ICES advice for North Western Waters stocks

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ADVICE INTRODUCTION

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Science for sustainable seas

Image Dirk Vonten, Fotolia

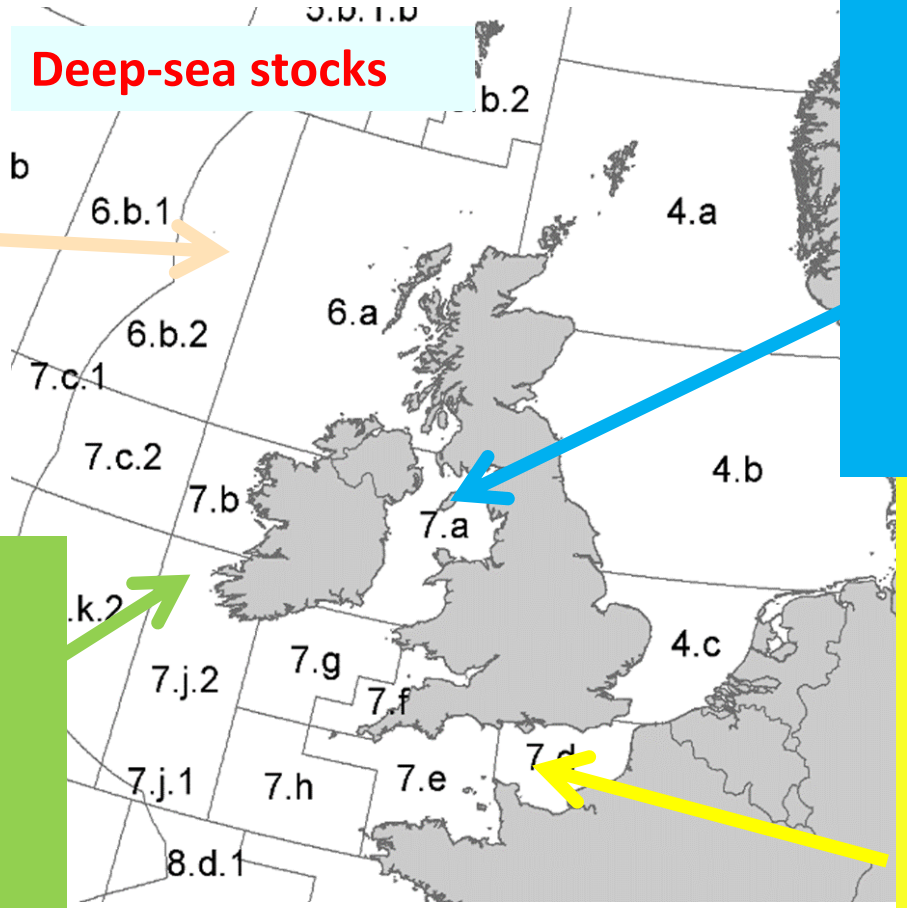
North Western Waters stocks

West of Scotland & Rockall (6.ab)

- Cod (4,6.a7d 20)
- Haddock (4,6.a,sub 20; 6.b)
- Whiting (6.a; 6.b)
- Anglerfish (3.a,4,6)
- Megrim (4.a-6.a; 6.b)
- Saithe 3.a 4, 6
- *Nephrops* (FUs11-12-13)

Celtic Sea & West, Southwest Ireland

- Cod (7.e-k)
- Haddock (7.b-k)
- Plaice (CS; 7.h-k; 7.bc)
- Sole (CS; 7.b-c;7.h-k; 7.bc)
- Northern hake
- Anglerfish (7.b-k, 8.abd)
- Megrim (6.b,7.b-k, 8.abd)
- Pollack (6,7)
- *Nephrops* (FUs 16-17-20-22)



Irish Sea (7.a)

- Cod
- Haddock
- Whiting
- Plaice
- Sole
- Sea bass (4bc,7ad–h)
- nephrops

Channel

- Cod (4, 6a 7d 20)
- Plaice (7.d; 7.e)
- Sole (7.d; 7.e)
- Whiting (4,7d)
- Brill (3.a, 4, 7.de)
- Lemon sole (3.a, 4, 7.d)
- Sea bass (4bc,7ad–h)
- Striped red mullet (3.a, 4, 7.d)

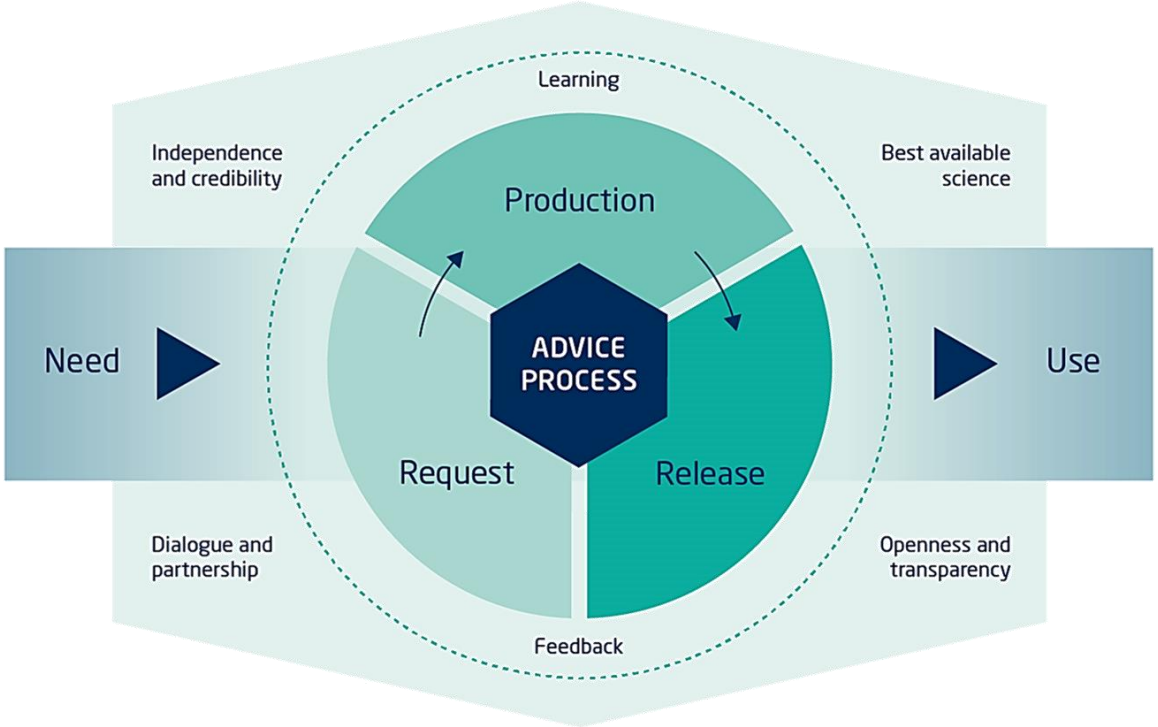
ADVICE IN AUTUMN FOR:

Nephrops (all areas)

Elasmobranchs

Governed by
10 principles of advice

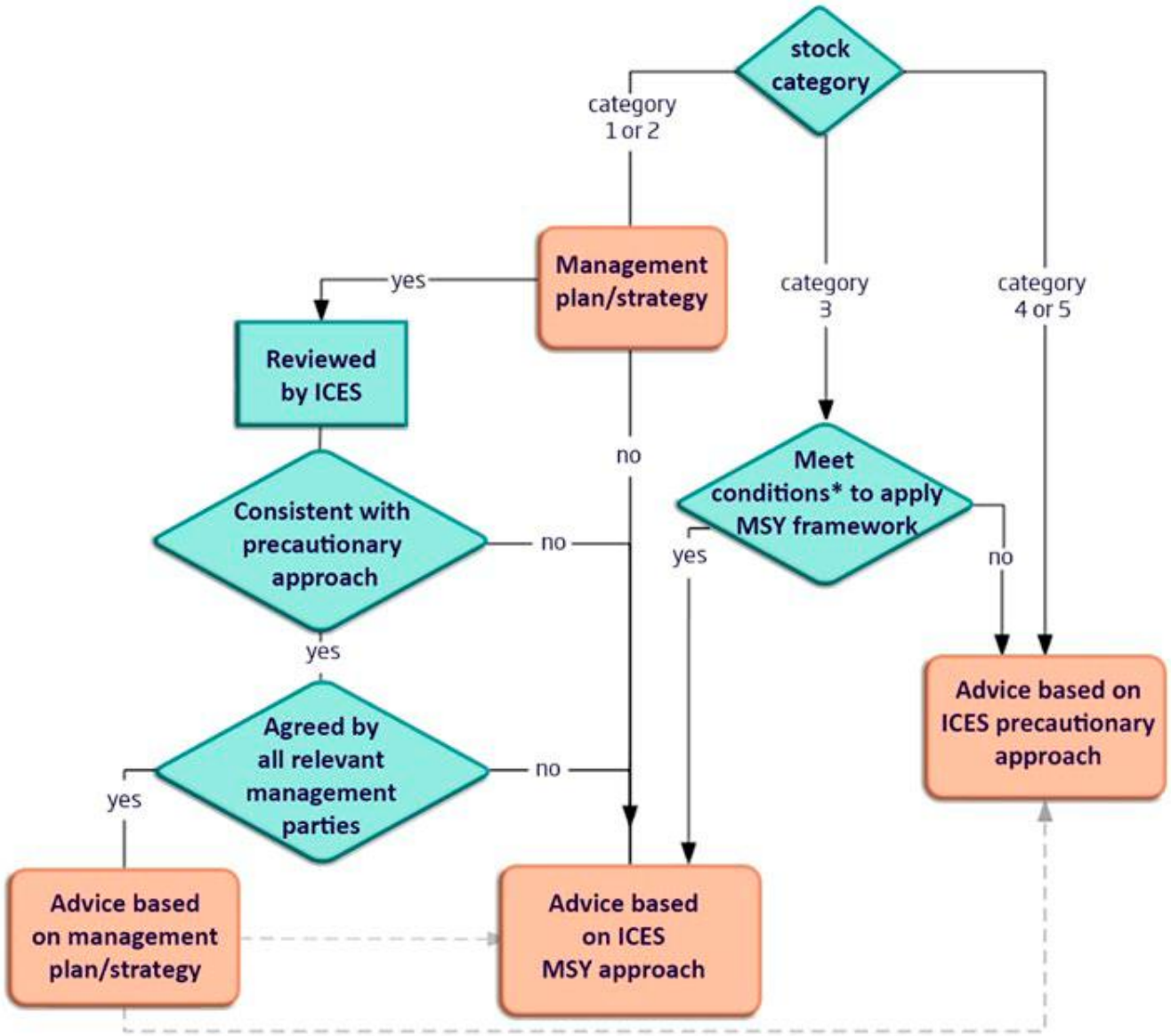
Advice Process



No other fisheries body has these specifically stated

https://doi.org/10.17895/ices.advice.7648

Basis of advice



- Advice is based on clients requests and is consistent with their policy objectives and frameworks.
  e.g. EU MAP
- Must be evaluated to be precautionary
- Type of assessment based on data available

ICES Assessment Categories

Category 1 *– Stocks with quantitative assessments*; includes stocks with full analytical assessments and forecasts that are either age-/length-structured or based on production models.

Category 2 *– Stocks with analytical assessments and forecasts that are only treated qualitatively as well as stocks with surplus production models, e.g. SPiCT, JABBA, without an MSE*;

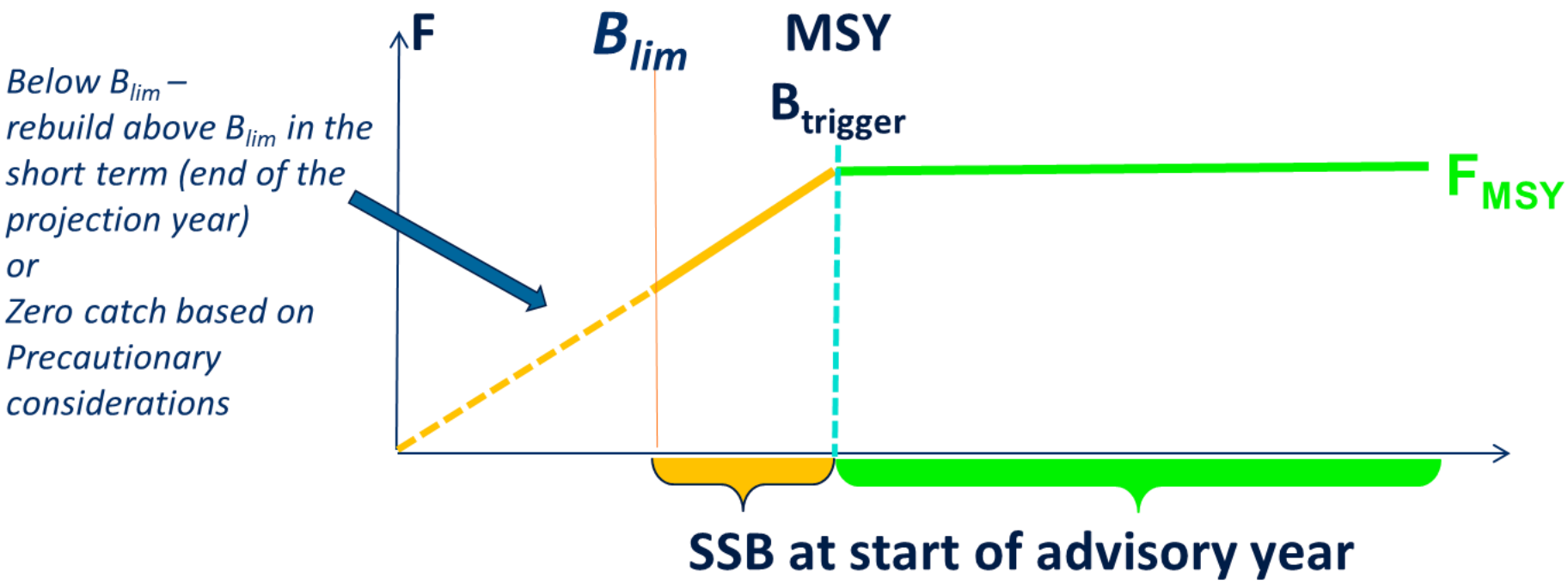
Category 3 *– Stocks for which survey-based assessments or exploratory assessments indicate trends*; includes stocks for which survey, trends-based assessment, or other indices and life history information are available

Category 4 *– Nephrops stocks where information on possible abundance can be inferred* and stocks for which a reliable time-series of catch can be used to approximate MSY.

Category 5 *– Stocks for which either only data on landings or a short time-series of catch are available*

Category 6 *–Stocks for which there are negligible landings and stocks caught in minor amounts as bycatch*

ICES MSY approach for category 1 & 2 stocks



For more details, see ‘ Advice on fishing opportunities 2023‘

EU MAPs and F ranges

- The F ranges in the MAPs are consistent with the ranges provided by ICES in 2015 ($F_{MSYlower}$ and $F_{MSYupper}$).
- F ranges evaluated to result in no more than 5% reduction in long-term yield compared with MSY.
- The ranges are considered precautionary:
  <5% probability that the stock size will fall below Blim.

MIRIA/MIACO/MIAC

Non-fisheries conservation considerations

- Based on feedback from stakeholders ‘conservation status advice’ changed to ‘non-fisheries conservation considerations’
  - “ICES has not identified any conservation aspects other than those related to the commercial fisheries”

Mixed catch of stocks of the same species

- New Guidelines
- In some cases, ICES advice is for reproductively isolated populations that mix spatially for part of the year and are caught in the same fisheries during that time. Hence, these fisheries impact multiple stocks of the same species at the same time.

Mixed catch of stocks of the same species

- Advice should be consistent with ICES advisory framework
- Advice should be precautionary for all stocks in the fishery; that is, advice for a stock below B_{lim} should be for zero catch where there is no F that will recover the stock to above B_{lim} with > 50% probability in the year after the year for which the advice applies
- Information on the existence of a concurrent fishery on stocks should be included in the headline advice
- Information on concurrent fisheries should be included in the advised catch levels in the headline advice to the extent possible.

TAF

- Link to TAF will be in the advice sheet if the assessment is in TAF

Stability clause for more stock categories

- Instituting early warning system
  - Starting this year with benchmarked stocks
- Use for category 1 stocks discussed at meeting between ICES and requesters of advice
- Category 1 – more information – thought not to need stability clause
- Discussions beginning in ICES for more broader use
  - Will likely need testing

Climate change and assessments

- Affects stock productivity
  - Growth, maturity, fecundity, recruitment, natural mortality - included
- Recognize importance of doing more
- Included in ecosystem overviews
- Feco - included in catch options but not advice per se
  - Each stock will have its own specifics so not transferable
- WKCLIMAD
  - Getting ready to plan for operationalizing

Where to find the advice

- https://ices-library.figshare.com/

- AdviceXplorer

  - https://ices-taf.shinyapps.io/online-single-stock-advice/

Thank you for your attention!

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Types of assessment methods

- DLS – empirical – apply advice rule (e.g. CHR, rfb) to an index
- Production model – total catch, index(ices), observation and process error, results relative e.g. B/BMSY
- Age structured – XSA, SAM, Stock synthesis, SCAA
  - XSA – CAA and SAA, CAA taken as known, error only in SAA

  Very strong assumptions, only observation error, no probabilities
  - SAM, SS (very flexible), SCAA

  Total catch in weight, CAA, SAA, SR, observation and process error, selectivity can vary over time

Workshops

- Survivability roadmap – include discard survival
  - Plaice 7d; 7e; 7fg
  - Sole 7d
- WKREBUILD2 – develop framework and evaluation guidelines for rebuilding plans
- WKNEWREF – hands on – estimate reference points suggested by WKREF2 and identify strengths and weaknesses
- WKSTIMP – implementation of stakeholder engagement strategy (will have already met an reported)
- WKAFPA -workshop on accounting for fishers and other stakeholders' perceptions of the dynamics of fish stocks in ICES advice (WKAFPA).

Guidelines and methods for the design and evaluation of rebuilding plans for category 1-2 stocks – WKREBUILD2

a) Define a framework for scientific advice for developing rebuilding plan elements as part of overall management strategies, that could be widely applied to ICES stocks.

b) Develop guidelines for the evaluation of rebuilding plan elements that consider the precautionary approach, the species life history (incl. longevity), changes in productivity and rebuilding potential.

c) Propose the performance indicators and thresholds to be used for the acceptability of rebuilding plan elements including rebuilding target, probability of rebuilding and rebuilding time relative to rebuilding time in the absence of fishing.

d) Test the rebuilding plan evaluation guidelines on a limited number of test cases using a newly developed and dedicated evaluation tool

e) Identify any additional requirements for a evaluation tool that would allow the evaluation of rebuilding plans elements proposed in ToR (a) in the context of assessment working groups.

Calculation and evaluation of new eference points for category 1-2 stocks - WKNEWREF

Following recommendations of WKREF2, for each stock estimate and report the problems detected in the estimation of:

a) Alternative stock-recruitment relationships.
b) B_0, F_{msy}, B_{msy} and $B_{\%SPR}$.
c) B_{lim}, alternatively looking at the distribution of B_{msy} or $B_{\%SPR}$ considering variability and risk to Bloss and report on the problems encountered for their calculation.
d) $B_{trigger}$.
e) Alternative values for F_{target} ($F_{\%SPR}$, $F_{0.1}$,...)

Based on the results from a) to e):

f) Identify the situations where a stock recruitment relationship, the breakpoint in the segmented regression stock recruitment relationship, B_0 and B_{msy} can be estimated reliably and those where it cannot.
g) Identify the strengths and weakness of the new reference points in comparison with the current framework.
h) Propose B_{lim}, $B_{trigger}$ and F_{target} for each stock based on the proposal of WKREF2 or new proposal.