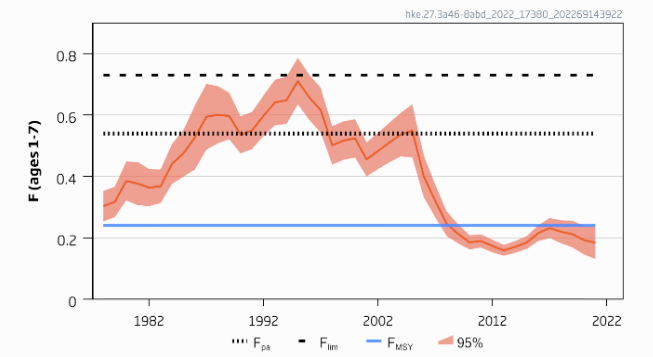
Catches



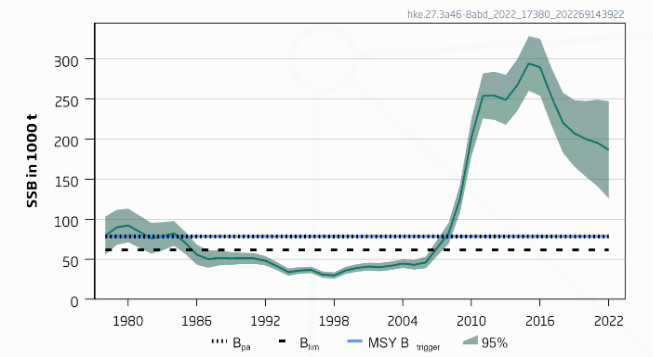
Recruitment (age 0)



F



SSB



- Benchmark 2022
- SSB now females only – total stock size on average 71% higher
- Fishing pressure below  $F_{MSY}$
- Spawning stock above MSY  $B_{trigger}$

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

Catch (2021) : 74 799t (9 % discards)

$F(2022) = 0.198$  Average  $F_{2019-2021}$

$SSB(2023) = 168\,765t > MSY_{Btrigger} (78\,405t)$

$F_{MSY} = 0.24$

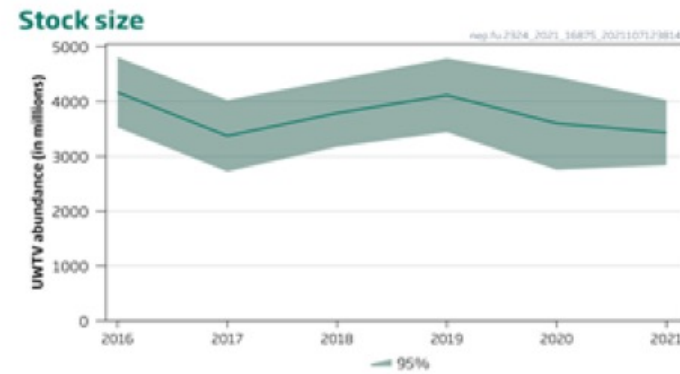
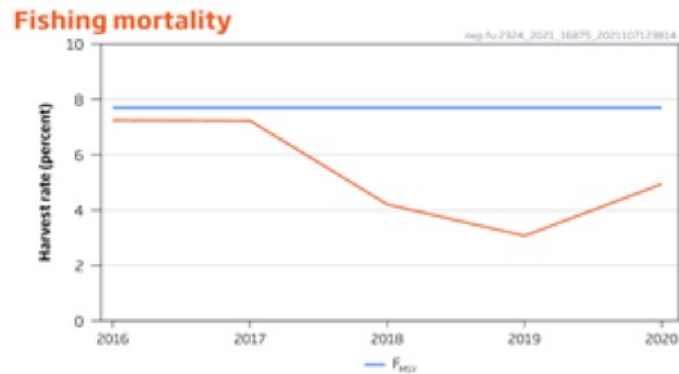
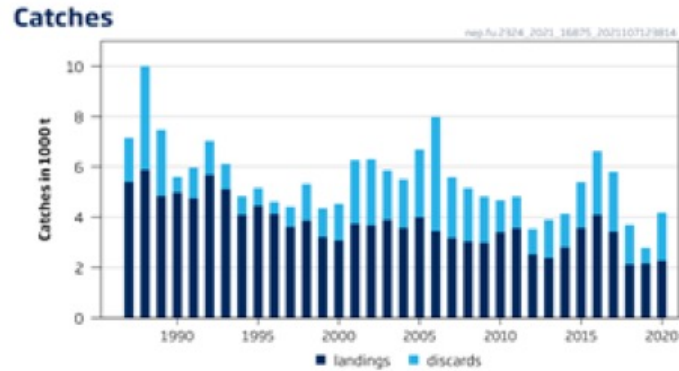


Length based  
and sex  
disaggregated  
stock synthesis

Basis	Total catch (2023)	Projecte d landings (2023)	Projecte d discards (2023)	Fages 1-7 total (2023)	Fages 1-7 projecte d landings (2023)	Fages 1-7 projecte d discards (2023)	SSB (2024)	% SSB change*	% advice change**
ICES advice basis									
MSY approach = $F_{MSY}$	83130	76360	6770	0.24	0.223	0.020	148841	-11.8	10.8
Other scenarios									
EU MAP***: $F_{MSY}$	83130	76360	6770	0.24	0.22	0	148841	-11.8	10.8
$F = MAP*** F_{MSY lower}$	53284	49067	4218	0.147	0.135	0.0120	168127	-0.38	-29
$F = MAP*** F_{MSY upper}$	117526	107599	9927	0.37	0.34	0.031	126984	-25	57
$F = 0$	0	0	0	0	0	0	203180	20	-100
$F = F_{pa}$	155336	141603	13733	0.54	0.49	0.047	103497	-39	107
$SSB(2024) = B_{lim}$	226111	203813	22298	0.98	0.89	0.097	61563	-64	201
$SSB(2024) = B_{pa}$	197045	178555	18491	0.77	0.70	0.072	78405	-54	163
$SSB(2024) = MSY_{Btrigger}$	197045	178555	18491	0.71	0.70	0.072	78405	-54	163
$SSB(2024) = SSB(2023)$	52303	48167	4136	0.14	0.133	0.0110	168765	0.0	-30
$F = F_{2022}$	69596	64003	5593	0.198	0.182	0.0160	157552	-6.6	-7.3

Advice 2023 available in October

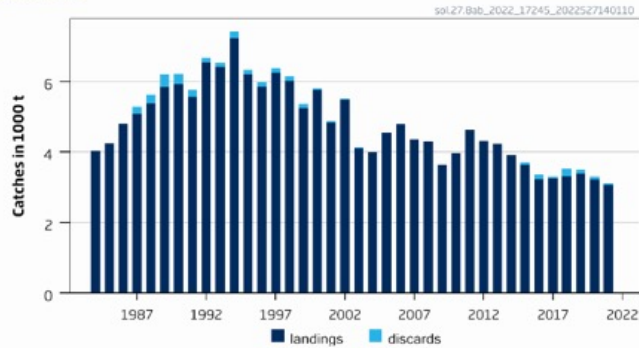
- Advice for 2022  $\leq$  6076 t



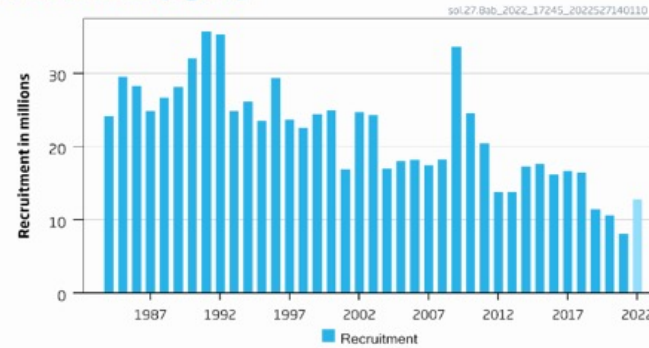
# Sole in divisions 8a-b

**Advice for 2023: EU MAP: Catch 1563-2685 t advice ~ +20%**

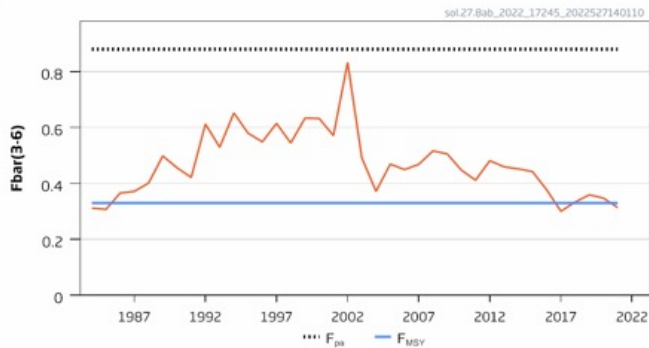
Catches



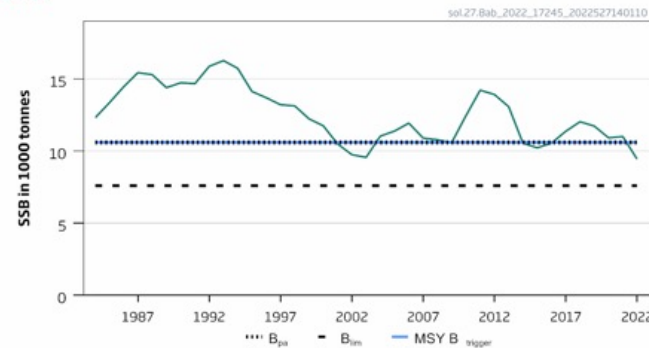
Recruitment (age 2)



F



SSB



- Fishing pressure below  $F_{MSY}$
- Spawning stock below MSY  $B_{trigger}$ , between  $B_{pa}$  and  $B_{lim}$
- Fishing pressure below  $F_{MSY}$
- Spawning stock above MSY  $B_{trigger}$



# Sole in divisions 8a-b

Catch (2021) : 3 110 (1 % discards)

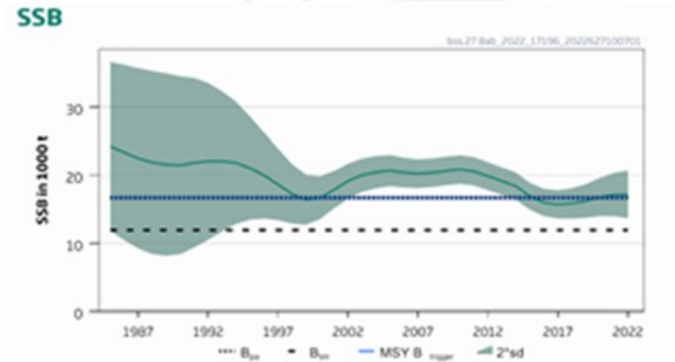
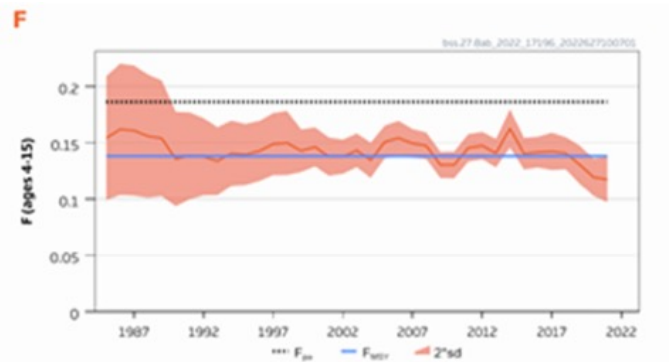
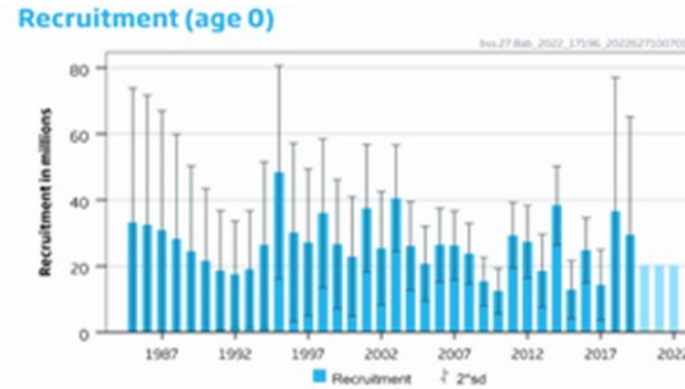
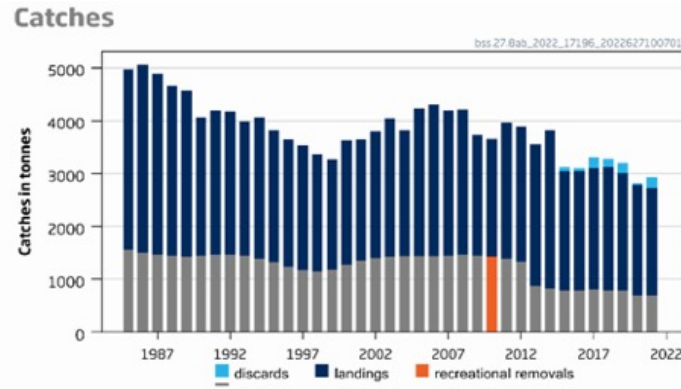
$F(2022) = 0.28$  Based on assumed catch in 2022 of 2233 t

$SSB(2023) = 9\ 806\ t < MSY_{Btrigger} (10\ 600)$   $F_{MSY} = 0.33$

Basis	Total catch* -2023	Landings (2023)	Discards (2023)	$F_{ages\ 3-6}$ Projected landings (2023)	SSB (2024)	% SSB change #	% TAC change##	% advice change ^^^
ICES advice basis								
EU MAP ^ : $F = F_{MSY} \times$ $SSB_{2023}/MSY_{Btrigger}$	2685	2625	60	0.31	10062	2.1	20	20
EU MAP ^ : $F = F_{MSY\ lower} \times$ $SSB_{2023}/MSY_{Btrigger}$	1563	1528	35	0.17	11206	13.7	-30	24^^
Other scenarios								
MSY approach = $F_{MSY}$	2834	2771	63	0.33	9910	0.5	27	27
$F = 0$	0	0	0	0	12807	30	-100	-100
$F_{PA}$	6065	5930	135	0.88	6637	-33	172	172
$SSB_{2024} = B_{lim}$	5110	4995	114	0.69	7600	-23	129	129
$SSB_{2024} = B_{pa} =$ $MSY_{Btrigger}$	2157	2109	48	0.24	10600	7.5	-3.4	-3.4
$SSB_{2024} = SSB_{2023}$	2884	2819	64	0.34	9859	0	29	29
$F = F_{2022}$	2378	2325	53	0.27	10374	5.2	6.5	6.5
Landings 2022 = landings from TAC of 2233 tonnes	2284	2233	51	0.26	10470	6.2	2.3	2.3
Total catch equal to TAC <sub>2022</sub>	2233	2183	50	0.25	10524	6.7	0	0

# Sea bass in divisions 8a-b

**Advice for 2023: EU MAP:** Catch 2897-3398 t advice  $\sim +8\%$



- Fishing pressure below  $F_{MSY}$
- Spawning stock above  $MSY B_{trigger}$
- Stock identity poorly understood
- Limited data on recreational removals

# Sea bass in divisions 8a-b

Catch (2021) : 2 924 (7 % discards)

F(2022) = 0.117 Average F 2019-2021 scaled to F 2021 plus Frec (0.029)

SSB (2023)= 16 348t < MSY<sub>Btrigger</sub> (16 688 t) F<sub>MSY</sub>= 0.138

Basis	Total removals	F <sub>ages4-15</sub>	SSB (2024)	% SSB change	% advice change
	-2023 #	Total -2023		##	^^
ICES advice basis					
EU MAP <sup>^</sup> : F <sub>MSY</sub> × SSB <sub>2023</sub> /MSY B <sub>trig</sub> ger	3398	0.135	16568	1.35	7.7
F = MAP <sup>^</sup> F <sub>MSY</sub> lower × SSB <sub>2023</sub> /MSY B <sub>trig</sub> ger	2897	0.114	16920	3.5	7.6
Other scenarios					
MSY approach : F <sub>MSY</sub>	3464	0.138	16521	1.06	9.8
F = 0	0	0	18976	16.1	-100
F = F <sub>pa</sub>	4570	0.186	15747	-3.7	45
SSB <sub>2024</sub> = B <sub>lim</sub>	10155	0.47	11920	-27	222
SSB <sub>2024</sub> = B <sub>pa</sub>	3226	0.128	16688	2.1	2.2
SSB <sub>2024</sub> = MSY B <sub>trigger</sub>	3226	0.128	16688	2.1	2.2
SSB <sub>2024</sub> = SSB <sub>2023</sub>	3711	0.149	16348	0	17.6
F = F <sub>2021</sub> = F <sub>sq</sub>	2971	0.117	16868	3.2	-5.9

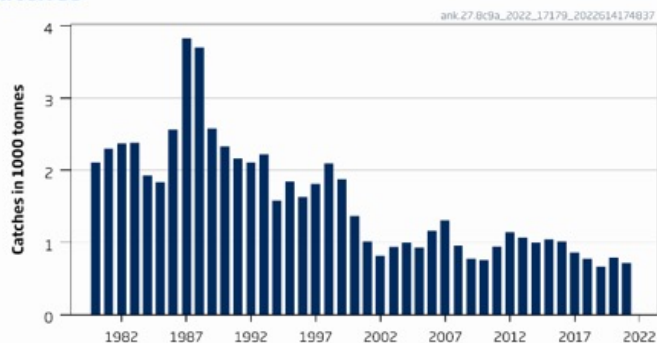
ICES does not provide any split in the catch scenarios table this year as the recreational fishing pressure cannot be allocated in the absence of known management measures in 2023 (e.g. bag limit) and the limited data on recreational removals.

# Eaux de la Péninsule Ibérique

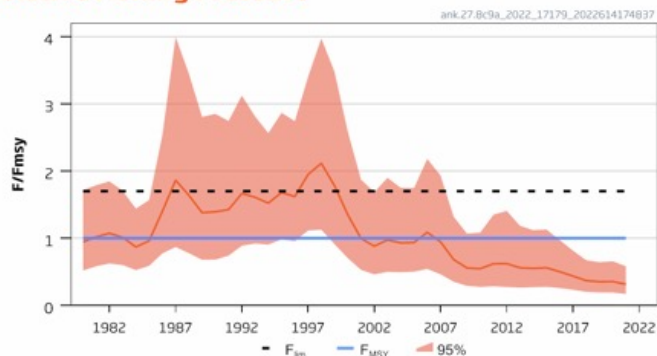
# Black-bellied anglerfish in divisions 8c and 9a

**Advice for 2023: MSY: Catch  $\leq$  2064 advice +4.8%**

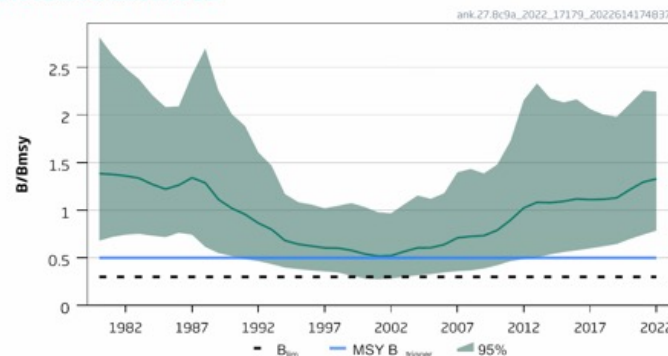
Catches



Relative Fishing Pressure



Relative Biomass



- Fishing pressure below  $F_{MSY}$
- Biomass above MSY Btrigger
- Only fishery dependent data in assessment
- Two species not separated in landing statistics
- TAC combined with white anglerfish

# Black-bellied anglerfish in divisions 8c and 9a

Catch (2021) : 718 t (negligible discards)

$F(2022)/F_{MSY} = 0.32$   $F_{sq}$

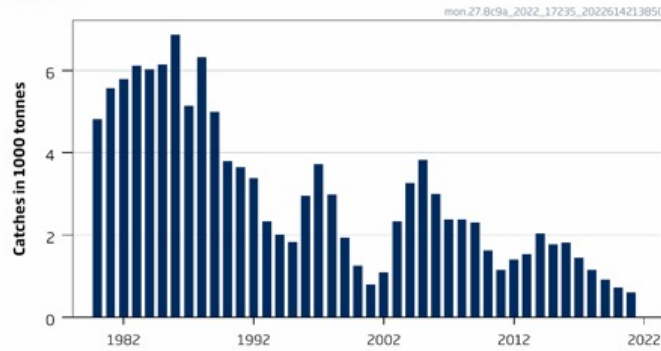
Biomass (2023)/ $B_{MSY} = 1.38 > MSY_{Btrigger}$  **0.5**

Basis	Total catch (2023)	Fishing mortality $F_{2023}/F_{MSY}$	Stock size $B_{2024}/B_{MSY}$	% biomass change <sup>^</sup>	% advice change <sup>^^</sup>
ICES advice basis					
MSY approach (35th percentile of predicted catch distribution under $F = F_{MSY}$ )	2064	0.90	1.34	-2.9	4.8
Other scenarios					
$F = F_{msy}$	2285	1.00	1.33	-3.6	16.0
$F = F_{2021} = F_{sq}$	748	0.32	1.43	3.6	-62
$F = 0$	0	0	1.48	7.2	-100

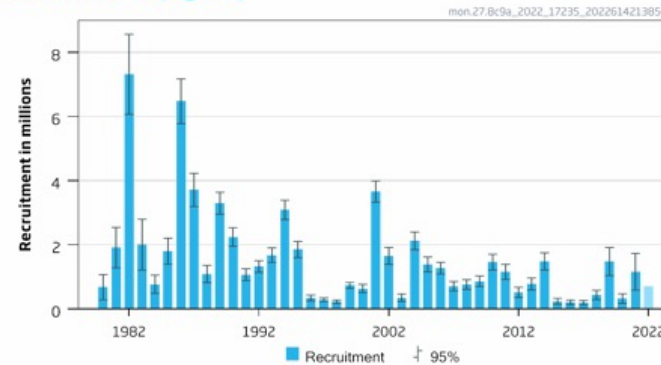
# White anglerfish in divisions 8c and 9a

**Advice for 2023: EU MAP:** Catch 1613 – 2986 t advice  $\sim +20\%$

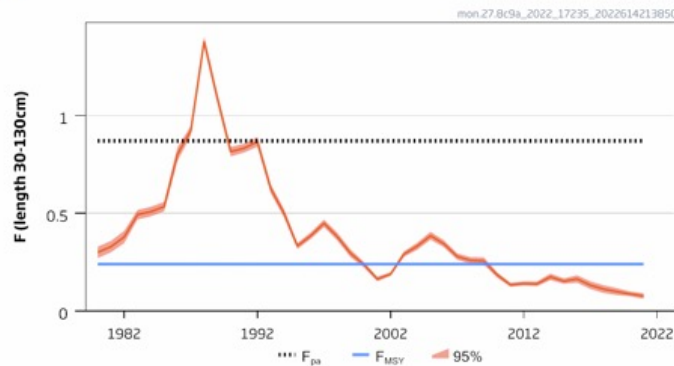
Catches



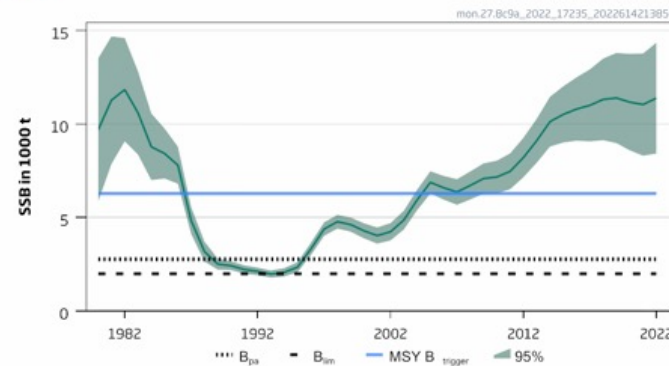
Recruitment (age 0)



F



SSB



- Fishing pressure below  $F_{MSY}$
- Spawning stock above MSY B trigger
- Two species not separated in landing statistics
- TAC combined with black-bellied anglerfish

# White anglerfish in divisions 8c and 9a

Catch (2021) : 608 t (negligible discards)

$F(2022)=0.088$  (Average 2019-2020)

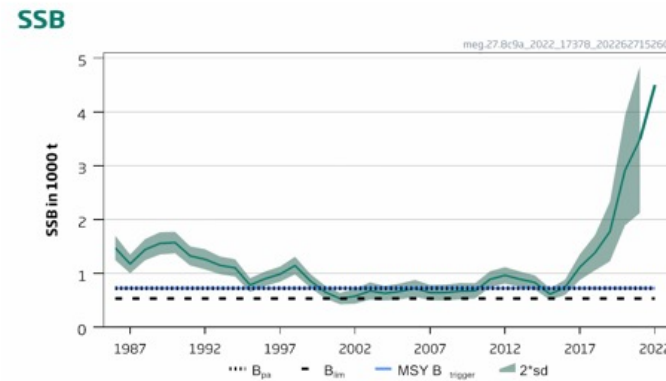
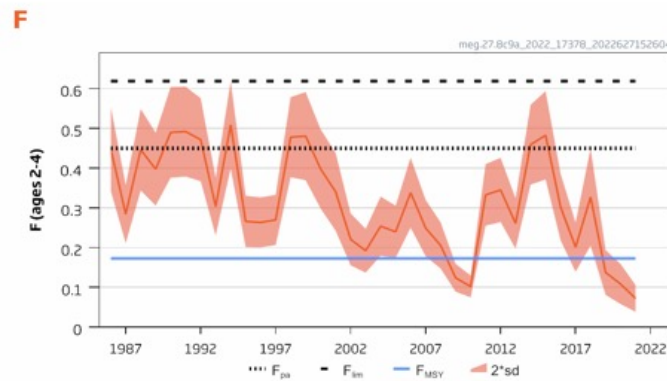
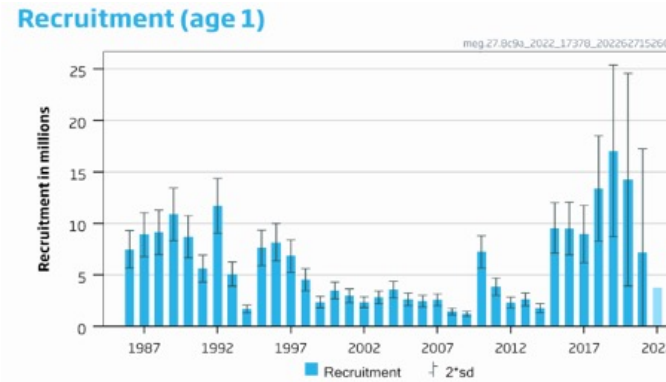
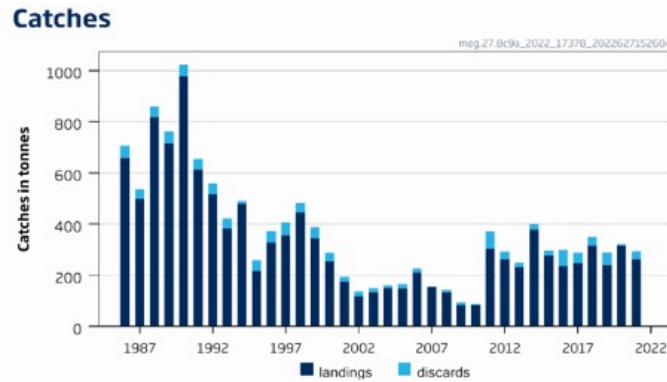
$SSB(2023)= 11\ 943\ t >MSY_{Btrigger} (6283\ t)$   $F_{MSY} =0.24$

Basis	Total catch (2023)	$F_{30-130\text{ cm}}$ Total (2023)	SSB (2024)	% SSB change**	% advice change^
ICES advice basis					
EU MAP*: $F_{MSY}$	2271	0.24	11163	-6.5	19.6
$F = MAP * F_{MSY}$ lower	1613	0.164	11858	-0.71	19.9^^
$F = MAP * F_{MSY}$ upper	2986	0.33	10404	-12.9	19.1^^
Other options					
$F = 0$	0	0	13549	13.4	-100
$F_{pa}$	6140	0.87	6985	-42	223
$SSB(2024) = B_{lim}$	10347	3.02	1993	-83	445
$SSB(2024) = B_{pa}$	9753	2.4	2769	-77	414
$SSB(2024) = MSY_{Btrigger}$	6770	1.02	6283	-47	257
$SSB_{2024} = SSB_{2023}$	1532	0.155	11943	0	-19.3
$F = F_{2022}$	898	0.088	12610	5.6	-53



# Megrim in divisions 8c and 9a

**Advice for 2023: EU MAP:** Catch 645 – 1456 t advice  $\sim +75\%$



- Benchmarked 2022
- New model
- New reference points
- Perception of stock status unchanged
- Fishing pressure below  $F_{MSY}$
- Spawning stock above MSY Btrigger
- Two species not separated in landing statistics
- TAC combined with four spot megrim

# Megrim in divisions 8c and 9a

Catch (2021) : 294 t (11% discards)

F(2022)=0.106 (Average 2019-2020)

SSB(2023)= 4 650 t >MSY<sub>Btrigger</sub> (725 t) F<sub>MSY</sub> =0.173

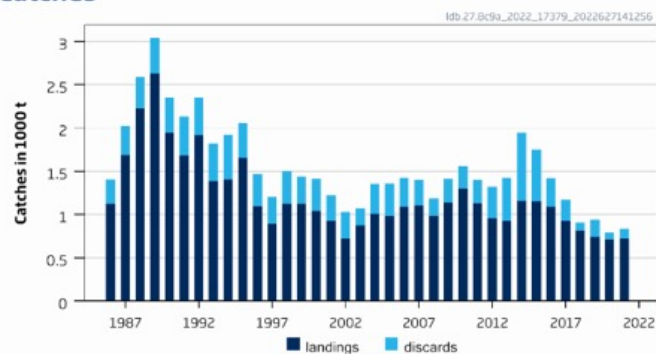
A4A

Basis	Total catch (2023)	Projected landings (2023)	Projected discards (2023)	Fages 2-4 Total (2023)	Fages 2-4 Projected landings (2023)	Fages 1-2 Projected discards (2023)	SSB (2024)	% SSB change*	% advice change <sup>^^</sup>
ICES advice basis									
EU MAP <sup>^</sup> : F <sub>MSY</sub>	968	943	25	0.173	0.147	0.058	4140	-11.0	75
F = MAP <sup>^</sup> F <sub>MSY</sub> lower	654	638	16	0.112	0.095	0.037	4510	-3.0	18.2 <sup>^^</sup>
F = MAP <sup>^</sup> F <sub>MSY</sub> upper	1456	1418	38	0.28	0.24	0.093	3566	-23	163 <sup>^^</sup>
Other scenarios									
F = 0	0	0	0	0	0	0	5283	13.6	-100
F <sub>pa</sub>	2095	2038	57	0.45	0.38	0.150	2823	-39	279
F <sub>lim</sub>	2594	2520	74	0.62	0.52	0.21	2248	-52	369
SSB (2024) = B <sub>pa</sub>	3964	3828	136	1.51	1.28	0.50	725	-84	617
SSB (2024) = B <sub>lim</sub>	4150	4002	148	1.77	1.50	0.59	532	-89	650
SSB (2024) = MSY B <sub>trigger</sub>	3964	3828	136	1.51	1.28	0.50	725	-84	617
SSB <sub>2024</sub> = SSB <sub>2023</sub>	535	522	13	0.093	0.074	0.031	4650	0	-3.3
F = F <sub>2022</sub>	608	593	15	0.104	0.088	0.035	4564	-1.85	10

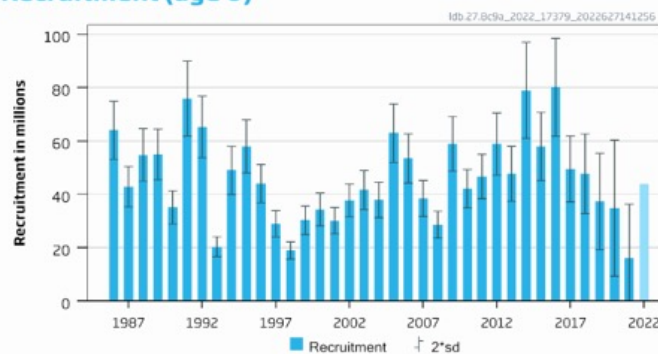
# Four-spot megrim in divisions 8c and 9a

**Advice for 2023: EU MAP:** Catch 1595 – 3421 t advice  $\sim +21\%$

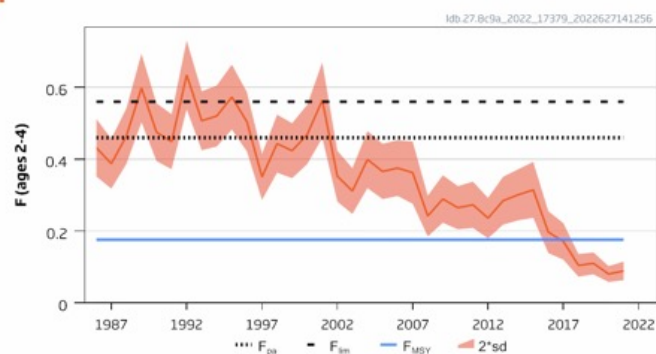
Catches



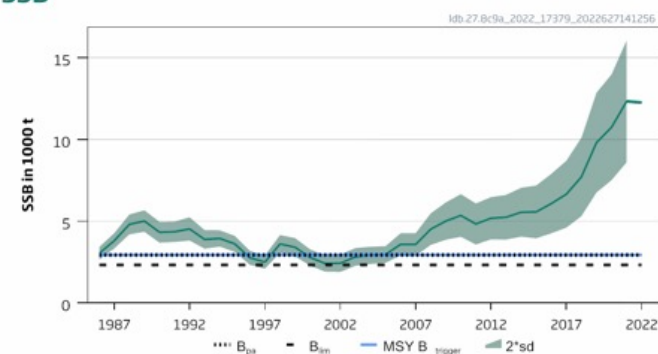
Recruitment (age 0)



F



SSB



- Benchmarked 2022
- New model
- New reference points
- Perception of stock status unchanged
- Fishing pressure below  $F_{MSY}$
- Spawning stock above MSY Btrigger
- Two species not separated in landing statistics
- TAC combined with megrim

# Four-spot megrim in divisions 8c and 9a

Catch (2021) : 831 t (13% discards)

F(2022)=0.093 (Average 2019-2020)

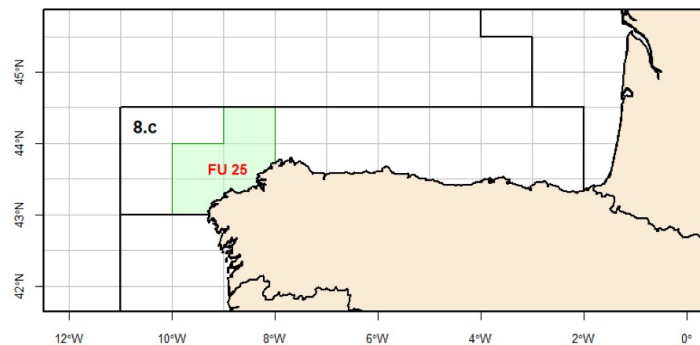
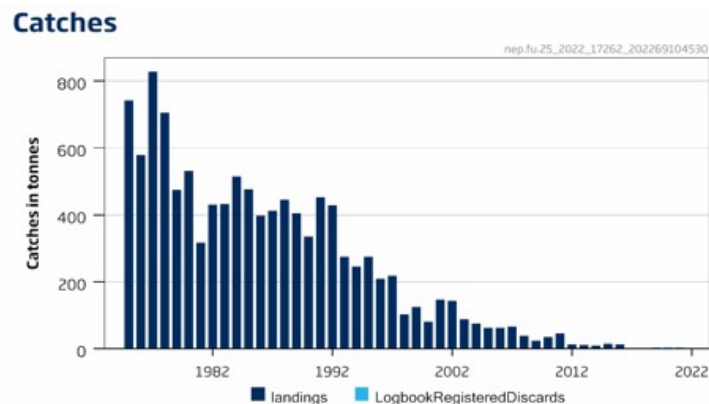
SSB(2023)= 12 118 t >MSY<sub>Btrigger</sub> (2932 t) F<sub>MSY</sub> =0.176

Basis	Total catch (2023)	Projected landings (2023)	Projected discards (2023)	Fages 2-4 Total (2023)	Fages 2-4 Projected landings (2023)	Fages 1-2 Projected discards (2023)	SSB (2024)	% SSB change*	% advice change <sup>^^</sup>
ICES advice basis									
EU MAP <sup>^</sup> : F <sub>MSY</sub>	2282	2129	153	0.176	0.108	0.075	10295	-15.0	21
F = MAP <sup>^</sup> F <sub>MSY</sub> lower	1595	1489	106	0.119	0.073	0.051	11023	-9.0	24 <sup>^^</sup>
F = MAP <sup>^</sup> F <sub>MSY</sub> upper	3421	3187	234	0.28	0.173	0.119	9095	-25	26 <sup>^^</sup>
Other scenarios									
MSY approach = F <sub>MSY</sub>	2282	2129	153	0.176	0.108	0.075	10295	-15.0	21
F = 0	0	0	0	0	0	0	12718	5.0	0
F <sub>pa</sub>	5090	4730	360	0.46	0.28	0.195	7350	-39	169
SSB (2024) = B <sub>pa</sub>	9444	8689	755	1.26	0.82	0.54	2932	-76	399
SSB (2024) = B <sub>lim</sub>	10076	9248	828	1.48	0.96	0.63	2321	-81	433
SSB <sub>2024</sub> = SSB <sub>2023</sub>	563	526	37	0.04	0.026	0.0170	12118	0	-70
SSB (2024) = MSY B <sub>trigger</sub>	9444	8689	755	1.26	0.82	0.54	2932	-76	399
F = F <sub>2022</sub>	1268	1184	84	0.093	0.057	0.040	11370	-6.2	-33

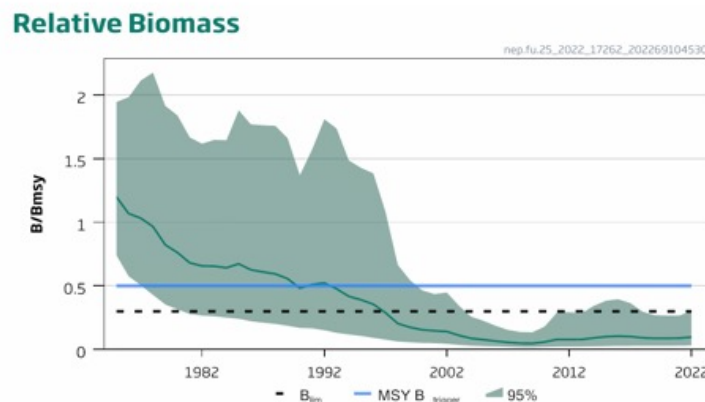
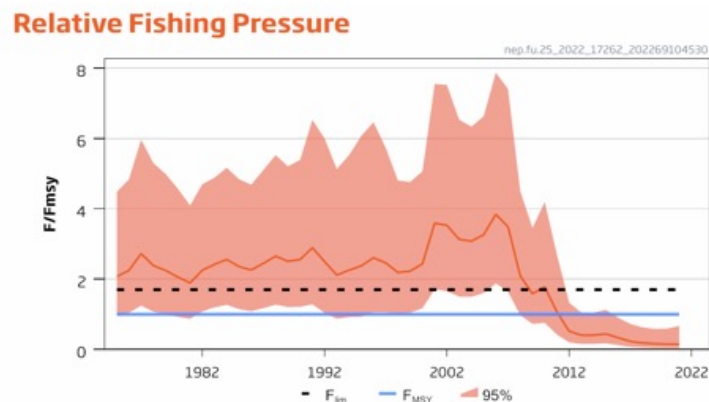
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# Nephrops in division 8c FU 25

**Advice for 2023: MSY:** Catch= 0 t No change



- Fishing pressure below  $F_{MSY}$
- Spawning stock below  $B_{lim}$
- No catch scenario that will rebuild the stock above  $B_{lim}$  by 2024



# Nephrpops in division 8c FU 25

Catch (2021) : 3 t (33% discards)

$F(2022)/F_{MSY} = 0.15$   $F_{sq}$

Biomass (2023)/ $B_{MSY} = 0.11 < MSY_{Btrigger}$  0.5

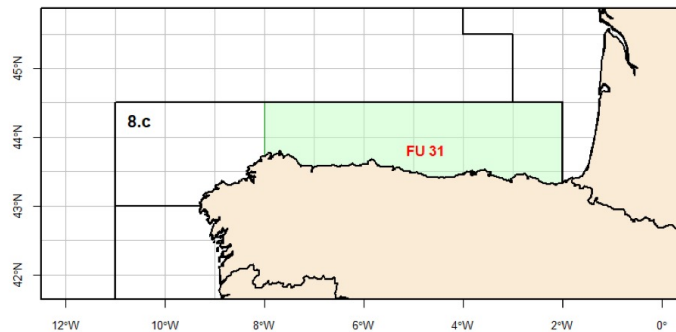
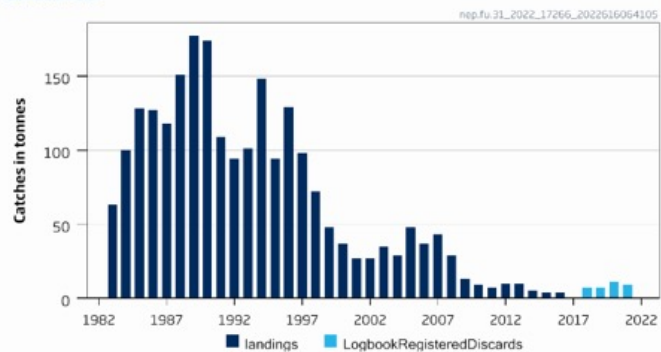
Basis	Total catch (2023)	Fishing pressure $F_{2023}/F_{MSY}$	Stock size $B_{2024}/B_{MSY}$	% B change <sup>^</sup>	% advice change <sup>^^</sup>
ICES advice basis					
MSY approach : $F = 0$	0	0	0.129	15.4	0
Other scenarios					
$F = F_{2021} = F_{sq}$	5.184	0.15	0.127	14.1	-

In 2022 the Norway lobster TAC for Division 8.c was split by *Nephrlops* functional unit, which is in line with ICES recommendation.

# Nephrops in division 8c FU 31

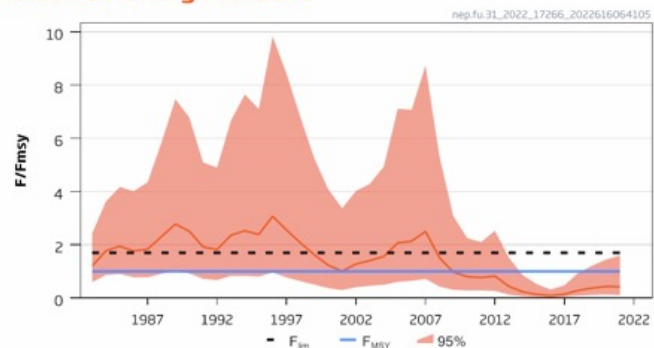
**Advice for 2023: MSY:** Catch  $\leq 17$  t advice -13%

Catches

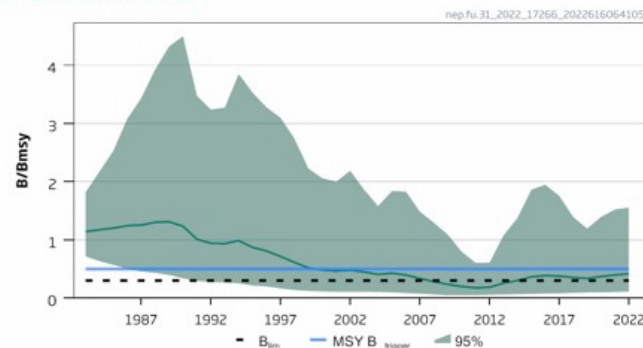


- Fishing pressure below  $F_{MSY}$
- Spawning stock below  $B_{MSY}$  and MSY Btrigger but above  $B_{lim}$

Relative Fishing Pressure



Relative Biomass



# Nephrpops in division 8c FU 31



Catch (2021) : 9 t (89% discards)

$F(2022)/F_{MSY} = 0.42$   $F_{sq}$

Biomass (2023)/ $B_{MSY} = 0.46 < MSY_{Btrigger}$   $0.5$

Basis	Total catch (2023)	Fishing pressure $F_{2023}/F_{MSY}$	Stock size $B_{2024}/B_{MSY}$	% B change ^	% advice change ^^
ICES advice basis					
MSY approach: 35th percentile of predicted catch distribution under $F = F_{MSY}$	17	0.68	0.49	7.0	-13.3
Other scenarios					
$F = F_{2021} = F_{sq}$	11	0.42	0.50	9.2	-46
$F = F_{MSY}$	23	0.91	0.48	5.1	14.8
$F = 0$	0	0	0.52	12.9	-100

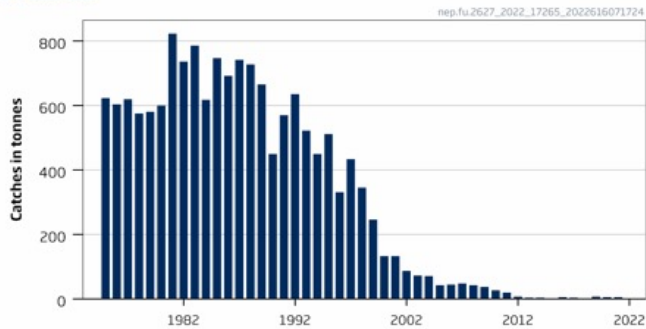
In 2022 the Norway lobster TAC for division 8.c was split by *Nephrpops* functional unit, which is in line with ICES recommendation.



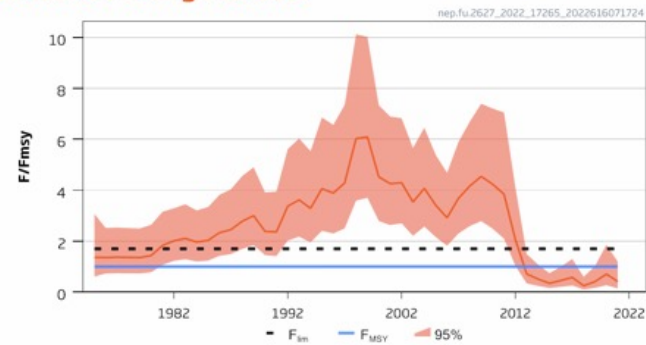
# Nephrops in division 9a FU 26-27

**Advice for 2023, 2024 and 2025: MSY: Catch= 0 t no change**

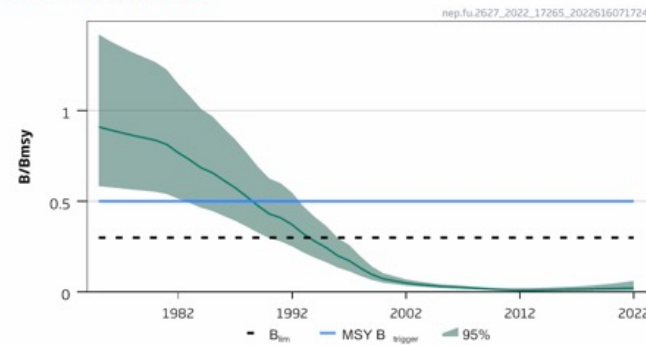
Catches



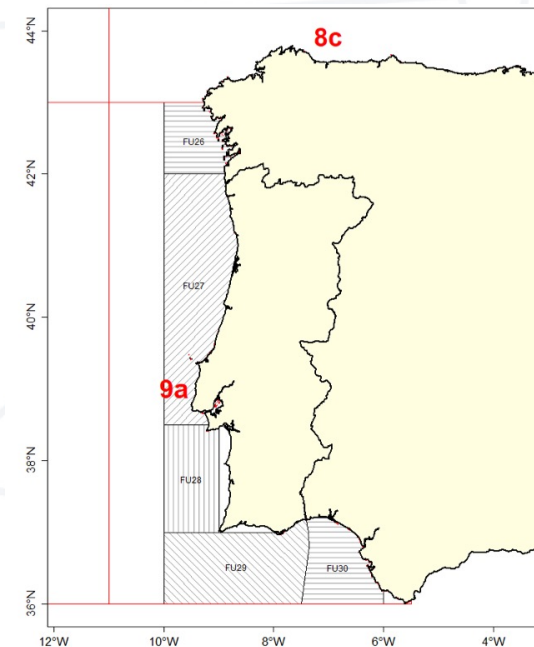
Relative Fishing Pressure



Relative Biomass



- Fishing pressure below  $F_{MSY}$
- Spawning stock below  $B_{lim}$
- No catch scenario that will rebuild the stock above  $B_{lim}$  by 2024



# Nephrpops in division 9a FU 26-27

Catch (2021) : 4 t (negligible discards)

$F(2022)/F_{MSY} = 0.37$   $F_{sq}$

Biomass (2023)/ $B_{MSY} = 0.024 < MSY_{Btrigger}$   $0.5$

Basis	Total catch (2023)	Fishing pressure $F_{2023}/F_{MSY}$	Stock size $B_{2024}/B_{MSY}$	% B change <sup>^</sup>	% advice change <sup>^^</sup>
ICES advice basis					
MSY approach : $F = 0$	0	0	0.027	11.4	0
Other scenarios					
$F = F_{2021} = F_{sq}$	4.580	0.37	0.026	8.6	-

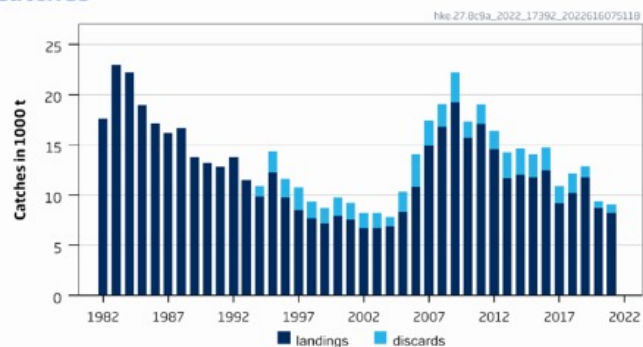
In 2022 the Norway lobster TAC limits were set by ICES stock assessment areas for Division 9.a, which is in line with ICES recommendation

- Fu 28-29 advice for 2023 given last year  $\leq 266$  t
- FU 30 available October

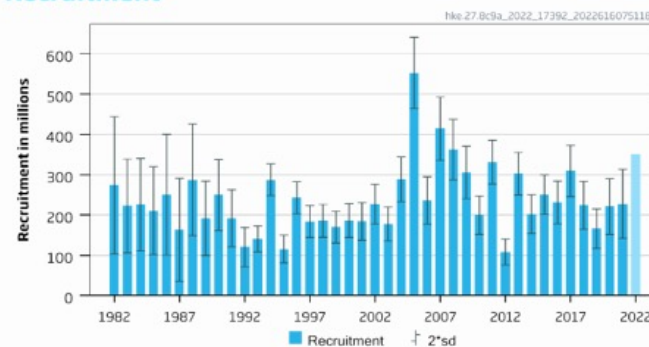
# Hake in division 8c and 9a: southern stock

**Advice for 2023: EU MAP:** Catch 8322 – 15 925 t advice ~ +70%

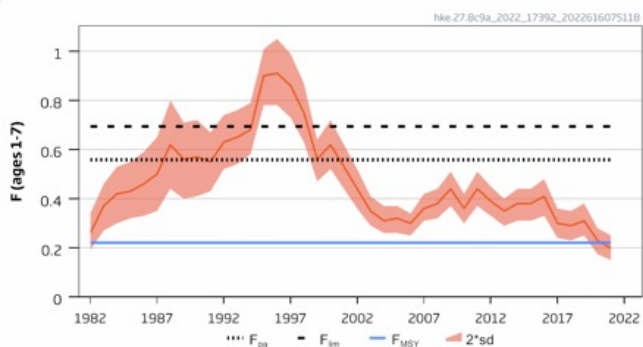
Catches



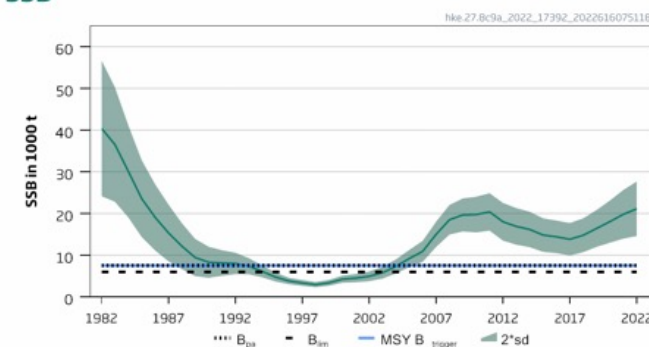
Recruitment



F



SSB



- Benchmarked 2022
- New model –category 1
- New reference points
- Sex disaggregated – SSB females only
- Fishing pressure below  $F_{MSY}$
- Spawning stock above MSY Btrigger

# Hake in division 8c and 9a: southern stock

**Catch (2021) : 9 065 t (9% discards)**

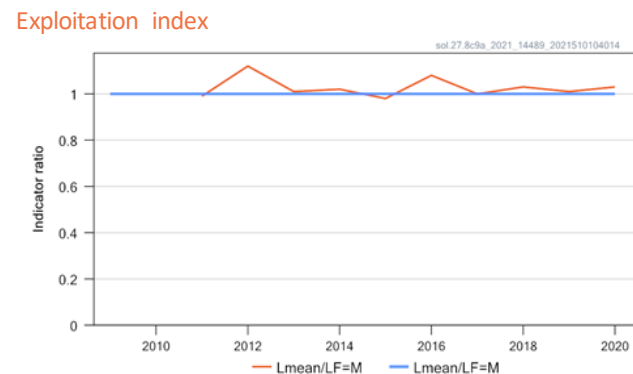
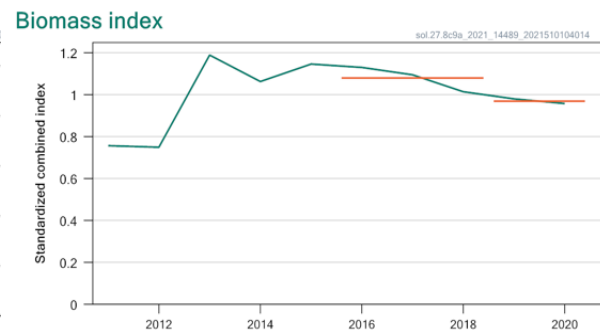
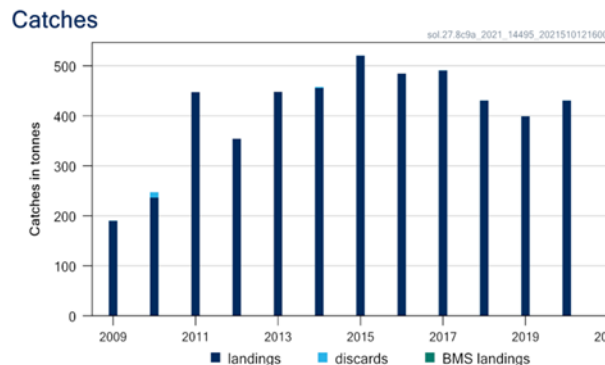
**F(2022)=0.25 (Average 2019-2021)**

**SSB(2023)= 21 850 t >MSY<sub>Btrigger</sub> (7556 t) F<sub>MSY</sub> =0.221**

Basis	Total catch (2023)	Projected landings (2023)	Projected discards (2023)	F <sub>ages 1-7</sub> total (2023)	F <sub>ages 1-7</sub> projected landings <sup>^^</sup> (2023)	F <sub>ages 1-7</sub> projected discards <sup>^^</sup> (2023)	SSB (2024)	% SSB change*	% advice change**
<b>ICES advice basis</b>									
EU MAP F = F <sub>MSY</sub> <sup>^</sup>	11791	10599	1192	0.22	0.199	0.022	23936	10	70
EU MAP F = F <sub>MSY</sub>	8322	7491	830	0.15	0.136	0.0150	25747	18	20
lower									
EU MAP F = F <sub>MSY</sub>	15925	14288	1637	0.31	0.28	0.032	21794	0	129
upper									
<b>Other scenarios</b>									
F = 0	0	0	0	0	0	0	30141	38	-100
F = F <sub>lim</sub>	30055	26752	3303	0.69	0.62	0.076	14641	-33	333
F = F <sub>pa</sub>	25611	22861	2750	0.56	0.50	0.060	16859	-23	269
SSB (2024) = B <sub>lim</sub>	48198	42169	6030	1.56	1.37	0.196	6011	-72	594
SSB (2024) = B <sub>pa</sub>	44814	39373	5441	1.34	1.18	0.163	7556	-65	545
SSB (2024) = MSY B <sub>trigger</sub>	44814	39373	5441	1.34	1.18	0.163	7556	-65	545
SSB (2024) = SSB(2023)	15816	14191	1625	0.31	0.28	0.032	21850	0	128
F = F <sub>2022</sub>	12950	11635	1315	0.25	0.22	0.025	23334	7	86

Length based  
and sex  
disaggregated  
stock synthesis

**Advice for 2022 and 2023: MSY:** Catch  $\leq$  320 t updated October 2021



- Fishing pressure at or below  $F_{MSY}$
- No stock size reference points
- Exploitation index Length based indicator from catches
- Catch sampling affected by covid 2020 but effect thought to be minimal
- All sole under single TAC

# Sole in division 8c and 9a

Catch (2021) : 430 t (negligible discards)

2-over-3 rule for data-limited stocks  $C_{y+1} = C_y \times r \times f \times b \times m$

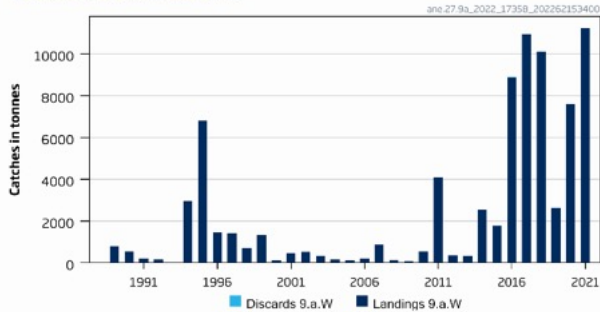
Index A (2020, 2019)		0.97
Index B (2016, 2017, 2018)		1.08
r: Index ratio (A/B)		0.90
m: Multiplier to maintain the biomass above $B_{lim}$ to with 95% probability		0.90
f: Multiplier for relative mean length in catches ( $L_{mean} / L_{F=M 2020}$ )		1.03
b: Multiplier for index relative to trigger ( $I_{2020} / I_{trigger}$ ; $I_{trigger} = I_{loss} \times 1.4 = 1.05$ )		0.91
Stability clause	Not Applied	-
$C_y$ : Average catches of the last three years (2018, 2019, 2020)		420 tonnes
Discard rate		Negligible
Catch advice for 2022 **		320 tonnes
% advice change ***		-36%

# Anchovy in division 9a

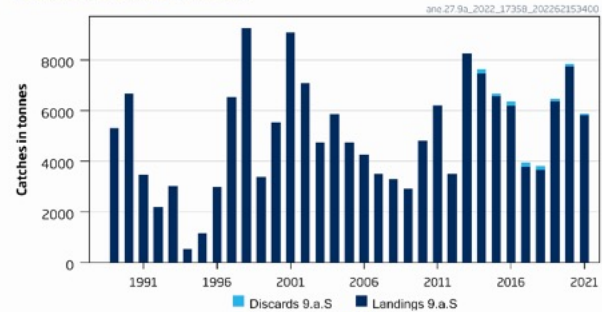
**Advice for 1 July 2022 – 30 June 2023: MSY:**

Western  $\leq 14\ 038$  +80% Southern  $\leq 1694$  -76%

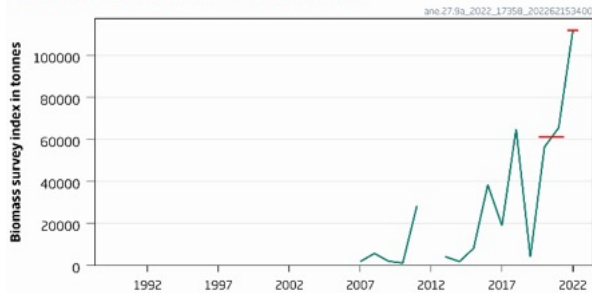
Catches 9.a.Western



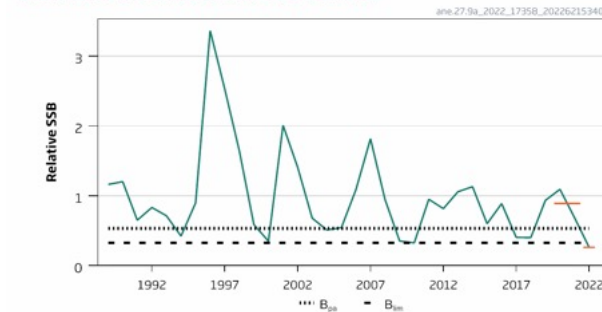
Catches 9.a.Southern



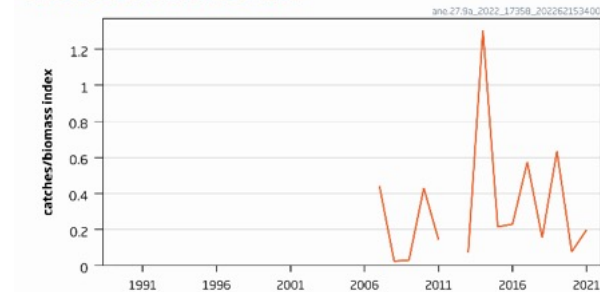
Stock size indicator 9.a.Western



Relative stock size 9.a.Southern



Harvest rate 9.a.Western



Relative fishing mortality 9.a.Southern



- Western: unable to assess status
- Southern: spawning stock below  $B_{lim}$   
No fishing pressure reference points



**Catch (2021) : Western 10 276 t (0 discards)**  
**: Southern 7 562 t ( 1% discards)**

**Western component**                      1 over 2 with uncertainty cap applied

Index A (2022)		111 963 tonnes
Index B (2020–2021)		61 104 tonnes
Index ratio (A/B)		1.83
Uncertainty cap (80%)	Applied	1.8
Advised catch for 1 July 2021 to 30 June 2022		7 824 tonnes
Discard rate (from 1 July 2021 to 31 December 2021)		0
Catch advice 1 July 2022 to 30 June 2023**		14 083 tonnes
% advice change^		80

**Southern component**                      1 over 2 with biomass safeguard

Index A (2022)		0.261
Index B (2020–2021)		0.890
Index ratio (A/B)		0.294
Uncertainty cap (80%)	Not applied	-
Biomass safeguard (Index A/B <sub>lim</sub> )	Applied	0.82
Advised catch for 1 July 2021 to 30 June 2022		7 181 tonnes
Discard rate (from 1 July 2021 to 31 December 2021)**		0.02
Catch advice 1 July 2022 to 30 June 2023***		1 694 tonnes
% advice change^		-76%





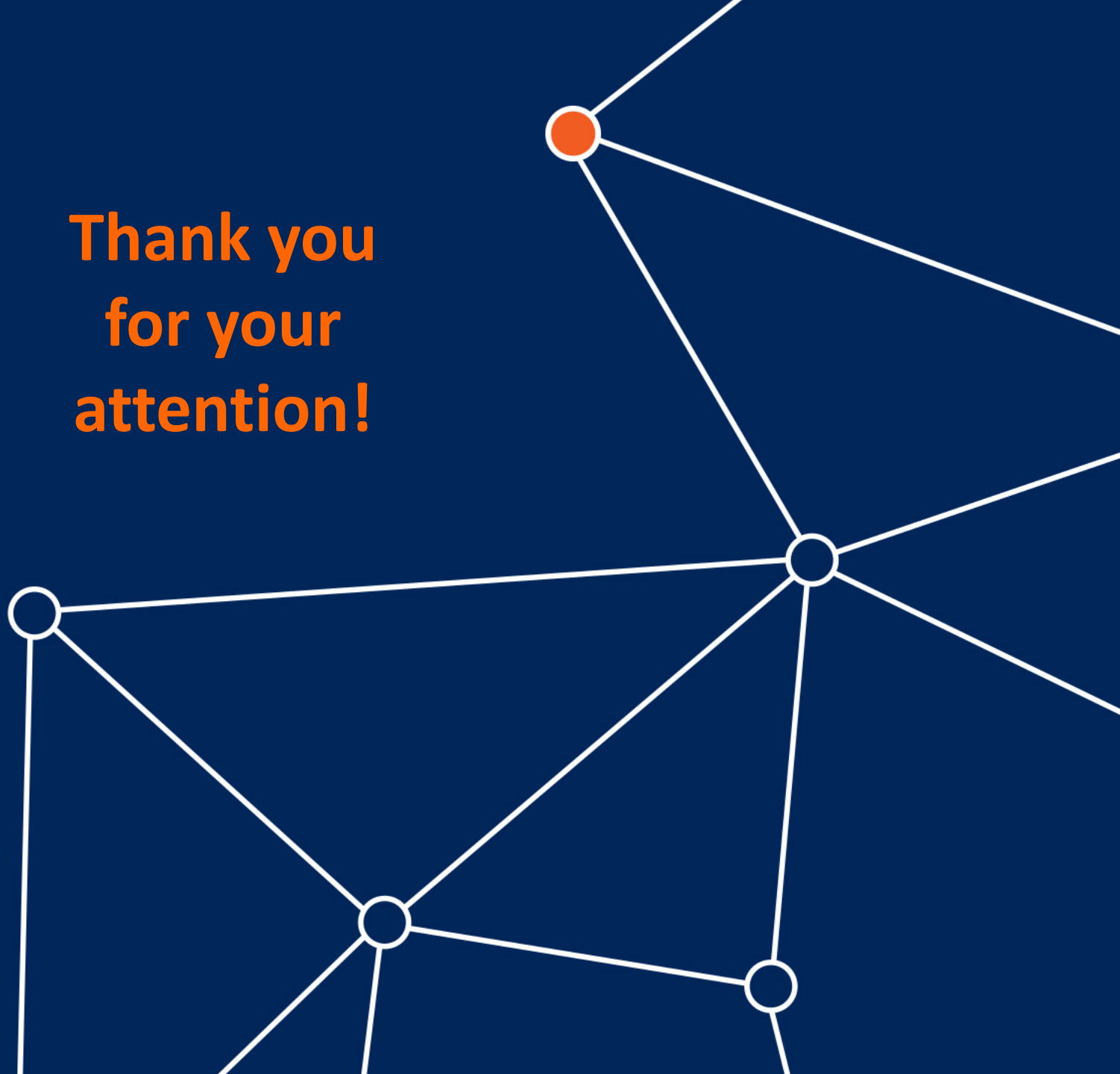
**Thank you  
for your  
attention!**

Joanne.morgan@ices.dk



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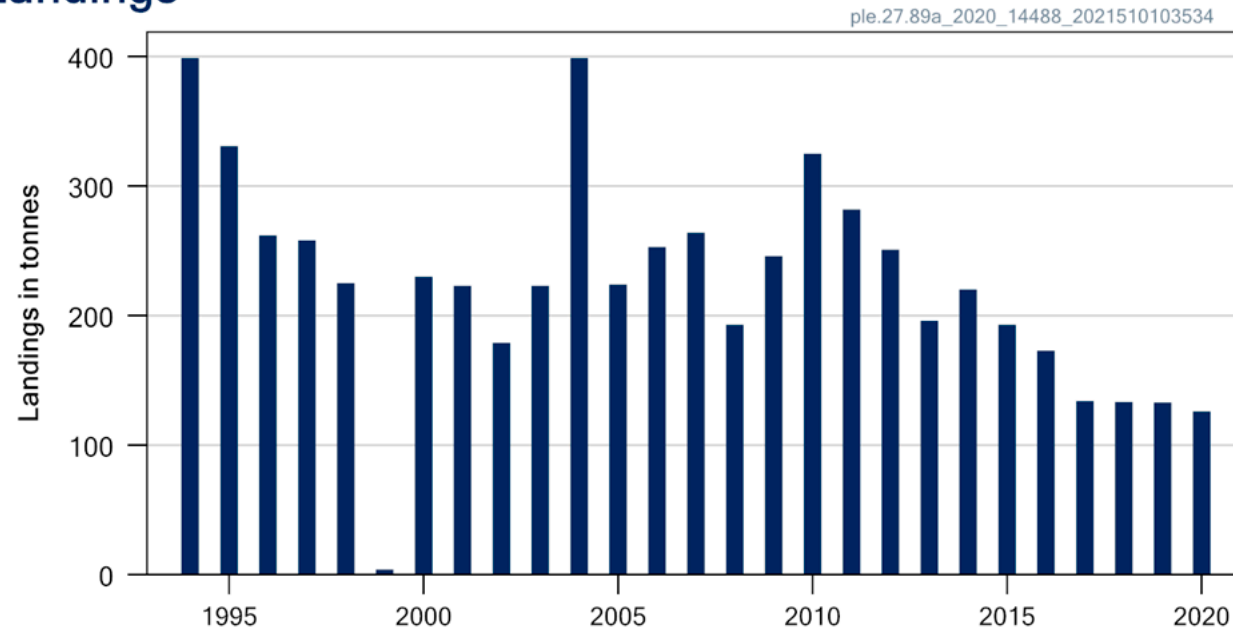
Science for sustainable seas



# Plie de la sous-zone 8 et la division 9.a

**Avis pour 2022 et 2023 : AP: Débarquements  $\leq$  155 t**

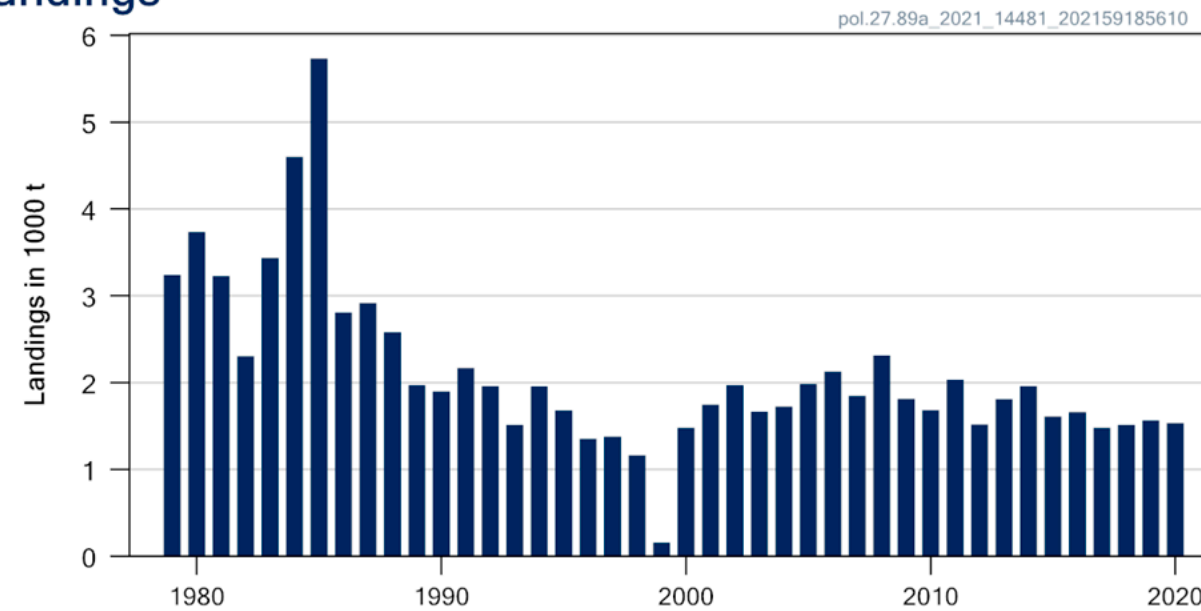
## Landings



# Lieu jaune de la sous-zone 8 et la division 9.a

**Avis pour 2022 et 2023 : AP: Prises  $\leq$  905 t**

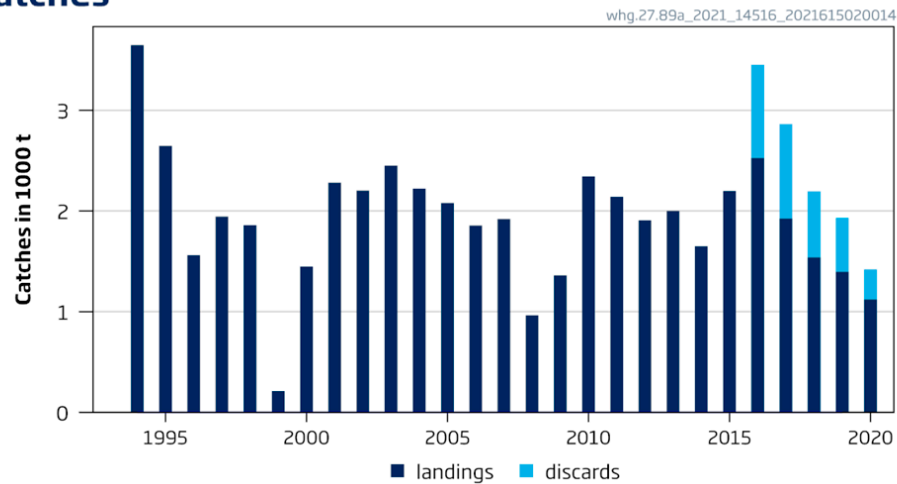
## Landings



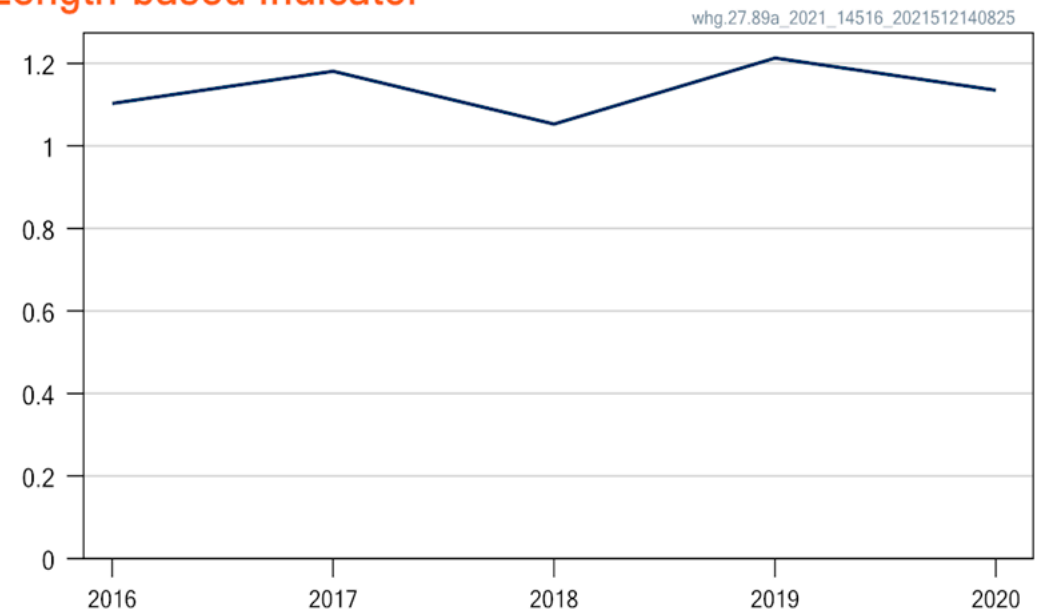
# Merlande la sous-zone 8 et la division 9.a

Avis pour 2022 et 2023 : AP: Prises  $\leq 2\,276$  t

## Catches



## F: Length-based Indicator



# Sea bass 8c and 9a

**Avis pour 2022 et 2023 : AP: Prises  $\leq$  382 t**

## Landings

