

PART 2 Presentation on structure (and evolution) of ICES advice



ICES advice Sheets

Steven Mackinson

In this talk you will learn:

- How to get what you need
- How to read what you get
- How to interpret what you read

What's ICES?



ICES

International Council for
the Exploration of the Sea

CIEM

Conseil International pour
l'Exploration de la Mer

- Inter-governmental Organisation with member countries across the North Atlantic
- Started in 1902
- **NOT** a European institution, but the EU is its biggest client

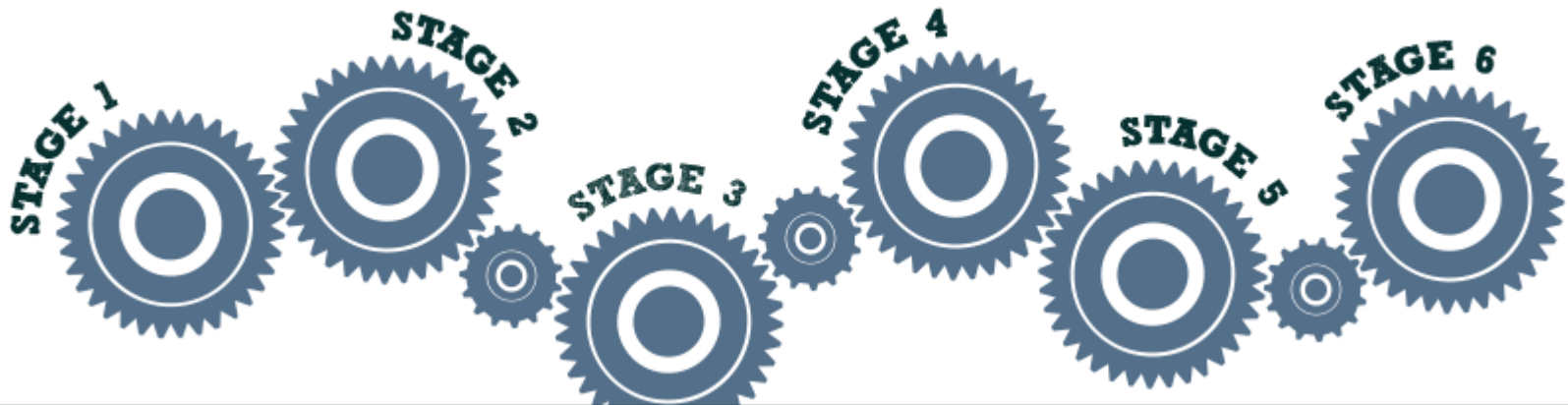
ICES advice is (supposed to be)

- To inform clients about what they have asked for.
- Relevant, accurate, unbiased, transparent & consistent.
- Regional in scope.



ICES advice is the culmination of a process

1. Starts with data collection by member countries
2. Combined data is used by scientific expert groups to assess stock status and forecast next year (scientists only)
3. Written by Advice drafting groups (open to observers)
4. Agreed by ACOM (advisory committee only)
5. Delivered by ICES to client
6. Made accessible – published, presented, data



The advice evolves over time

6.4.7 Plaice in Subarea IV (North Sea)

State of the stock

Spawning biomass in relation to precautionary limits	Fishing mortality in relation to precautionary limits	Fishing mortality in relation to high long-term yield	Fishing mortality in relation to agreed target yield	Comment
Full reproductive capacity	Harvested sustainably	Overfished	Below target	

Based on the most recent estimate of SSB (in 2009) and fishing mortality (in 2008), ICES classifies the stock as having full reproductive capacity and as being harvested sustainably. SSB is estimated to have increased above the B_{lim} . Fishing mortality is estimated to have decreased to below F_{lim} and F_{MSY} . Recruitment has been of average strength from 2003 onwards. The recruitment in 2008 is just below the long-term average.

Management objectives

EC and Norway have no agreed management plan for North Sea plaice. However, the EC has adopted a management plan for flatfish in the North Sea in June 2007 (Council Regulation (EC) No. 676/2007, see 6.4.7 Appendix). This plan has two stages. The first stage aims at an annual 10% reduction of fishing mortality in relation to the fishing mortality estimated for the preceding year until an F of 0.3 is reached, with a maximum change in TAC of 15% until the precautionary reference points are reached for both plaice and sole for two successive years. ICES interprets the F for the preceding year as the estimate of F for the year in which the assessment is carried out. The basis for this F estimate in the preceding year will be a constant application of the procedure used by ICES in 2007. In the second stage, the management plan aims for exploitation at $F = 0.3$.

ICES has evaluated the agreed long-term management plan (Council Regulation (EC) No. 676/2007) for plaice and sole. For plaice, the management plan evaluation is not yet conclusive with regards to consistency with the precautionary approach.

Reference points

	Type	Value	Technical basis
Precautionary approach	B_{lim}	140 000 t	$B_{lim} = 140\ 000$ t, the lowest observed biomass in 1997 as assessed in 2004.
	B_{pa}	230 000 t	Approximately 1.4 B_{lim}
	F_{lim}	0.74	F_{lim} for ages 2-6.
	F_{pa}	0.60	5th percentile of F_{lim} (0.6) and implies that $B_{lim} \sim B_{pa}$ with a probability that $SSB_{lim} \sim B_{pa}$.
Targets	F_{MSY}	0.3	EU management plan

(unchanged since 2004, target added in 2009)

Yield and spawning biomass per Recruit F-reference points (2009):

	Fish Mort	Yield/R	SSB/R
Average last 3 years	0.31	0.09	0.55
F_{max}	0.17	0.10	1.25
$F_{0.1}$	0.12	0.10	1.74
F_{MSY}	0.42	0.07	0.32

A candidate for the reference point consistent with taking high long-term yields and achieving a low risk of depleting the productive potential of the stock is F_{MSY} .

6.4.7

ECOREGION North Sea STOCK Plaice in Subarea IV (North Sea)

Advice for 2012

ICES advises on the basis of the first stage of the EU management plan (Council Regulation No. 676/2007) i landings in 2012 should be no more than 94 410 t. ICES notes that according to the management plan, transition arrangements to the second stage of the plan should be established since both North Sea plaice and sole have now b within safe biological limits for two consecutive years.

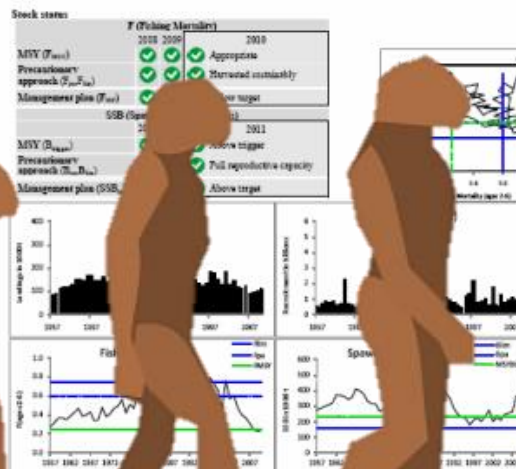


Figure 6.4.7.1: Summary of stock status and fishing pressure for North Sea plaice. Top left: Stock status table. Top right: Fishing pressure (F) and recruitment (R) plots. Bottom: Spawning stock biomass (SSB) plot.

The stock is well above precautionary boundaries and has reached levels in excess of historical levels. Recruitment has been around the long-term average from 2003 onwards.

Management plan

Stage 1 in the EU management plan for North Sea plaice and sole (Council Regulation (EC) No. 676/2007, Appendix 6.4.7) results in a 15% TAC increase for plaice. An evaluation of the plan (ICES, 2010) concluded that management plan is precautionary.

Advice June 20

9.3.34 Horse mackerel (*Trachurus trachurus*) in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a-c, and 7.e-k (Northeast Atlantic)

ICES stock advice

ICES advises that when the MSY approach is applied, catches in 2017 should be no more than 69 186 tonnes.

Stock development over time

The fishery is very dependent on occasional high recruitments. The very high 1982 recruitment gave a peak in SSB. The relatively high one in 2001 gave a moderate increase in SSB up to 2009. Recruitment from 2002 onwards has been of average strength. Since 2002, SSB has been declining and is currently the lowest observed in the entire time-series, below B_{lim} . Fishing mortality has increased since 2007 and is currently just below F_{MSY} .

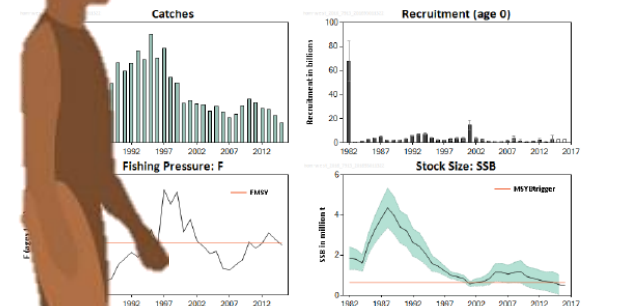


Figure 9.3.34: Summary of stock status and fishing pressure for horse mackerel. Top left: Stock status table. Top right: Fishing pressure (F) and recruitment (R) plots. Bottom: Spawning stock biomass (SSB) plot.

Exploitation status

Table 9.3.34: Horse mackerel in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a-c, and 7.e-k. State of the stock and fishery relative to reference points.

	Fishing pressure			Stock size		
	2013	2014	2015	2014	2015	2016
Maximum sustainable	F_{MSY}	✗	✗	Appropriate	B_{lim}	✗
Precautionary approach	F_{pa}	?	?	Below possible candidate reference points	B_{pa}	?
Management plan	F_{MSY}	-	-	Not applicable	SSB_{MSY}	-

The screenshot shows the ICES CIEM website homepage. At the top, there are navigation links: Contact, Sitemap, FAQ, Glossary, SharePoint Login, and Admin. A search bar is located on the right. Below the navigation bar, there are several large banners. The main banner features a sunset over a body of water with the text "ICES BECOMES AN OBSERVER TO THE UNITED NATIONS GENERAL ASSEMBLY". To the left of the main banner, there are smaller banners with text like "JOIN VACA OFFIC PROC", "EXPL OVER", "ICES L STRAT", and "ICES A CONF GO TH 9-12". Below the banners, there are several columns of text, including "JOIN A TR COU", "FOLLOW OUR ADVISORY PROCESS", "EXPLORE MARINE DATA", and "GET INVOLVED". At the bottom, there is a section titled "LATEST NEWS" with a grid of news items. A red arrow points from the text "Buried way down here under a link called 'latest Advice' is what you need" to the "Latest advice" link in the "Quick links" section of the footer.

ICES CIEM

Contact Sitemap FAQ Glossary SharePoint Login Admin Search Everything

EXPLORE US NEWS AND EVENTS MARINE DATA PUBLICATIONS COMMUNITY

Groups Committees Advisory process ICES Awards Get involved

ICES BECOMES AN OBSERVER TO THE UNITED NATIONS GENERAL ASSEMBLY

JOIN VACA OFFIC PROC JOIN A TR COU JOIN A TR COU JOIN A TR COU JOIN A TR COU JOIN A TR COU FOLLOW OUR ADVISORY PROCESS EXPLORE MARINE DATA GET INVOLVED

LATEST NEWS

12 February 2019 Nominations open for ICES Award 2019

07 February 2019 Advisory Programme Supporting Officer

07 February 2019 IJMS Editor's Choice – Contrasting effects of habitats

30 January 2019 Assessing advice: looking forward to a new year

MARINE SPATIAL PLANNING PROCESSES 18-22 February Copenhagen, Denmark

Call for abstracts now open for the ICES Annual Science Conference (ASC) 2019

> Deadline for submissions: 11 March 2019

Quick links

> Latest advice

> ICES Strategic Plan

> Meeting calendar

> Publications library

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How to
get what
you need
www.ices.dk

Buried way
down here
under a link
called
"latest
Advice" is
what you
need

The advice page looks like this

Advice for the current year
Organised by Ecoregion and by Species

Links to advice on special requests

Previous advice, scroll down for more

LATEST ADVICE

ICES provides scientific advice on the marine ecosystem to governments and international regulatory bodies that manage the North Atlantic Ocean and adjacent seas.

You will find the latest official ICES advice on this page. You can also search for our advice by species and ecoregions in the publications library.

Advice 2019

- Advice by ecoregion
- Advice by species
- Special requests and other advice by title

ICES Viewpoint: Biofouling on vessels – what is the risk, and what might be done about it?

UK - Review of the scientific basis for a UK non-detriment finding (NDF) for the international trade in European eel, seen in relation to CITES legislation

Advice 2018

- [Introduction to ICES Advice](#)
- [Ecosystem Overviews](#)
- [Fisheries Overviews](#)
- [Technical Guidelines](#)

Advice by ecoregion

Arctic Ocean; Azores; Baltic Sea; Barents Sea; Bay of Biscay and Iberian Coast; Celtic Seas; Faroes; Greater North Sea; Greenland Sea; Icelandic Waters; Norwegian Sea; Oceanic Northeast Atlantic

Advice by species

Alfonsinos; Anchovy; Anglerfish; Black Scabbardfish; Blackspot seabream; Blue ling; Blue whiting; Brill; Capelin; Cod; Deep-sea species; Eel; Elasmobranchs; Flounder; Greater forkbeard; Greater silver smelt; Greenland halibut; Grey gurnard; Haddock; Hake; Herring; Horse mackerel; Lemon sole; Ling; Mackerel; Megrim; Norway lobster; Norway pout; Orange roughy; *Pandalus*; Plaice; Pollack; Redfish; Roughhead grenadier; Roughsnout grenadier; Roundnose grenadier; Saithe; Salmon; Sandeel; Sardine; Seabass; Skates and rays; Sole; Sprat; Turbot; Tusk; Whiting

Special requests and other advice by title

Bycatch of small cetaceans and other marine animals – review of national reports under Council Regulation (EC) No. 812/2004 and other information

Coastal States - Re-evaluation of the reference points for Norwegian Spring-spawning herring

EU - Analysis of the impact of the management of the reproductive status of marine

Print It Send to f t in Share It

- WHAT'S IN THE ADVICE: READ THE BASIS FOR ICES ADVICE
- VIEW ADVICE RELEASE DATES
- FIND ICES ADVICE IN THE LIBRARY
- STOCK DATABASE

How ICES makes decisions about advice (the foundation!)

Dates when advice is released (normally same time each year)

Get the DATA

How to read what you get

ICES Advice on fishing opportunities, catch, and effort
European or the Northwest Atlantic and Arctic Council
May 2018
https://ices.org.uk/17660/ices-advise

Masked (Scander) recruitment in subareas 1-8 and 14, and in Division 8.a (the Northeast Atlantic and adjacent waters)

ICES advises that when the MSY approach is applied, catches in 2020 should be no more than 318 403 tonnes.

Stock development over time

The spawning stock biomass (SSB) is estimated to have increased in the late 2000s to reach a maximum in 2011 and has been declining since then. The stock is estimated to be below MSY $R_{0.95}$ in 2018, for the first time since 2007. The fishing mortality (F) declined from high levels in the mid 2000s, but increased again after 2012, and remains above $R_{0.95}$. There has been a succession of larger classes since the early 2000s, but the 2012 and 2010 year classes are estimated to be below average.

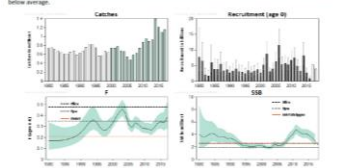


Figure 1: Masked in subareas 1-8 and 14, and in Division 8.a. Summary of the stock assessment. The unshaded catches prior to 2008 are the year class based, those weighted in the assessment are the year class based. The recruitment value for 2017 is the year class weighted average (both have weighting in more recent values of the recruitment). From 2008 to 2018 is estimated by the MSY model, and the recruitment value for 2018 is the geometric mean of the recruitment from 2008 to 2018. Confidence interval (95%) are included in the recruitment, fishing mortality, and spawning stock biomass plots.

Stock and exploitation status

ICES estimates fishing pressure on the stock is above $R_{0.50}$ and below $R_{0.95}$, and spawning stock size is below MSY $R_{0.95}$ and between $R_{0.50}$ and $R_{0.95}$.

Table 1 Masked in subareas 1-8 and 14, and in Division 8.a. State of the stock and fishing relative to reference points.									
	Fishing pressure				Stock size				
	2018	2017	2016	2015	2014	2013	2012	2011	
Maximum sustainable yield	F_{MSY}	✓	✓	✗	None				
Precautionary approach	F_{PA}	✓	✓	✓	Increased risk				
Management plan	F_{MP}	—	—	—	Not applicable				
					S_{MSY}	✓	✓	✗ Below trigger	
					S_{PA}	✓	✓	✗ Increased risk	
					S_{MP}	—	—	Not applicable	

Advice text stock status

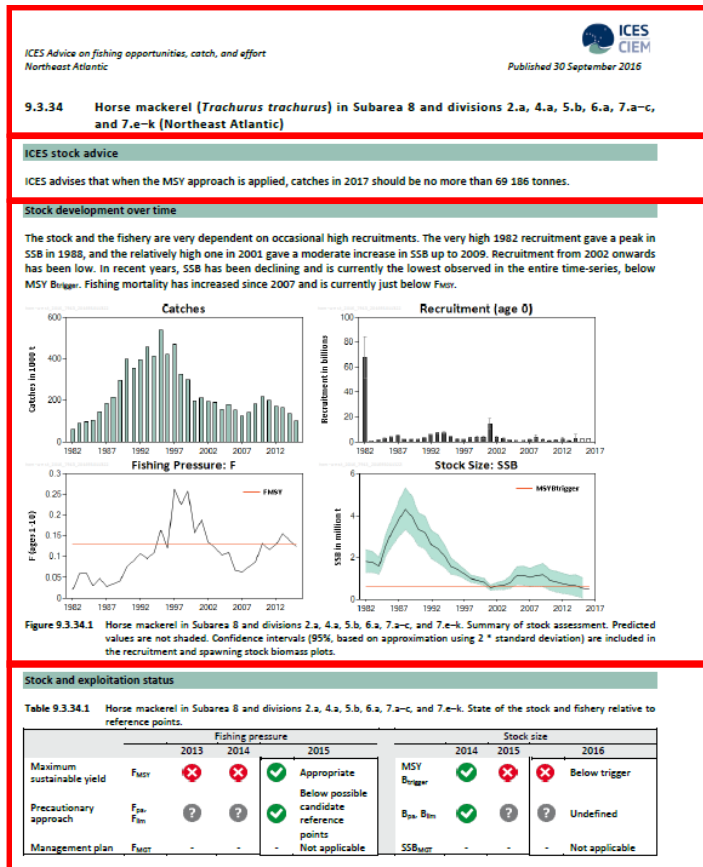
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Supporting information

Supporting information

Stock summary

Headline News – advice, status and options



Published 30 September 2016

ICES Advice on fishing opportunities, catch, and effort

How to interpret what you read

ICES Advice on fishing opportunities, catch, and effort
Northeast Atlantic

Published 30 September 2016

Who

9.3.34 Horse mackerel (*Trachurus trachurus*) in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a-c, and 7.e-k (Northeast Atlantic)

What is the advice?

ICES stock advice

ICES advice at which the catch should be applied, catches in 2017 should be no more than 126 103 t.

Stock development over time

The stock and the fishery are very dependent on occasional high recruitments. The very high 1982 recruitment gave a peak in SSB in 1988, and the relatively high one in 2001 gave a moderate increase in SSB up to 2009. Recruitment from 2002 onwards has been low. In recent years, SSB has been declining and is currently the lowest observed in the entire time-series, below MSY B_{MSY} . Fishing mortality has increased since 2007 and is currently just below F_{MSY} .

Figure 9.3.34.1 Horse mackerel in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a-c, and 7.e-k. Summary of stock assessment. Predicted values are not shaded. Confidence intervals (95%, based on approximation using 2 * standard deviation) are included in the recruitment and spawning stock biomass plots.

Stock and exploitation status

Table 9.3.34.1 Horse mackerel in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a-c, and 7.e-k. State of the stock and fishery relative to reference points.

	Fishing pressure			Stock size		
	2013	2014	2015	2014	2015	2016
Maximum sustainable yield	F_{MSY}	F_{MSY}	F_{MSY}	B_{MSY}	B_{MSY}	B_{MSY}
Precautionary approach	F_{PA}	F_{PA}	F_{PA}	B_{PA}	B_{PA}	B_{PA}
Management plan	F_{MSY}	-	-	B_{MSY}	-	-

ICES stock advice

ICES advice at which the catch should be applied, catches in 2017 should be no more than 126 103 t.

Published 30 September 2016

ICES Advice on fishing opportunities, catch, and effort

Catch options

Table 9.3.34.2 Horse mackerel in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a-c, and 7.e-k. The basis for the catch options.

Variable	Value	Source	Notes
F ages 1-10 (2016)	0.1606	ICES (2016a)	Catch constraint
SSB (2016) at spawning time	489 616 t	ICES (2016a)	Based on the ICES estimate of the total catch for 2016.
$R_{age 0}$ (2016-2018)	2 342 897 thousands	ICES (2016a)	GM 1983-2014
Catch (2016)	124 403 t	ICES (2016a)	EU TAC - which is also the expected catch. The catches since 2007 have been below the total TAC (EU TAC plus additional catches permitted since 2011 and before the EU TAC).

Future scenarios for fishery and stock

Rationale	Catch (2017)	Basis	(2017 and 2018)	SSB (2017)*	SSB (2018)*	%SSB change**	%TAC change***
MSY approach	69156	$F_{MSY} \times SSB_{2017}/MSY B_{MSY}$	0.092	491 066	490225	8	-45
Zero catch	0	$F_{MSY} \times SSB_{2017}/MSY B_{MSY}$	0.113	491 066	489 616	-3	-100
Other options	116866	$F_{MSY} \times SSB_{2017}/MSY B_{MSY}$	0.112	491 066	489 616	-3	-26
	0	$SSB_{2017} = MSY B_{MSY}$	0.161	489 616	440145	-10	-7
	126103	ICES catch advice for 2016	0.175	435049	430740	-1	0

Weights in tonnes.

* SSB at spawning time.

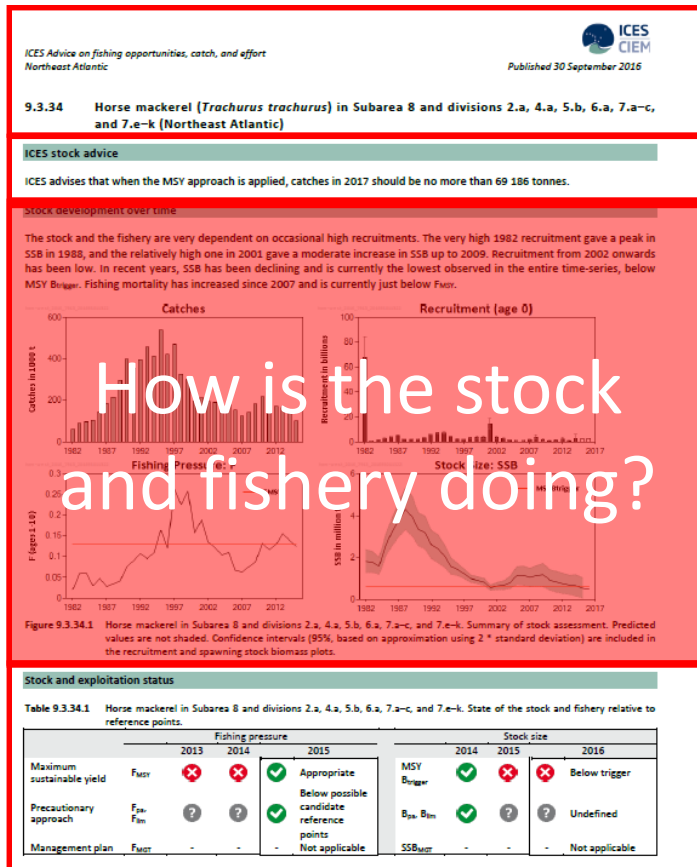
** SSB₂₀₁₇ relative to SSB₂₀₁₇ at spawning time.

*** Catch in 2017 relative to the ICES advised catch for 2016 (126 103 t).

ICES MSY advice rule is based on SSB at spawning time (May) in 2017.

Even with zero catch it is not possible to reach MSY B_{MSY} by 2018.

How to interpret what you read



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ICES Advice on fishing opportunities, catch, and effort

Catch options

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Table 9.3.34.3 Horse mackerel in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a-c, and 7.e-k. The catch options.

Rationale	Catch (2017)	Basis	F (2017 and 2018)	SSB (2017)*	SSB (2018)*	%SSB change**	%TAC change***
MSY approach ^	69186	$F_{MSY} \times SSB_{2017}/MSY B_{trigger}$	0.092	455086	490225	8	-45
	96494	F_{MSY}	0.13	445576	461276	4	-33
Zero catch	0	$F = 0$	0	478383	566041	18	-100
	93031	F_{2015}	0.126	446793	464908	4	-26
	116886	F_{2016}	0.161	438350	440145	0	-7
Other options	0	$SSB_{2017} = MSY B_{trigger}^{**}$					
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Weights in tonnes.

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Stock assessment & Forecast

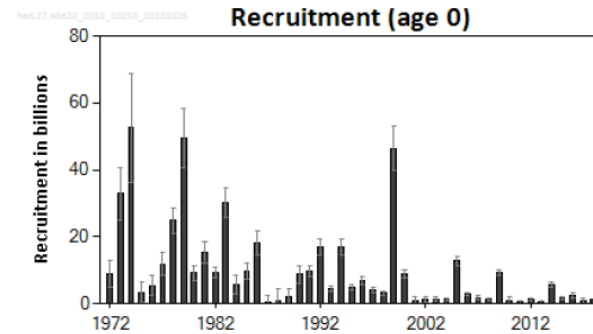
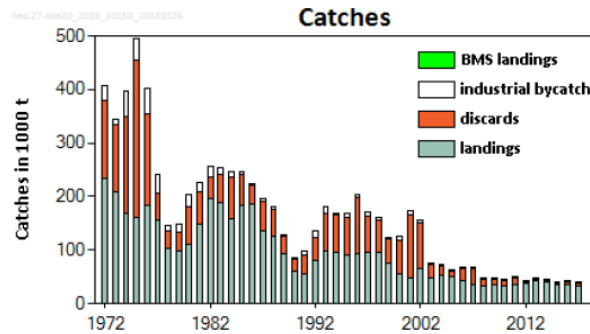


How is the stock and fishery doing? (= what the scientists think is happening)

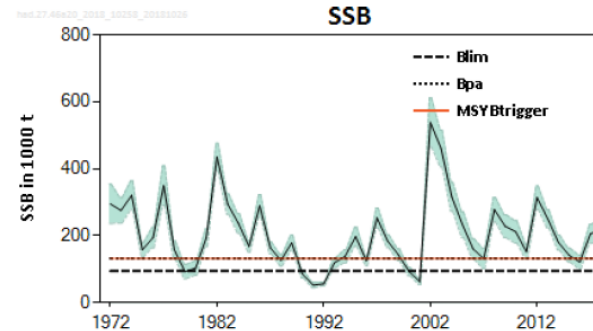
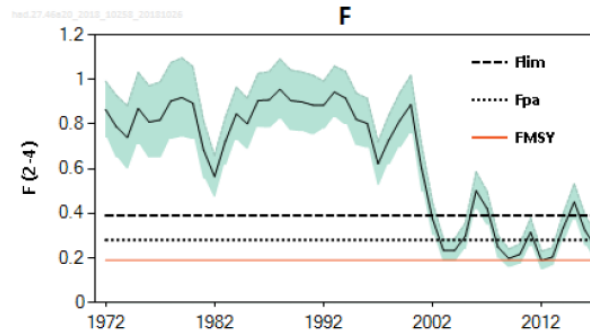
Stock development over time

Fishing mortality (F) has been fluctuating above F_{MSY} for most of the time-series and is above F_{MSY} in 2017. Spawning-stock biomass (SSB) has been above $MSY B_{trigger}$ in most of the years since 2002. Recruitment since 2000 has been characterized by a low average level with occasional larger year classes, the size of which is diminishing.

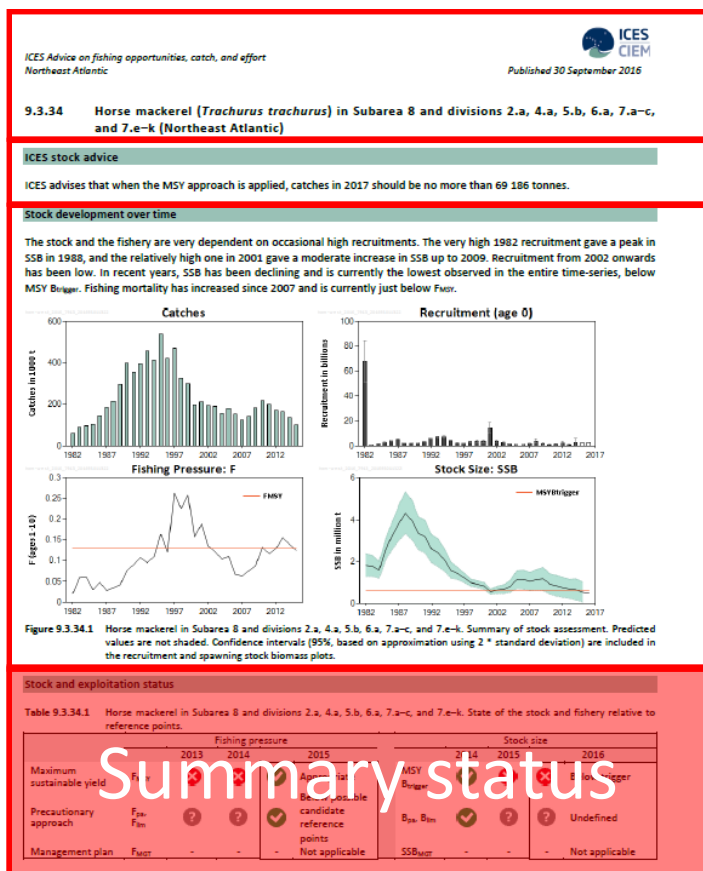
Description
of what's
happened
to the stock



← The '4' plot



Summary status = where is the stock in relation to targets & limits?



Published 30 September 2016

ICES Advice on fishing opportunities, catch, and effort

Catch options

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Weights in tonnes.
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** SSB₂₀₁₈ relative to SSB₂₀₁₇ at spawning time.
*** Catch in 2017 relative to the ICES advised catch for 2016 (126 103 t).
^ ICES MSY advice rule is based on SSB at spawning time (May) in 2017.
^^ Even with zero catch it is not possible to reach MSY $B_{trigger}$ by 2018.

Summary status = where is the stock in relation to targets & limits?

Stock and exploitation status

ICES assesses that fishing pressure on the stock is above F_{MSY} and below F_{pa} and F_{lim} , and spawning-stock size is below $MSY B_{trigger}$, B_{pa} , and B_{lim} .

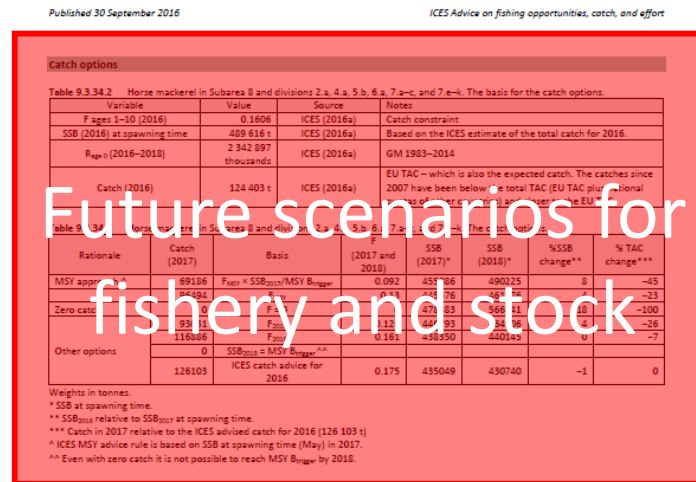
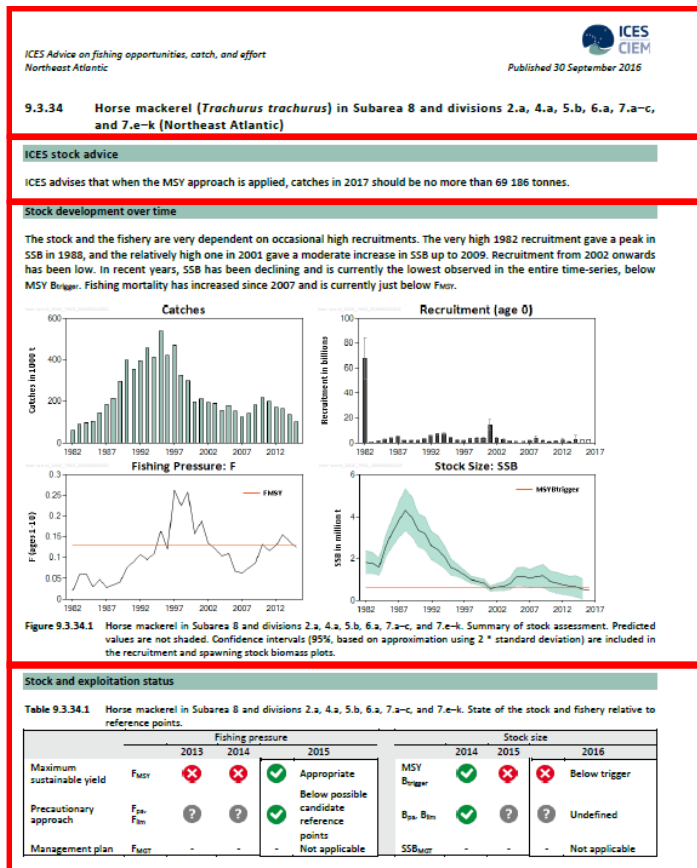
Table 1 Herring in subdivisions 20–24, spring spawners. State of the stock and fishery relative to reference points.

		Fishing pressure				Stock size			
		2015	2016	2017		2016	2017	2018	
Maximum sustainable yield	F_{MSY}	✗	✗	✗	Above	$MSY B_{trigger}$	✗	✗	✗ Below trigger
Precautionary approach	F_{pa}, F_{lim}	✓	✓	✓	Harvested sustainably	B_{pa}, B_{lim}	✗	✗	✗ Increased risk
Management plan	$FMGT$	—	—	—	Not applicable	$SSBMGT$	—	—	— Not applicable



Pictogram description of
the stock relative to
reference points over time

Headline News – advice, status and options



Future scenarios for fishery and stock = What the implications are of different choices about future fishing

Catch options

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Basis or assumptions made in the forecast

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	96494	F_{MSY}	0.13	445576	461276	4	–23
Zero catch	0	$F = 0$	0	478383	566841	18	–100
Other options	93031	F_{2015}	0.126	446793	464906	4	–26
	116886	F_{2016}	0.161	438350	440145	0	–7
	0	$SSB_{2018} = MSY B_{trigger}^{^^}$					
	126103	ICES catch advice for 2016	0.175	435049	430740	–1	0

Weights in tonnes.

* SSB at spawning time.

** SSB₂₀₁₈ relative to SSB₂₀₁₇ at spawning time.

*** Catch in 2017 relative to the ICES advised catch for 2016 (126 103 t)

^ ICES MSY advice rule is based on SSB at spawning time (May) in 2017.

^^ Even with zero catch it is not possible to reach MSY B_{trigger} by 2018.

Rationale for the harvest rate applied

What's in the supporting information?

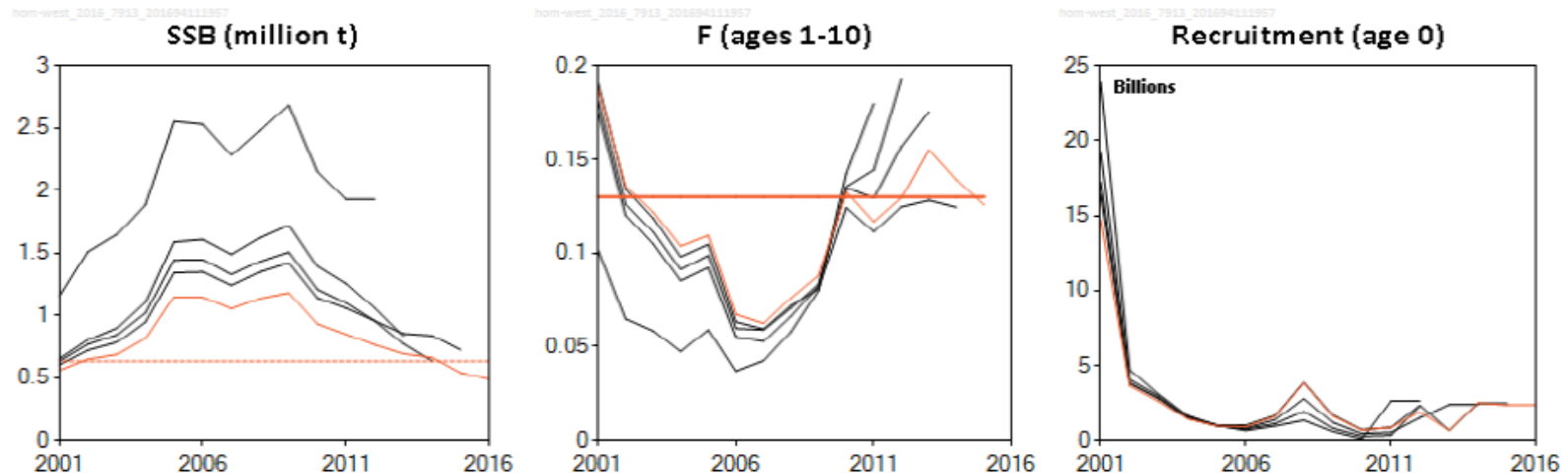


Figure 9.3.34.2 Horse mackerel in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k. Historical assessment results (final-year recruitment estimates included).

Information on the consistency of the assessment over time,
which scientists call “quality of the assessment”

What's in the supporting information

Segments on

- Issues affecting the quality of the advice
- Information from stakeholders

A lot of reference information on

- Reference points and their technical basis
- The technical basis of the assessment
- References to documents cited in the advice

A lot of tables of

- The ICES advice, agreed TAC and catches over time
- Details of where the catches were taken and how over time
- The stock assessment summary table

PART 3 Exercise – Deeper look –
what do you see now?

PART 4 A quick look at mixed fisheries, multispecies and ecosystem advice

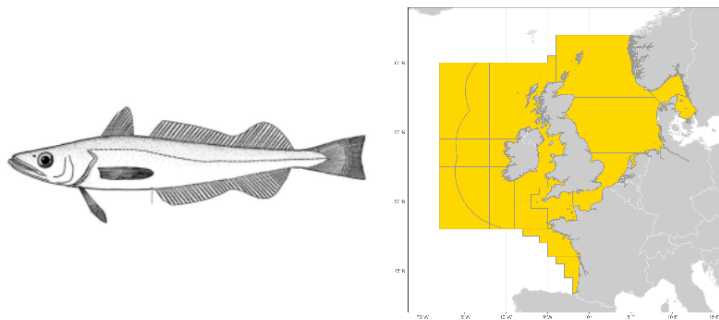
Interactive Stock advice online

ICES advice 2018

hke.27.3a46-8abd

Hake (*Merluccius merluccius*) in subareas 4, 6, and 7, and in divisions 3.a, 8.a–b, and 8.d, Northern stock (Greater North Sea, Celtic Seas, and the northern Bay of Biscay)

Published 29 June 2018



See PDF version of advice sheet
More information about this stock
Detailed data and graphs for this stock assessment
Go to Transparent Assessment Framework page
See this stock in the ICES Spatial facility

ICES advice on fishing opportunities

ICES advises that when the MSY approach is applied, catches in 2019 should be no more than **142 240 tonnes**.

Stock development over time

The spawning-stock biomass (SSB) has increased substantially since 2006 and is well above historical estimates. Fishing mortality (F) has decreased markedly after 2005 and has been below FMSY since 2012. The two most recent recruitment (R) estimates are above the average of the time-series.

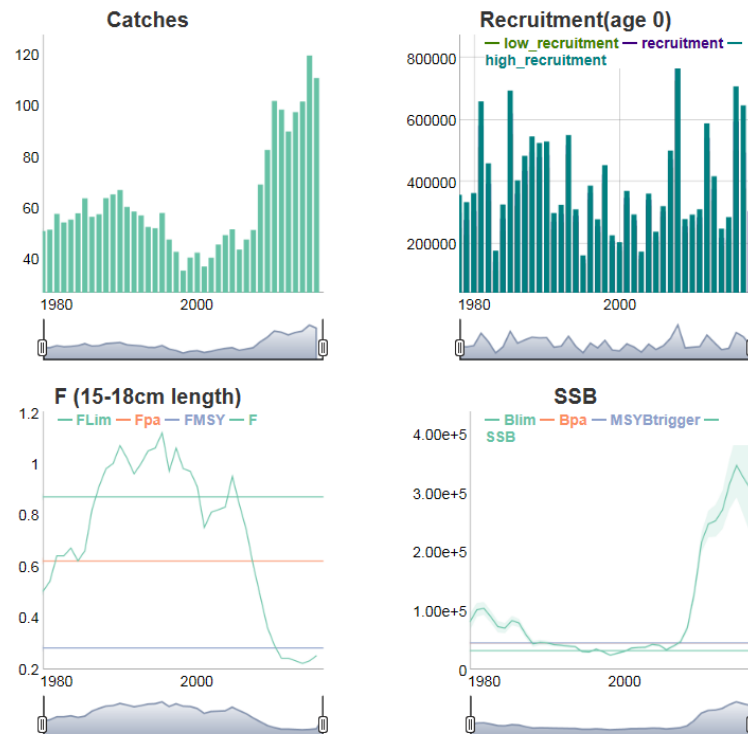


Figure 1 - Summary of the stock assessment of hake in subareas 4, 6, and 7, and in divisions 3.a, 8.a–b, and 8.d, Northern stock. Complete discard estimates are available only since 2003. Recruitment and SSB plots show 95% confidence intervals (shaded area). Assumed recruitment values are unshaded.

Summary of the assessment

Assessment summary for hake in subareas 4, 6, and 7, and in divisions 3.a, 8.a–b, and 8.d, Northern stock. Weights are in tonnes. Highs and lows are 95% confidence intervals

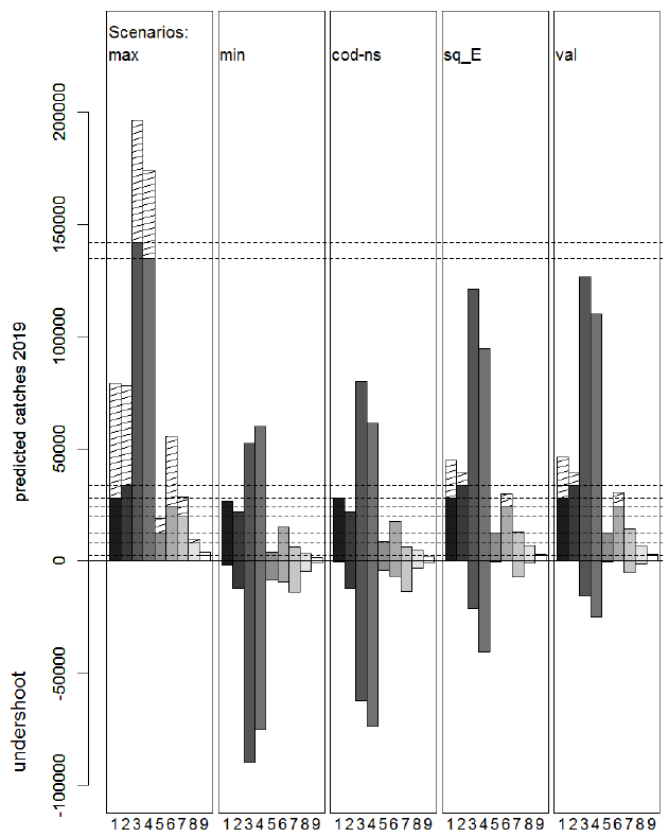
Show/Download Table

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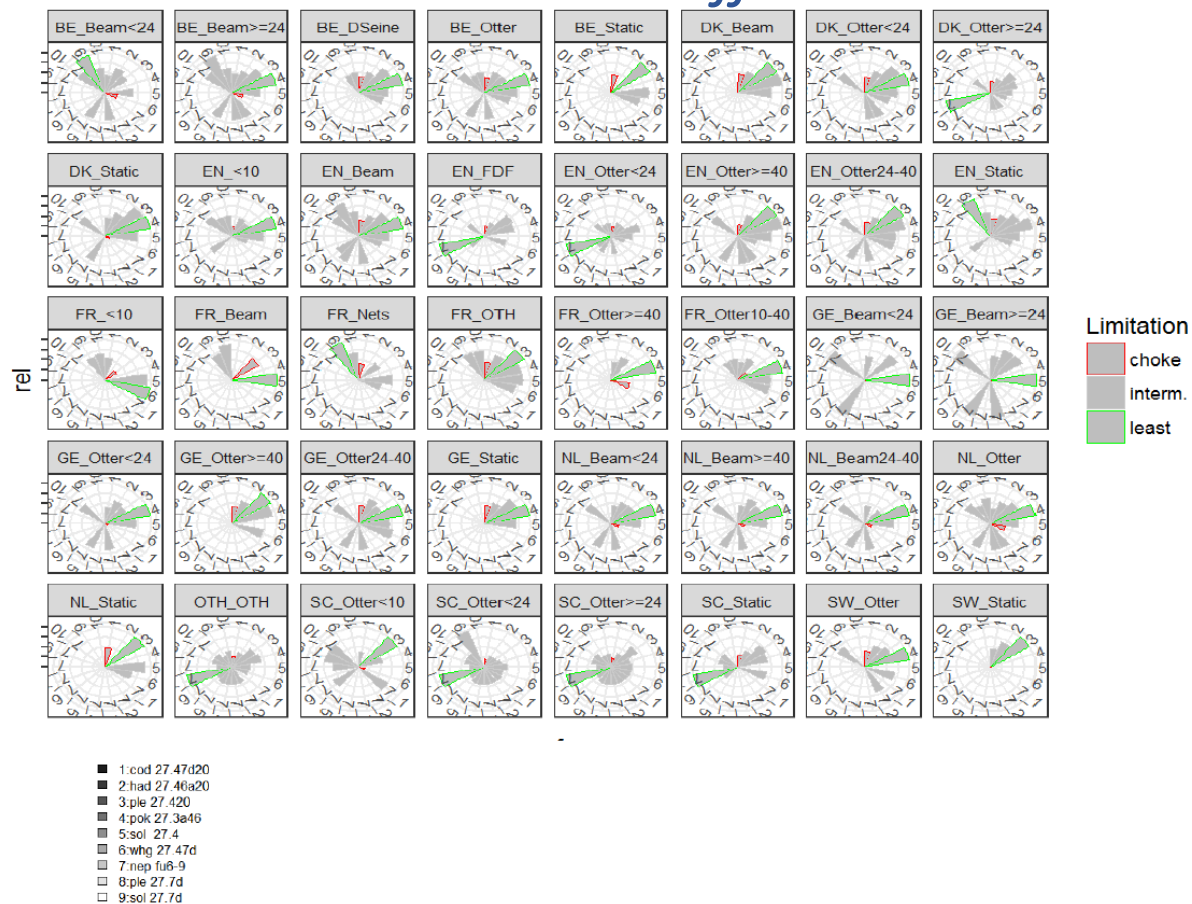
Stock and exploitation status

Mixed fisheries advice

Species trade-offs



Fleet trade-offs



Mixed fisheries for the North Sea. Mixed-fisheries projections. Estimates of potential catches (in tonnes) by stock and by scenario. Horizontal lines correspond to the single-stock catch advice for 2019. Bars below the value of zero show undershoot (compared to single-stock advice) where catches are predicted to be lower when applying the scenario. Hatched columns represent catches that overshoot the single-stock advice. Details for Division 7.d plaice and sole stocks are shown in Figure 7.

‘Impact assessment’ of single species advice

Multi-species advice: accounting for predator-prey interactions

... affects this species.



How much level of exploitation of this species...

F\YIELD	COD	WHITING	HADDOCK	HERRING	SANDEEL	NOR. POUT	SPRAT
Saithe							
Cod							
Whiting							
Haddock							
Herring							
Sandeel							
Nor. Pout							
Sprat							

Ecological trade-offs

Ecosystem Advice – where is it at?

Good Environmental Status Objectives



...each with a suite of indicators

*ICES generates a lot of relevant IEA products but the 'venue' for their uptake is quite low
Clients are still not asking the 'right' questions!*