

Fisheries Management: The Bridge Between Science & Policy



Recap on Coby's presentation

- Coby covered science process to point of publication
- Policy takes it from there to establish quota in talks
- Key concepts to recall from Coby's presentation:
 - Headline advice
 - Fmsy
 - Blim
 - Catch options
 - Predicted changes in SSB with different catch options
 - Precautionary / DLS TACs & trends
- Other important concepts:
 - MAPs and LTMS (refer CFP).

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Structure

1. Setting the scene
2. Getting the quota
3. Specific examples

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Questions for you

- What does fisheries management mean to you?
- What should fisheries management be focused on achieving?
- What is good about current fisheries management?
- What is bad about current fisheries management ?
- Any personal experiences?

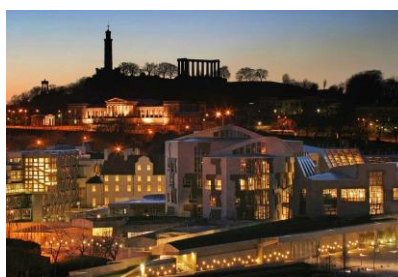
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1. Setting the Scene



UK, Scottish Government and Devolution

- Sea fisheries is devolved under the Scotland Acts except in relation to the allocation of fish quota (concordat) and the raising of industry levies (Seafish).
- The value and size of the industry is greater in Scotland than in the rest of the UK put together.
- Fisheries is the only sector in the UK where the majority share of the industry is based in Scotland (compared to the rest of the UK).



Cabinet Secretary for the Rural Economy and Connectivity

- Fergus Ewing MSP
- Fisheries



Cabinet Secretary for Environment, Climate Change and Land Reform

- Roseanna Cunningham MSP
- Marine environment



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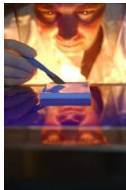


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Integrated management of Scotland's seas

Vision: for 'clean, healthy, safe, productive, biologically diverse marine and coastal environments, managed to meet the long-term needs of people and nature' and an agreed set of high level marine objectives



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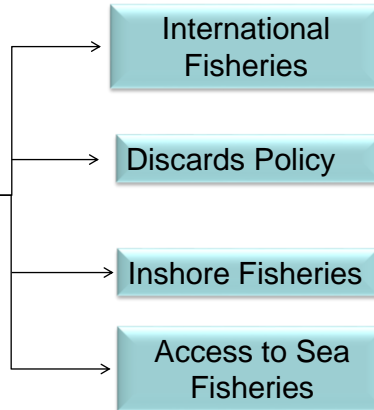
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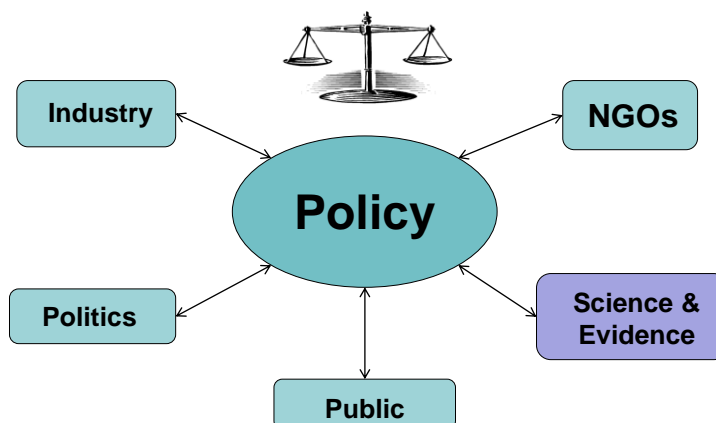
- **5 Divisions :**

- Compliance (269)
- Science (287)
- Marine Planning & Policy (57)
- Sea Fisheries (24)
- Performance, Aquaculture and Recreational Fishing (34)



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Policy: balance, integration, evidence-based

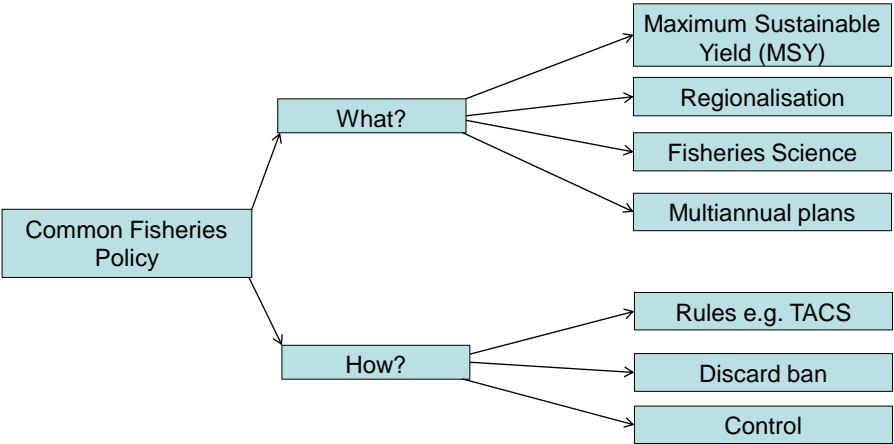


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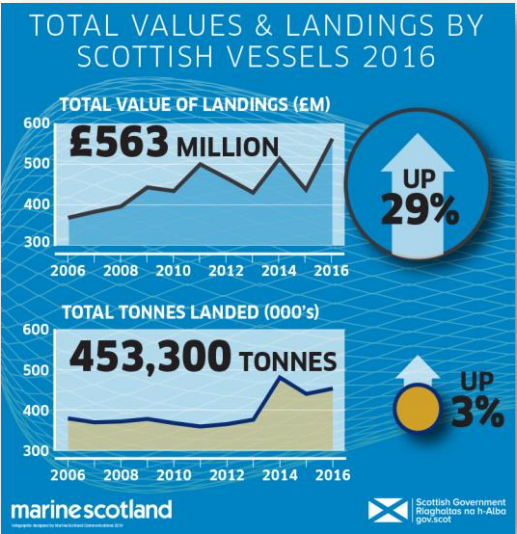
2. Getting the quota



European Union & Common Fisheries Policy



UK - Scotland's voice in Europe



Source: The Provisional Scottish
Sea Fisheries Statistics, 2016

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Quota negotiations process



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Quota negotiations process



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Scientific Advice

- The International Council for the Exploration of the Seas (ICES) publish scientific advice for many commercially targeted fish and shellfish stocks in the North East Atlantic.
- ICES give advice on
 - Total Allowable Catch for the following year
 - Considering management plans, recruitment, discards and F_{MSY} targets
 - State of the Stock
 - Spawning Stock Biomass
 - Recruitment

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Quota negotiations process



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Stakeholder liaison

- Negotiations team meets with a range of stakeholders to hear views on science and priorities
- The team listens to all issues
 - Industry concerns (catching and processing sectors) about TAC levels on businesses
 - NGO concerns about stock sustainability
- All comments are carefully considered when developing our negotiating position

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Quota negotiations process



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Develop Negotiating Position

Scotland's Position

PART 1 - Develop balanced and justifiable negotiating position

- The most complex part of the process
- Stock by stock
- Strategic approach
- Must adhere to our negotiating principles

PART 2 – Getting everyone on board

- Scotland input to UK position
- Scottish priorities are not always UK priorities
- Bi-laterals and other Member States views

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Quota negotiations process



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Negotiations and December Council

- **External negotiations on TACs and/or access** with non-EU (non-CFP) third party countries:
 - EU/Norway → NS shared stocks
 - EU/Faroe Islands
 - Coastal states (CS) – Mackerel, ASH and Blue Whiting
 - NEAFC – international waters
 - EU/Greenland
- **Internal negotiations** - Within EU with other Member States
 - December Council - Agreement of TQR at December Council



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Quota negotiations process



The TAC and Quota Regulation - TQR

L 24/72

EN

Official Journal of the European Union28.1.2017

Species:	Saithe <i>Pollachius virens</i>	Zone:	IIa and IV; Union waters of IIa (POK/2A3A4.)
Belgium	35		
Denmark	4 137		
Germany	10 447		
France	24 587		
The Netherlands	104		
Sweden	568		
United Kingdom	8 010		
Union	47 888		
Norway	52 199 ⁽¹⁾		
TAC	100 287		

Analytical TAC
Article 7(2) of this Regulation applies

⁽¹⁾ May only be taken in Union waters of IV and in IIa (POK/*3A4-C). Catches taken within this quota are to be deducted from Norway's share of the TAC.



3. Specific Examples



Follow science completely – MSY advice

- Rockall Haddock – MSY advice and TAC 4,690 tonnes

Species:	Haddock <i>Melanogrammus aeglefinus</i>	Zone:	Union and international waters of VIb, XII and XIV (HAD/6B1214)
Belgium	10		
Germany	36		
France	494		
Ireland	411		
United Kingdom	3 739		
Union	4 690		
TAC	4 690		

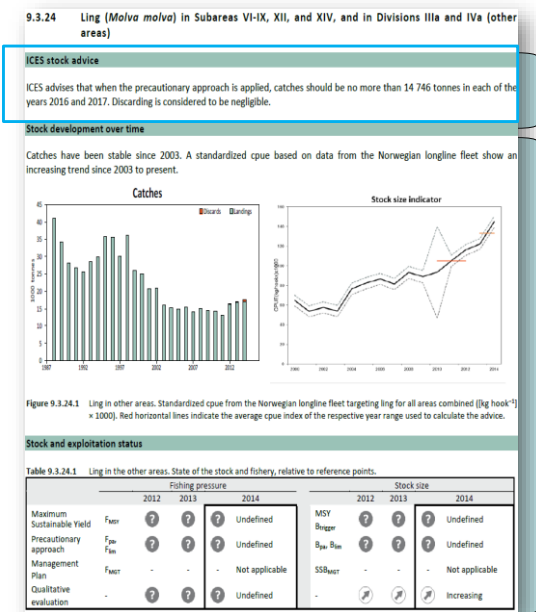
Analytical TAC
Article 7(2) of this Regulation applies

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Follow science – Precautionary approach

- Usually used for data limited stocks where biological reference points cannot be defined
- Monkfish, Ling and Tusk
- Positive stock trends → +20% TAC
- Negative stock trends → - 20% TAC
- Ensure the European Commission propose a TAC in line with the direction of the trend.

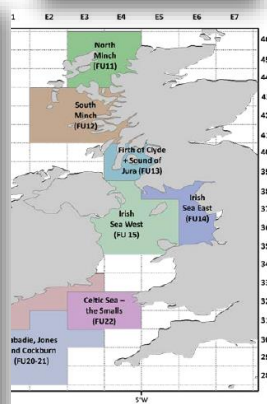
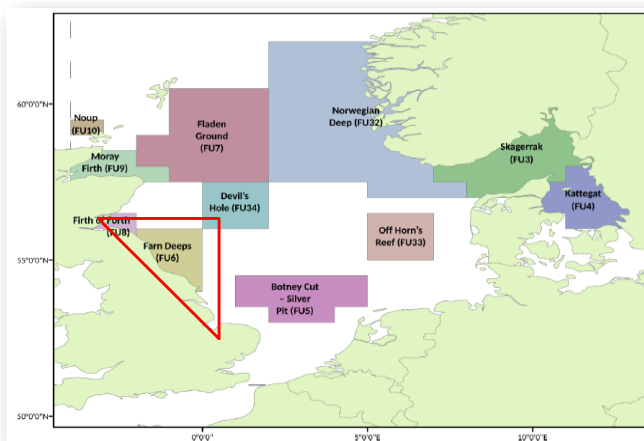
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- **Headline Advice**
 - Catch and landings advice in tonnes
- **Stock Trends**
 - Stock size
 - Fishing pressure

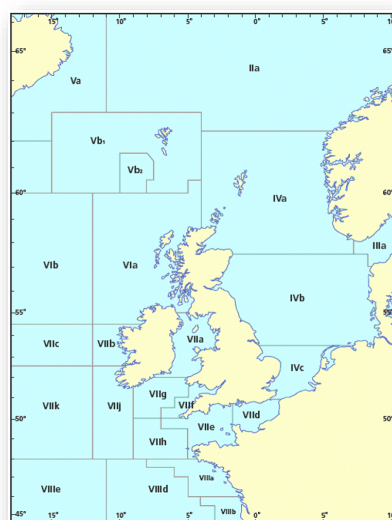
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- TAC management arrangements continue to operate using separate TACs in the different areas.
- However, fishing opportunities in the different areas are not well aligned to the observed abundance distribution.
- **So how as fisheries managers do we deal with this?**



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Inter Area Flexibility - Northern Shelf Haddock

- At December Council in 2016 the UK were successful in achieving inter-area flexibility for haddock from West of Scotland (Area Vb and VIa) to the North Sea (IV and Union waters of IIa).

Species:	Haddock <i>Melanogrammus aeglefinus</i>	Zone:	Union and international waters of Vb and VIa (HAD/5BC8A)
Belgium	4 (1)		
Germany	5 (1)		
France	204 (1)		
Ireland	605		
United Kingdom	2 879 (1)		
Union	3 697 (1)		
TAC	3 697 (1)		

Analytical TAC
Article 7(2) of this Regulation applies

(1) Not more than 10 % of this quota may be fished in IV; Union waters of IIa (HAD/2AC43).

- However, the involved member states agreed to this under the clear condition that it should only apply for Member States having quotas for haddock in both areas.

Species:	Haddock <i>Melanogrammus aeglefinus</i>	Zone:	IV; Union waters of IIa (HAD/2AC4)
Belgium	196		
Denmark	1 348		
Germany	858		
France	1 495		
The Netherlands	147		
Sweden	136		
United Kingdom	22 225		
Union	26 405		
Norway	7 238		
TAC	33 643		

Analytical TAC

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Reaching a compromise - Saithe

- 2017 = +96% increase on 2016 TAC

Issues relevant for the advice

The advice based on the MSY approach gives a large increase in TAC compared to the TAC in 2016. This is caused by a combination of improved stock status and changes made to the assessment during the 2016 benchmark process. The assessment methodology has been changed as well as the time-series used for tuning. It should be taken into account that the assessment and associated short-term forecast is uncertain for this stock (see under "Quality of assessment") when setting the TAC. In addition, recruitment values are highly uncertain and a substantial portion (30%) of the advised wanted catch in 2017 is based on the recruitment assumptions. Therefore, a TAC constraint should be considered by managers.

- The TAC for saithe is negotiated at EU/Norway
- Compromise reached between the EU and Norway for a TAC increase of 53%



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Argue for alternative – NS Cod or NS Whiting



- The phasing in of the landing obligation has also provided challenges in certain stocks, for example;
 - NS Cod: For 2017 ICES advised a cut of 4% which the Commission proposed to follow.
 - NS whiting: For 2017 ICES advised a cut of 29% which the Commission proposed to follow.
- Through negotiations at EU-Norway, we successfully avoided advised cuts in the TACs for these stocks, securing overall increases of around 17% for each including full eligible quota top-ups.

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Argue for alternative – NS Cod or NS Whiting



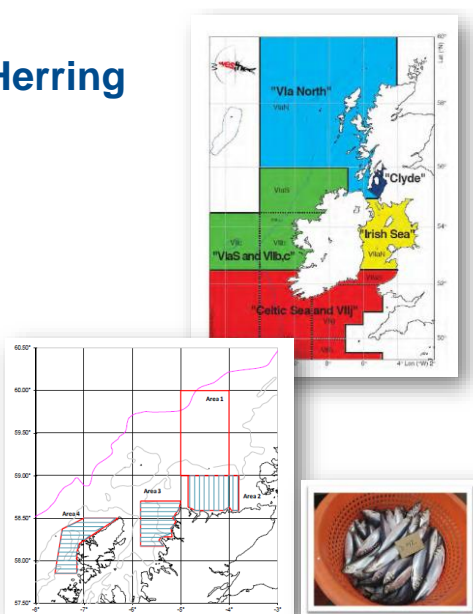
Table 6.3.3.3 Cod in Subarea 4, Division 7.d, and Subdivision 3.a.20. The catch options. All weights are in tonnes.

Rationale	Total catch (2017)	Wanted catch* (2017)	Unwanted catch* (2017)	Basis	F _{total} (2017)	F _{wanted} (2017)	F _{unwanted} (2017)	SSB (2018)	% SSB change**	% TAC Change wanted catch***
MSY approach	47359	39651	7708	F _{MSY}	0.33	0.23	0.1	181374	3	-2
EU-Norway Management Strategy (MS) with previous reference points	55876	46754	9122	Long-term phase	0.4	0.28	0.12	171971	-2	16
EU-Norway MS with new reference points	55876	46754	9122	Long-term phase	0.4	0.28	0.12	171971	-2	16
Zero catch	0	0	0	F = 0	0	0	0	192601	34	-100
	57039	47740	9299	F _{pa}	0.41	0.29	0.12	170652	-3	18
	75481	63192	12289	F _{lim}	0.58	0.41	0.17	149955	-15	56

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TAC for science - Vla Herring

- 2015 benchmark led to zero TAC advice for VlaN/VlaS in 2016.
- In 2015, the Commission and Council followed advice and set zero TAC for 2016.
- New PELAC rebuilding plan.
- After 2015 Council, ICES was invited to provide special advice on a monitoring TAC to support industry-led survey.
- First successful collaborative international survey in 2016. Planning currently underway 2017 repeat.



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Science/Industry – Northern Shelf Anglerfish

- Fishermen often see population changes first hand.
- Reports of increased numbers of anglerfish on the fishing grounds have been received in recent years.
- Scientific advice for Northern Shelf Anglerfish mirrors these reports.
- Conflicting interpretations of the advice.
- Can lead to industry expecting more of an increase in TAC than actually advised.



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Northern Shelf Anglerfish

Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012). The SCO-IV-VI-AMISS-Q2 survey was used as the index of stock development. The advice is based on a comparison of the two latest index values (index A) with the three preceding values (index B), multiplied by the recent advised landings.

The index is estimated to have increased by more than 20% and thus the uncertainty cap was applied. The stock status relative to candidate reference points is unknown. The index ratio has increased by more than 50%; therefore, no additional precautionary buffer was applied.

- ‘the index ratio has increased by 50%’ some industry members took this to mean that the TAC should increase by 50%.
- However, this 50% is measured over a period which has seen the TAC increase at a similar rate.



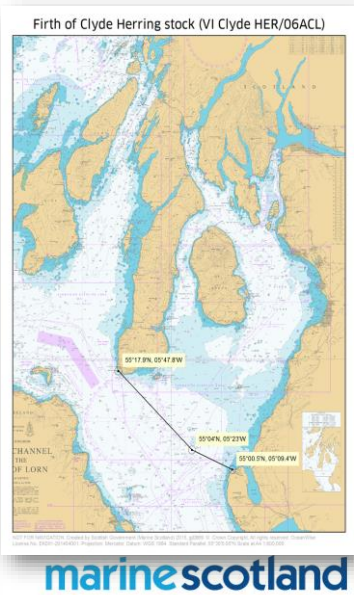
Delegated TACs – Clyde Herring

- Responsibility for setting the Clyde herring TAC has been delegated to Marine Scotland, as the stock lies wholly within Scottish waters.
- The TQR requires a responsible approach even in the absence of definitive scientific advice.
- There is no analytical assessment of the Clyde herring stock, therefore this only permits the setting of a precautionary TAC.

(1) Reference is to the herring stock in VIa south of 56° 00' N and west of 07° 00' W.

Species	Herring <i>Clupea harengus</i>	Zone	VI Clyde (1) (HER/06ACL)
United Kingdom	To be established		
Union	To be established (1)		
TAC	To be established (1)	Precautionary TAC	Article 6(2) of this Regulation applies.

(1) Clyde stock: reference is to the herring stock in the maritime area situated to the north-west of a line drawn between:
— the Mull of Kintyre (55° 17.8' N, 05° 47.8' W);
— a point at position (55° 04' N, 05° 23' W) and;
— Cresswall Point (55° 00.5' N, 05° 09.4' W) D2645
(2) Fixed at the same quantity as the quota of the United Kingdom.



The Use of Incentives to Aid Science – Picked Dogfish ‘spurdog’

- From 2017 spurdog has been added to the TQR’s prohibited species list.
- This means it shall not be targeted and when accidentally caught in fisheries not subject to the landing obligation it should be released immediately.
- Fishermen often report large aggregates of spurdog and have concerns at the levels of dead discarding this causes.



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Picked Dogfish ‘spurdog’

- A trial is about to be rolled out in Scotland to test a spurdog bycatch avoidance tool.
- This will provide industry with near real-time information on spurdog movements, empowering them to take informed decisions on how and where they fish.

Species:	Picked dogfish <i>Squalus acanthias</i>	Zone:	Union and international waters of I, V, VI, VII, VIII, XII and XIV (DCS)15X14
Belgium	20 (1)		
Germany	4 (1)		
Spain	10 (1)		
France	83 (1)		
Ireland	53 (1)		
The Netherlands	0 (1)		
Portugal	0 (1)		
United Kingdom	100 (1)		
Union	270 (1)		
TAC	270 (1)		

Precautionary TAC

Article 3 of Regulation (EC) No 847/96 shall not apply

Article 4 of Regulation (EC) No 847/96 shall not apply

Article 12(1) of this Regulation applies

(1) Picked dogfish shall not be targeted in the areas covered by this TAC. When accidentally caught in fisheries where picked dogfish is not subject to the landing obligation, specimens shall not be harmed and shall be released immediately, as required by Articles 12 and 41 of this Regulation. By derogation from Article 12 of this Regulation, a vessel engaged in the by-catch avoidance programme that has been positively assessed by the STECF may land not more than 2 tonnes per month of picked dogfish that is dead at the moment when the fishing gear is hauled on board. Member States participating in the by-catch avoidance programme shall ensure that the total annual landings of picked dogfish on the basis of this derogation do not exceed the above amounts. They shall communicate the list of participating vessels to the Commission before allowing any landings. Member States shall exchange information about avoidance areas.

Coastal State Negotiations

- Marine Scotland officials present at talks for Mackerel, Blue Whiting and Atlanto-Scandian Herring
- Complex set of arrangements



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Blue Whiting 2017: Following TAC advice but setting unilateral quota

Table 9.3.6.3 Blue whiting in subareas 1–9, 12, and 14. The catch options. Weights in tonnes.

	Relative to	Catch	F	2017	SSB ₂₀₁₈	% SSB ₂₀₁₈	% Catch
MSY approach	(2017)	1342330	F _{MSY} = 0.32	0.32	6700746	-2	17
				0	7084004	17	-100
Other options		793663	F = 0.18	0.18	7225455	6	-31
		875482	F = 0.20	0.20	7147053	5	-24
		956118	F = 0.22	0.22	7069836	4	-17
		1074904	F = 0.25	0.25	6956183	2	-6
		1152681 (=1147 kt)	Catch 2017 = Catch 2016	0.27	6881829	1	0
		1582620	F (2016)	0.39	6471736	-5	38
		2070268	F ₂₀₁₆	0.53	6008626	-12	80
		3077862	F ₂₀₁₆	0.88	5059556	-26	168
	6159997	SSB ₂₀₁₈ = B ₂₀₁₆	2.88	2257026	-67	437	
	7039918	SSB ₂₀₁₈ = B ₂₀₁₆	4.16	1507999	-78	514	

* SSB 2018 relative to SSB 2017.
 ** Catch 2017 relative to estimated catch in 2016 (1147 kt).

- Blue Whiting quota is decided at ‘external’ coastal states negotiations. The EU/UK TAC is then ratified at December Council.
- For 2017 Coastal States parties made agreements to set total catch limits and the terms of a long term management strategy for Blue Whiting

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**Thank you
Any Questions?**

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