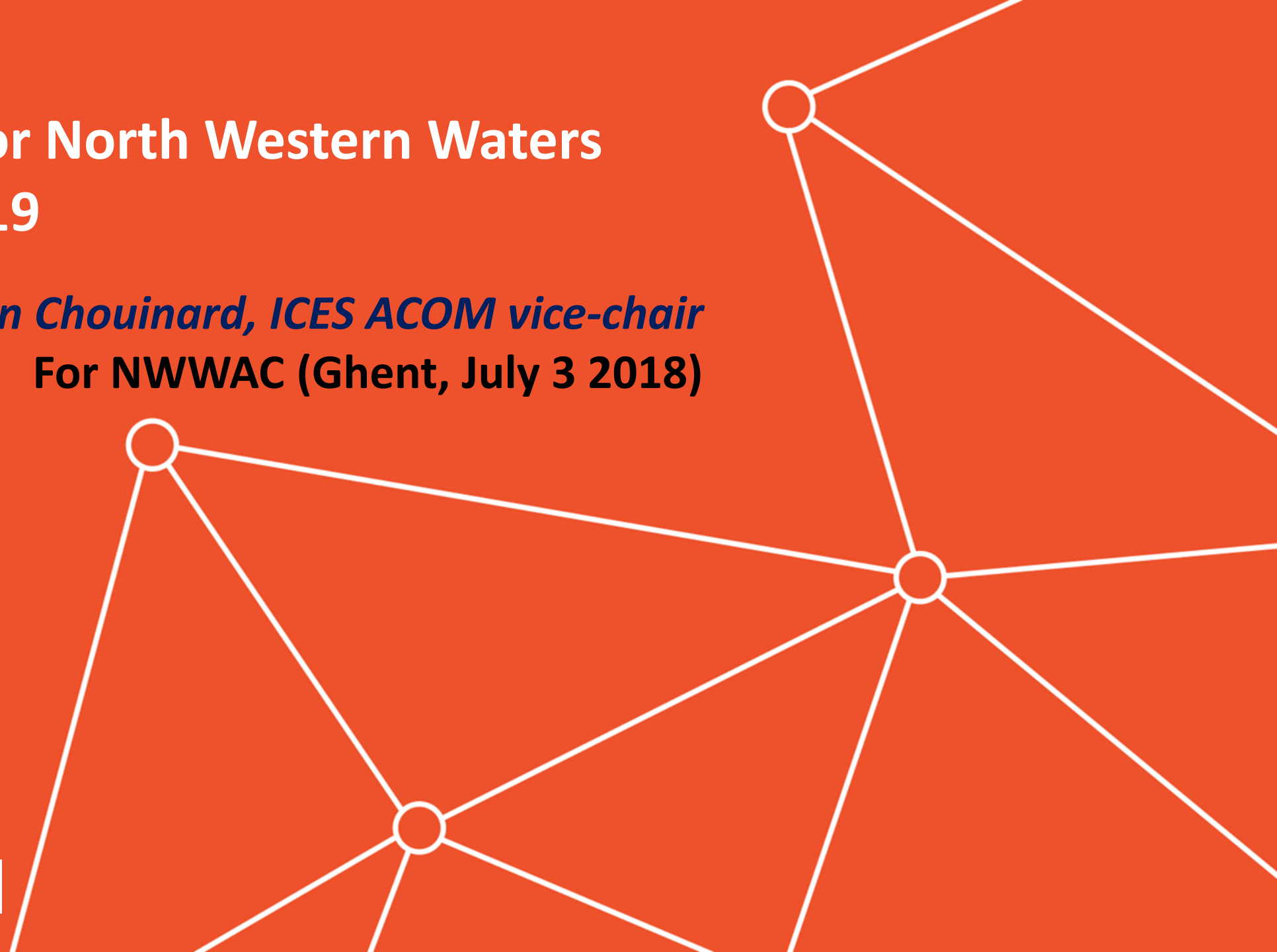
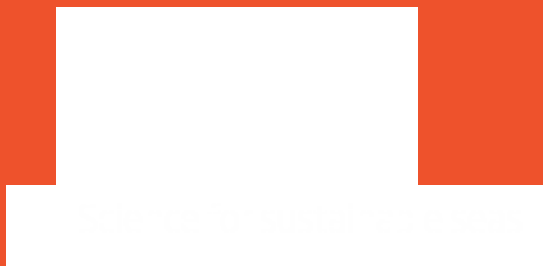


# ICES advice for North Western Waters stocks for 2019

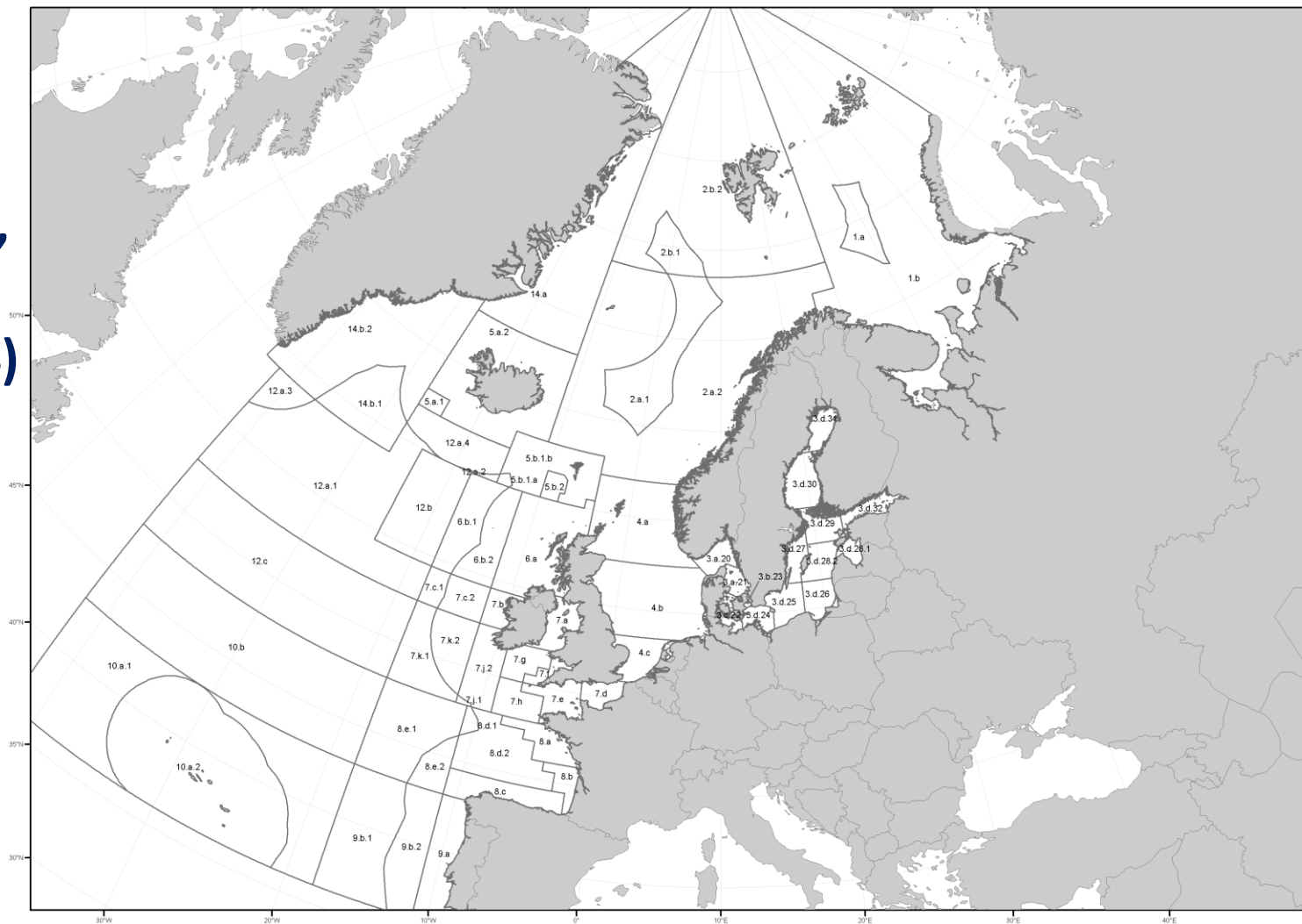
*Ghislain Chouinard, ICES ACOM vice-chair*  
For NWWAC (Ghent, July 3 2018)



# Deep-sea stocks

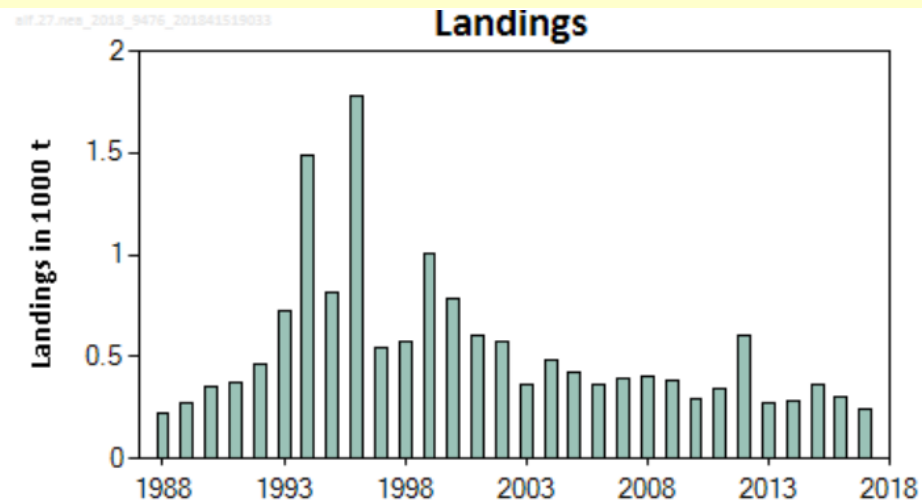


- **Alfonsinos (1–10, 12, and 14)**
- **Black scabbardfish (1, 2, 4–8, 10, 14, 3.a, 9.a, and 12.b)**
- **Greater forkbeard (1–10, 12, and 14)**
- **Blackspot seabream (6, 7, and 8)**
- **Roundnose grenadier (6 and 7, 5.b and 12.b)**
- **Blue ling (6–7 and 5.b)**
- **Tusk (6.b)**



# Alfonsinos in subareas 1–10, 12, and 14 (Northeast Atlantic and adjacent waters)

**Advice for 2019 and 2020, PA:** Landings  $\leq 224$  t



Landings in 2017 = 240 t.

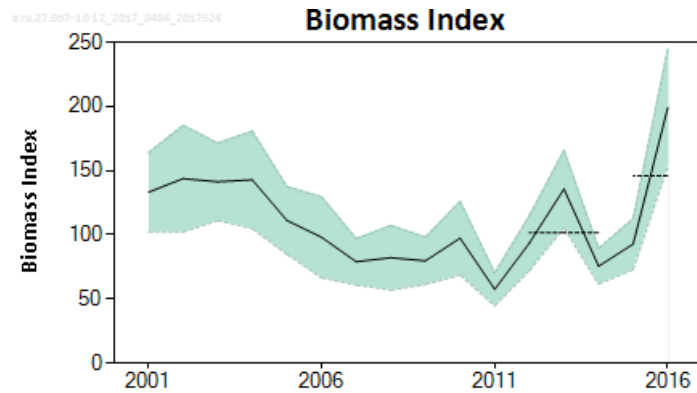
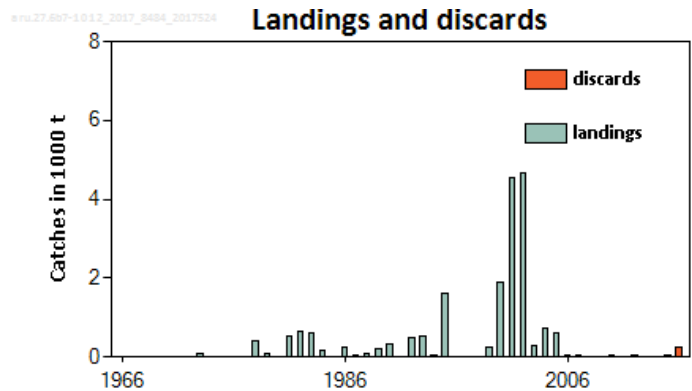
	Fishing pressure				Stock size					
		2015	2016	2017		2015	2016	2017		
Maximum sustainable yield	$F_{MSY}$	?	?	?	Unknown	$MSY B_{trigger}$	?	?	?	Unknown
Precautionary approach	$F_{pa}, F_{lim}$	?	?	?	Unknown	$B_{pa}, B_{lim}$	?	?	?	Unknown
Management plan	$F_{MGT}$	—	—	—	Not applicable	$B_{MGT}$	—	—	—	Not applicable
Qualitative evaluation	-	?	?	?	Unknown	-	?	?	?	Unknown

- Two Beryx species : most catch in Azorean EEZ and in Mid-Atlantic Ridge.
- Landings not indicative of stock abundance.
- Aggregative behaviour near seamounts, can only sustain low exploitation rates.
- Exploitation of new seamounts should not be allowed.

# Greater silver smelt in other areas (7–10 and 12, 6.b)



**Advice for 2018 and 2019, PA:** Landings  $\leq 14$  t



		Fishing pressure			Stock size				
		2014	2015	2016	2014	2015	2016		
Maximum sustainable yield	$F_{MSY}$	?	?	?	MSY	?	?	?	Undefined
Precautionary approach	$F_{pa}$ , $F_{lim}$	?	?	?	$B_{pa}$ , $B_{lim}$	?	?	?	Undefined
Management plan	$F_{MGT}$	-	-	-	$SSB_{MGT}$	-	-	-	Not applicable
Qualitative evaluation	-	?	?	?	-	↘	↗	↗	Unknown

Index A (2015–2016)	145.9 kg [30 min] <sup>-1</sup>
Index B (2012–2014)	101.6 kg [30 min] <sup>-1</sup>
Index ratio (A/B)	1.4
Uncertainty cap	Applied   1.2
Advised landings for 2016 and 2017	15 tonnes
Discard rate	Unknown
Precautionary buffer	Applied   0.8
<b>Landings advice*</b>	<b>14 tonnes</b>

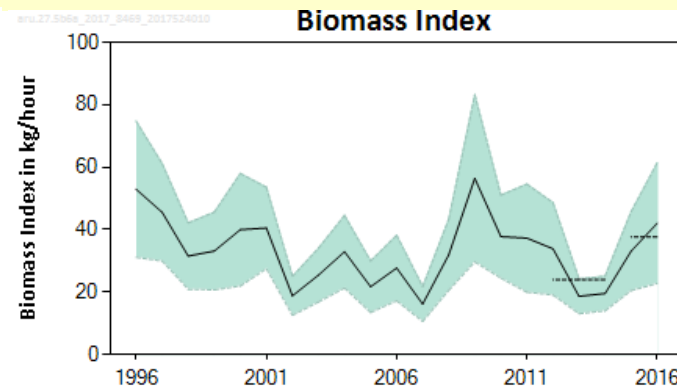
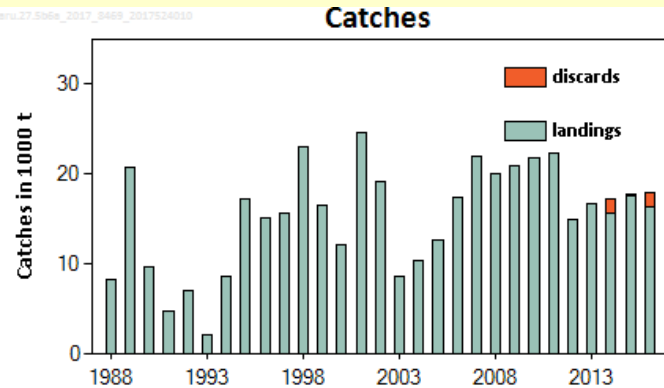
\* [advice for 2016 and 2017] × [uncertainty cap] × [precautionary buffer].

- Catches in 2016 = 259 t, entirely discarded.
- Landings have been less than 50 t over the last 10 years.
- Spanish survey on the Porcupine Bank indicates an increase for the last two years.

# Greater silver smelt in Faroes grounds and west of Scotland (5.b, 6.a)



**Advice for 2018 and 2019, PA:** Landings  $\leq 12\ 036$  t



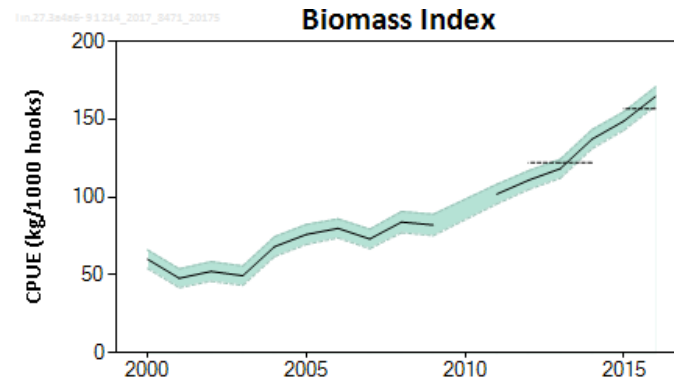
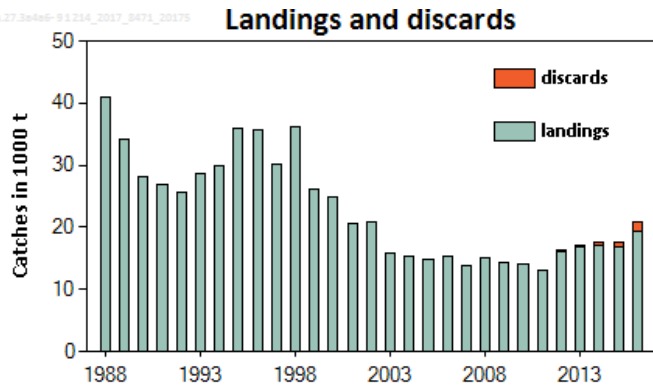
		Fishing pressure			Stock size				
		2014	2015	2016	2014	2015	2016		
Maximum Sustainable Yield	$F_{MSY}$ Proxy	✓	✓	✓ Below	$B_{trigger}$	?	?	?	Undefined
Precautionary approach	$F_{pa}$ , $F_{lim}$	✓	✓	✓ Below possible reference points	$B_{pa}$ , $B_{lim}$	?	?	?	Undefined
Management plan	$F_{MGT}$	-	-	- Not applicable	$B_{MGT}$	-	-	-	Not applicable
Qualitative evaluation	-	-	-	- Not applicable	-	→	↗	↗	Increasing

Index A (2015–2016)	38 kg h <sup>-1</sup>
Index B (2012–2014)	24 kg h <sup>-1</sup>
Index ratio (A/B)	1.56
Uncertainty cap	Applied   1.2
Advised landings for years 2016–2017	10030 tonnes
Discard rate	Unknown
Precautionary buffer	Not   -
Landings advice*	12036 tonnes

- Landings have ranged from about 15, 000 to 22, 000 t in the last ten years.
- Divisions 5.b and 6.a stock unit was defined in 2015.
- Biomass index from the summer survey on the Faroe Plateau in Division 5.b has increased since 2014.

# Ling in the Northeast Atlantic and Arctic Oceans (6–9, 12, and 14, 3.a and 4.a)

**Advice for 2018 and 2019, PA:** Catch  $\leq$  17 695 t (Landings  $\leq$  16 793 t)



		Fishing pressure			Stock size		
		2014	2015	2016	2014	2015	2016
Maximum sustainable yield	$F_{MSY}$ proxy	✗	✓	✓ Below	?	?	? Undefined
Precautionary approach	$F_{pa}$ / $F_{lim}$	?	✓	✓ Below possible reference points	?	?	? Undefined
Management plan	$F_{MGT}$	-	-	- Not applicable	-	-	- Not applicable
Qualitative evaluation	-	-	-	- Not applicable	↗	↗	↗ Increasing

Catch (2016) = 20 867 t (Discards = 1598 t)

Index A (2015–2016)		157
Index B (2012–2014)		122
Index ratio (A/B)		1.28
Uncertainty cap	Applied	1.2
Advised catch for (2016–2017)		14746 tonnes
Discard rate		0.051
Precautionary buffer	Not applied	
<b>Catch advice*</b>		<b>17695 tonnes</b>
Landings advice**		16793 tonnes

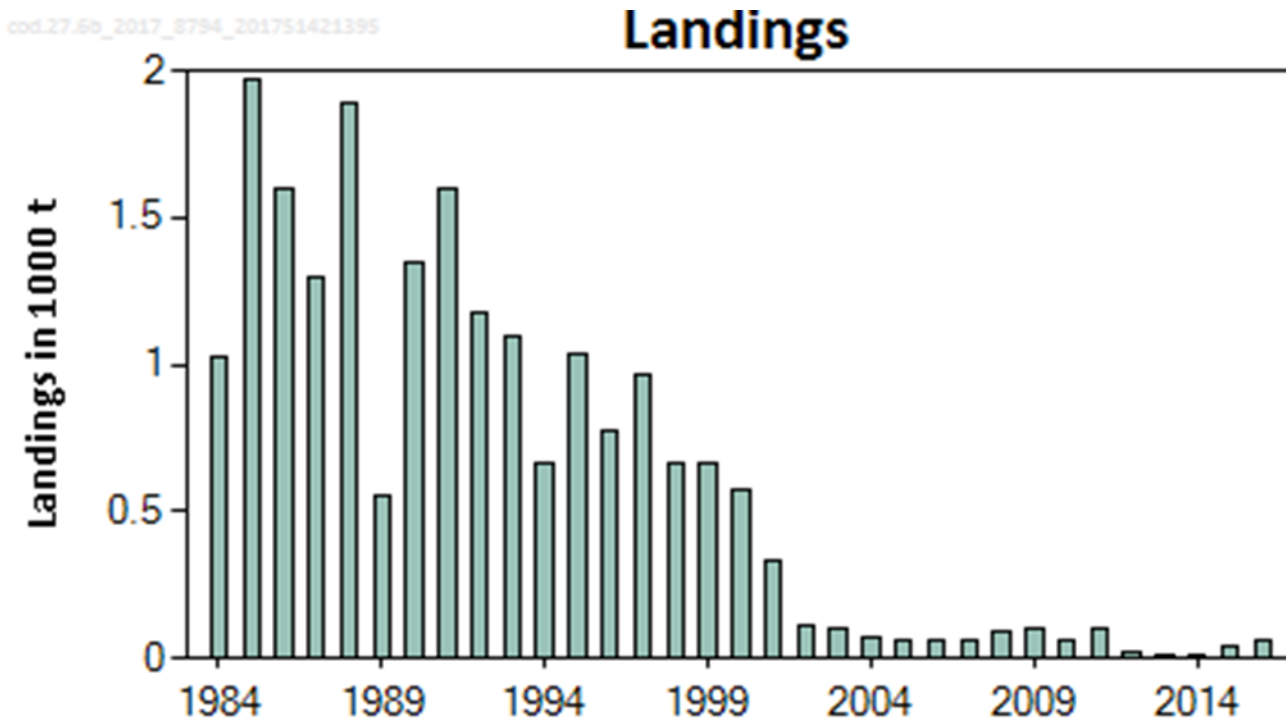
\* [recent advised catch] × [uncertainty cap].

- Landings have been stable for the last five years.
- Increase in discards in the last three years.
- Catch per unit effort (cpue) based on the Norwegian longline fleet shows a positive trend since 2004.

# Cod at Rockall (6.b)



**Advice for 2018, 2019 and 2020: PA: Catch  $\leq 14$  t**



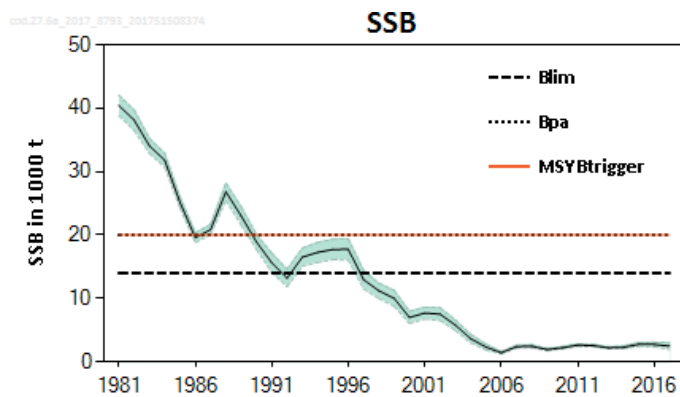
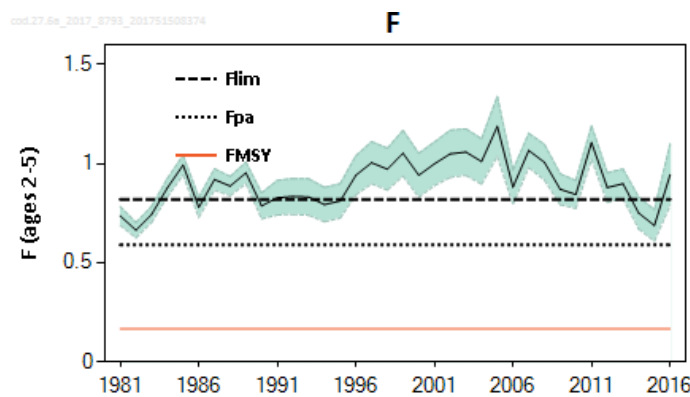
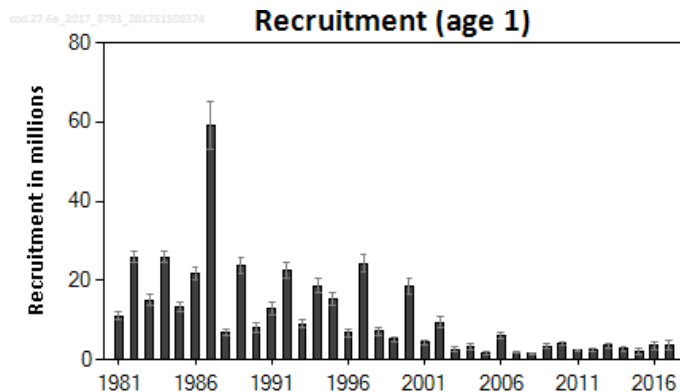
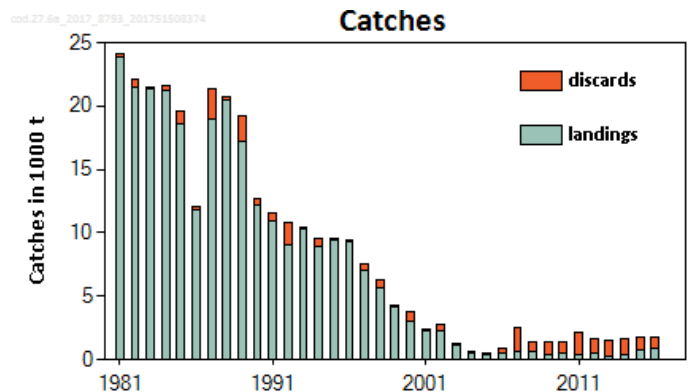
- Catch in 2016 = 74 t.
- Limited information available on cod at Rockall.
- Stock identity is unknown.
- Advice based on precautionary reduction of recent advised catch.

		Fishing pressure			Stock size				
		2014	2015	2016	2015	2016	2017		
Maximum sustainable yield	$F_{MSY}$	?	?	?	MSY $B_{trigger}$	?	?	?	Undefined
Precautionary approach	$F_{pa}, F_{lim}$	?	?	?	$B_{pa}, B_{lim}$	?	?	?	Undefined
Management plan	$F_{MGT}$	—	—	—	$SSB_{MGT}$	—	—	—	Not applicable
Qualitative evaluation	-	?	?	?	-	?	?	?	Unknown

# Cod in the West of Scotland (6.a)



**Advice for 2018 and 2019, MSY: Catch = 0 t**



- Very high discarding (average 2014-2016 is 60%).
- Fishing mortality above  $F_{lim}$ .
- Spawning-stock biomass (SSB) has been below  $B_{lim}$  since 1997.
- Recruitment has been low since 2001 and is considered impaired.

	Fishing pressure				Stock size					
	2014	2015	2016		2015	2016	2017			
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



# Cod in the West of Scotland (6.a)



Catch (2016) : 1745 t ( 49 % discards)

$F(2017) = 0.79$  ( $F_{\text{Average}}$  (2014-2016));  $SSB(2018) = 2\,835\text{ t} < B_{\text{Lim}}$  (14 000 t)  $F_{\text{MSY}} = 0.17$

Basis	Total catch (2018)	Landings (2018)	Discards (2018)	$F_{\text{total}}$ (2018)	$F_{\text{landings}}$ (2018)	$F_{\text{discards}}$ (2018)	SSB (2019)	% SSB change *
ICES advice basis								
MSY approach: $F=0$	0	0	0	0	0	0	5324	88
Other options								
$F = F_{\text{MSY}}$	498	166	332	0.17	0.076	0.094	4654	64
$F_{\text{pa}}$	1464	478	986	0.59	0.27	0.32	3365	18.7
$F_{\text{lim}}$	1866	602	1264	0.82	0.37	0.45	2831	-0.151
$F = F_{2017}$	1826	590	1236	0.79	0.36	0.43	2886	1.77
$SSB(2019)=B_{\text{lim}}$ **								
$SSB(2019)=B_{\text{pa=MSY}} B_{\text{trigger}}$ **								

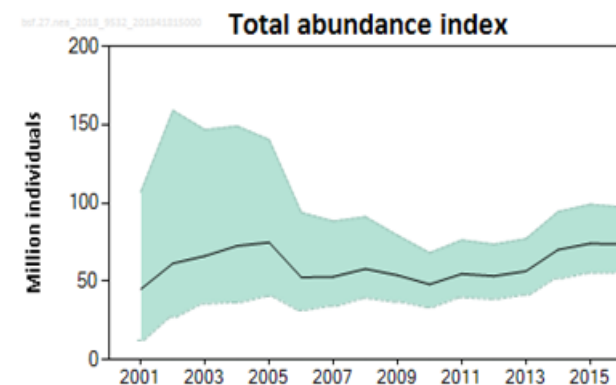
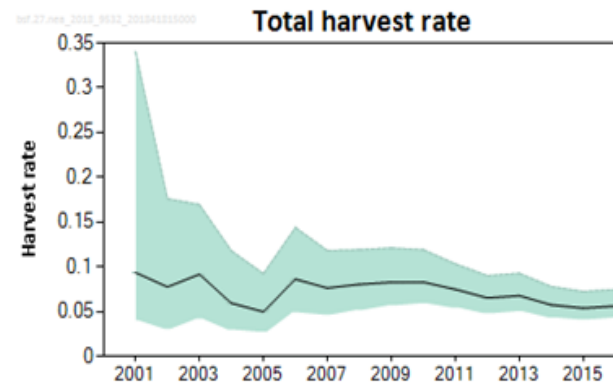
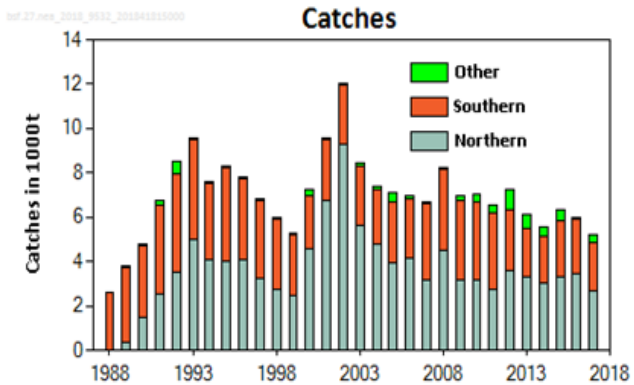
\* SSB 2019 relative to SSB 2018.

\*\* The  $B_{\text{lim}}$ ,  $B_{\text{pa}}$ , and MSY  $B_{\text{trigger}}$  options were left blank because  $B_{\text{lim}}$ ,  $B_{\text{pa}}$ , and MSY  $B_{\text{trigger}}$  cannot be achieved in 2019, even with zero advice.

# Black scabbardfish in the Northeast Atlantic and Arctic Ocean



**Advice for 2019 and 2020, PA:** Catch  $\leq 5\,914$  t



		Fishing pressure			Stock size					
		2015	2016	2017	2015	2016	2017			
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	1.0034
Uncertainty cap	Not applied
Recent advised catch for 2017–2018	5894 t
Discard rate	Negligible
Precautionary buffer	Not applied
Catch advice **	5914 t
% advice change ***	0.30%

\*\* [Recent advised catch for 2017–2018] × [Minimum slope (1.0034)].

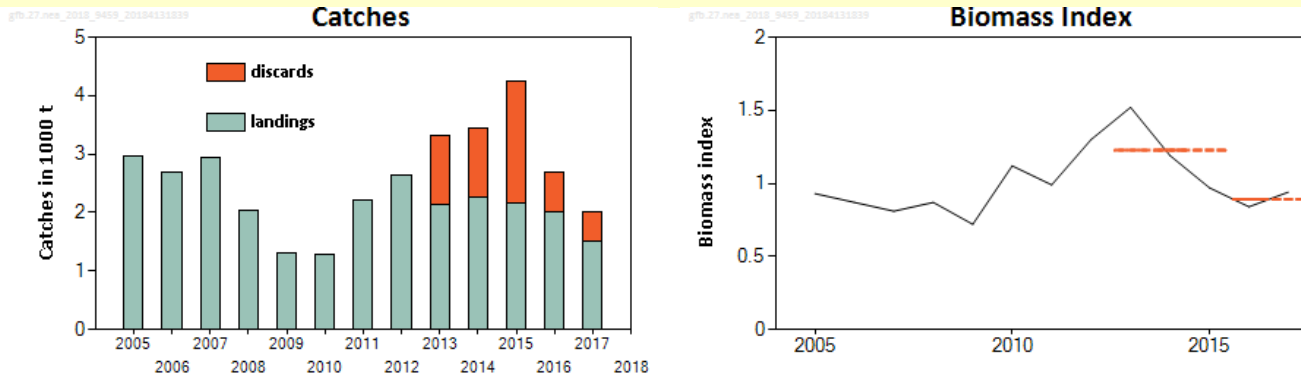
\*\*\* Advice value for 2019 relative to advice value for 2018.

- Catches in 2017 = 5 224 t (discards negligible)
- Single stock
- Migrates through NE Atlantic
- Total abundance generally increasing since 2010
- Advice split by areas:  $\leq 2812$  t in 6, 7, 5.b and 12.b;  $\leq 2735$  t in 8 and 9.a;  $\leq 367$  tonnes in 1, 2, 4, 10, 3.a and 5.a.

# Greater forkbeard in subareas 1–10, 12, and 14 (Northeast Atlantic, adjacent waters)



## Advice for 2019 and 2020, PA: Catch $\leq 1\,346$ t



		Fishing pressure			Stock size		
		2015	2016	2017	2015	2016	2017
Maximum sustainable yield	$F_{MSY}$	?	?	? Unknown	$MSY B_{trigger}$	?	? Undefined
Precautionary approach	$F_{pa} \cdot F_{lim}$	?	?	? Unknown	$B_{pa} \cdot B_{lim}$	?	? Undefined
Management plan	$F_{MGT}$	-	-	- Not applicable	$B_{MGT}$	-	- Not applicable
Qualitative evaluation	-	?	?	? Unknown	-	↘	↗ Increasing

Index A (2016–2017)	0.86	
Index B (2013–2015)	1.22	
Index ratio (A/B)	0.7	
Uncertainty cap	Applied	0.8
Advised landings for 2017–2018 issued in 2016	1682 t	
Discard rate	Substantial, but cannot be quantified	
Precautionary buffer	Not applied	-
Landings advice**	1346 t	
% Advice change***	-20%	

\*\* [advice for 2017-2018] × [uncertainty cap].

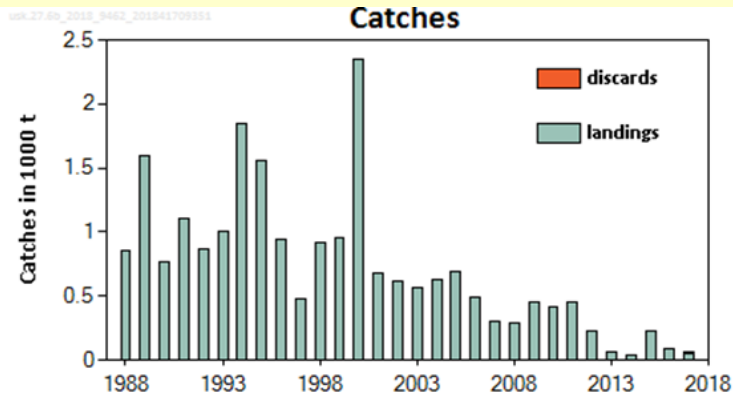
\*\*\* Advice value for 2019 relative to advice value for 2018.

- Catches in 2017 = 2 016 t (discards at least 25%)
- Total catch cannot be quantified; discards substantial but available for only part of fishery
- Decrease in the abundance from 2013 to 2016.
- Bycatch in fisheries targeting hake, megrim, monkfish, ling, deep-water species; most landings from 6 and 7

# Tusk in Div 6.b (Rockall)



**Advice for 2019 and 2020, PA: Catch = 280 t**



	Fishing pressure				Stock size					
		2015	2016	2017		2015	2016	2017		
Maximum sustainable yield	$F_{MSY}$	?	?	?	Unknown	$MSY B_{trigger}$	?	?	?	Undefined
Precautionary approach	$F_{pa} F_{lim}$	?	?	?	Unknown	$B_{pa} B_{lim}$	?	?	?	Undefined
Management plan	$F_{MGT}$	-	-	-	Not applicable	$B_{MGT}$	-	-	-	Not applicable
Qualitative evaluation	-	?	?	?	Unknown	-	?	?	?	Unknown

Advised catch for 2017–2018 issued in 2016	350 t
Discard rate 2017	0.23
Precautionary buffer	Applied 0.8
Catch advice**	280 t
Landings corresponding to catch advice***	216 t

\*\* [Advice for 2017–2018] × [precautionary buffer].

\*\*\* [Advice for 2017–2018] × [precautionary buffer]/[1 – discard rate].

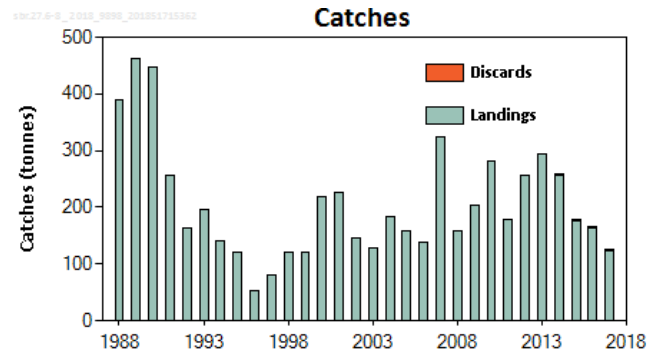
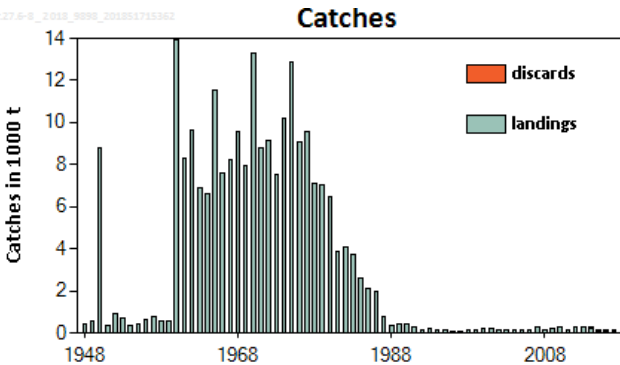
^ Advice value for 2019 and 2020 relative to advice value for 2018.

- Catches in 2017 = 61 t (23% discards)
- No assessment
- Only commercial catches are available
- Advised catch is lower than that advised for 2018 because the precautionary buffer was applied.

# Blackspot seabream in subareas 6, 7, 8 (Celtic Seas, English Channel, Bay of Biscay)



**Advice for 2019 and 2020, PA: Catch = 0 t**



	Fishing pressure				Stock size					
		2015	2016	2017		2015	2016	2017		
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
Qualitative evaluation	-	?	?	?	Unknown	-	⊗	⊗	⊗	Very low

Advised catches for 2017–2018 issued in 2016	0 t
Discard rate	Negligible
Precautionary buffer	Not applicable -
Catch advice	0 t
% Advice change**	0

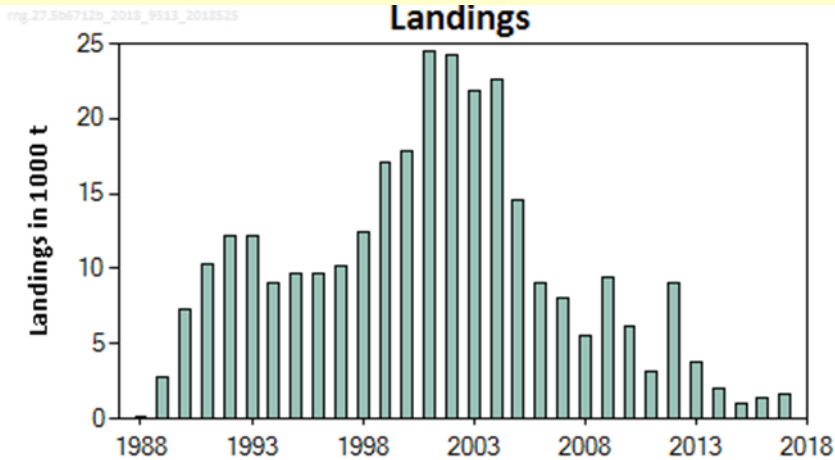
\*\*Advice value for 2019 relative to advice value for 2018.

- Catches in 2017 = 127 t (discards negligible)
- Catches are at 1–2% of the historical levels of the 1960s and 1970s.
- Stock is considered depleted.
- Rarely caught in the three bottom trawl surveys conducted in the area.

# Roundnose grenadier in subareas 6 and 7 and division 5.b and 12.b



**Advice for 2019 and 2020, PA: Catch  $\leq$  3 971 t)**



		Fishing pressure			Stock size					
		2015	2016	2017	2015	2016	2017			
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
Qualitative evaluation	-	?	?	?	Unknown	-	?	?	?	Unknown

Advised catches for 2018, issued in 2016	3971
Discard rate (average 2015–2017)	7%
Precautionary buffer	Not applied
Catch advice**	3971 t
Landings corresponding to the catch advice***	3693 t
% Advice change^	0%

\*\* = Advised catches for 2018.

\*\*\* [Advised catches for 2018]/[1 – Discard rate].

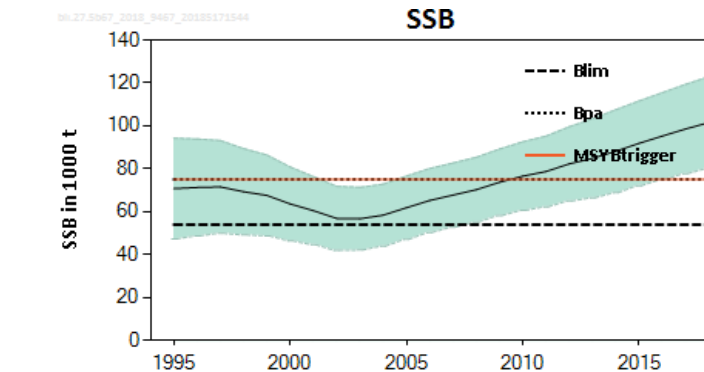
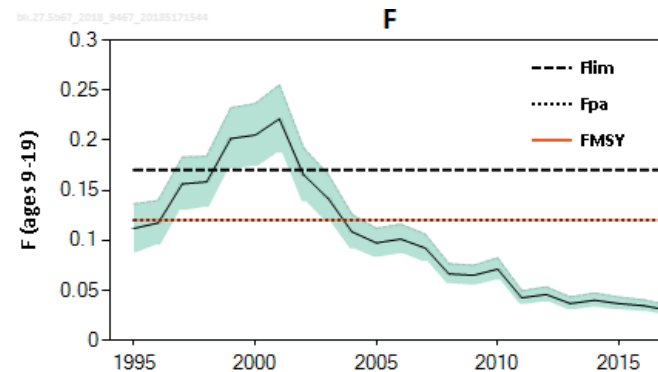
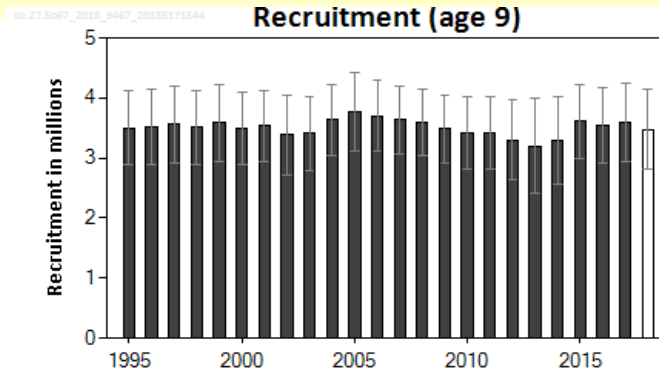
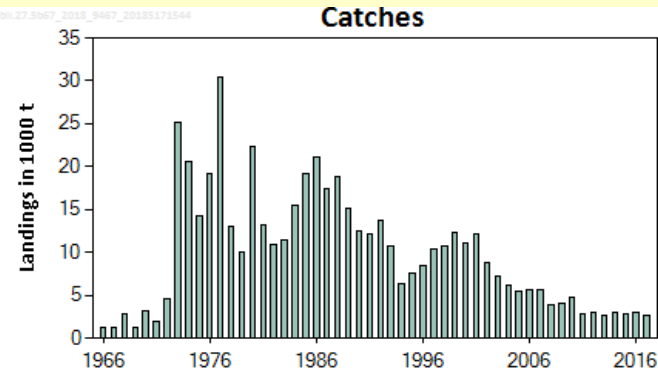
^ Advice value for 2019 and 2020 relative to advice value for 2018.

- Catch (2017) = 1 787 t (7% discards)
- Landings have declined since 2004.
- Fishery has moved to shallower waters in recent years.
- Ban on fishing with bottom trawls in EU waters deeper than 800 m.

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



**Advice for 2019 and 2020, MSY:** Catch  $\leq$  11 778 t and 11 150 t



- Stock increased since 2004 and has been above  $MSY_{Btrigger}$  since 2010.
- Fishing mortality been lower than  $F_{MSY}$  since 2004.
- Recruitment is estimated to be stable.
- Discarding is negligible.

	Fishing pressure			Stock size			
		2015	2016	2017	2016	2017	2018
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

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

## Advice for 2019

Catch (2017): 2 669 t (discards negligible)

$F(2018)=F(2017)=0.03$ ;  $SSB(2019) = 1\ 1\ 501\ t > MSY_{Btrigger} (75\ 037\ t)$



$F_{MSY}=0.12$

Rationale	Catch (2019)	F (2019)	SSB (2020)*	% SSB change **	% TAC change***	% Advice change^
ICES advice basis						
MSY approach ( $F = F_{MSY}$ )	11 778	0.12	98 331	-4.7%	9.4%	9.4%
Other scenarios						
$F_{pa}$	11 778	0.12	98 331	-4.7%	9.4%	9.4%
$F_{2019} = 0$	0	0	109 470	5.10%	-100%	-100%
$F_{2019} = F_{lim}$	15 115	0.17	94 070	-9.7%	40%	40%
$SSB(2020) = B_{pa}$	36 509	0.43	75 037	-28%	239%	239%
$SSB(2020) = B_{lim}$	59 023	0.83	54 000	-48%	448%	448%
$SSB(2020) = MSY\ B_{trigger}$	36 509	0.43	75 037	-28%	239%	239%
$F_{2019} = F_{sq}$	3 076	0.03	106 559	2.30%	-71%	-71%

\* SSB is estimated from first of January and does not depend on fishing in the same year.

\*\* SSB in 2020 in relation to SSB in 2019.

\*\*\* Catches (EU+ Faroes waters) in 2019 in relation to EU TAC in 2018.

^ Advice value 2019 relative to advice value 2018.



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

## Advice for 2020

Assuming that catch in 2019 = advice for 2019 ( $F_{MSY}$ )



Rationale	Catch (2020)	F (2020)	SSB (2021)*	% SSB change **	% TAC change***	% Advice change^
ICES advice basis						
MSY approach (F2020 = FMSY)	11 150	0.12	93 408	-5.0%		-5.3%
Other scenarios						
Fpa	11 150	0.12	93 408	-5.0%		-5.3%
F2020 = 0	0	0	103 921	5.70%		-100%
F2020 = Flim	15 422	0.17	89 387	-9.1%		31%
SSB (2021) = Bpa	30 700	0.37^^	75 037	-24%		161%
SSB (2021) = Blim	53 259	0.77^^	54 000	-45%		352%
SSB (2021) = MSY Btrigger	30 700	0.37^^	75 037	-24%		161%
F2020 = Fsq = F2017	2 912	0.03	101 173	2.90%		-75%

\* SSB is estimated from first of January and does not depend on fishing in the same year.

\*\* SSB in 2021 in relation to SSB in 2020 (98 331 t assuming FMSY in 2019).

^ Advice value 2020 relative to advice value 2019.

^^ F driving the stock down to Bpa, Blim, and MSY Btrigger in 2021 when applied in 2020.

- **Because fishing mortality has been lower than  $F_{MSY}$ , ICES also provides scenarios for 2020 assuming catch in 2019 = 3 069 t (Fsq) implies Catch  $\leq$  12 032 t (MSY approach)**