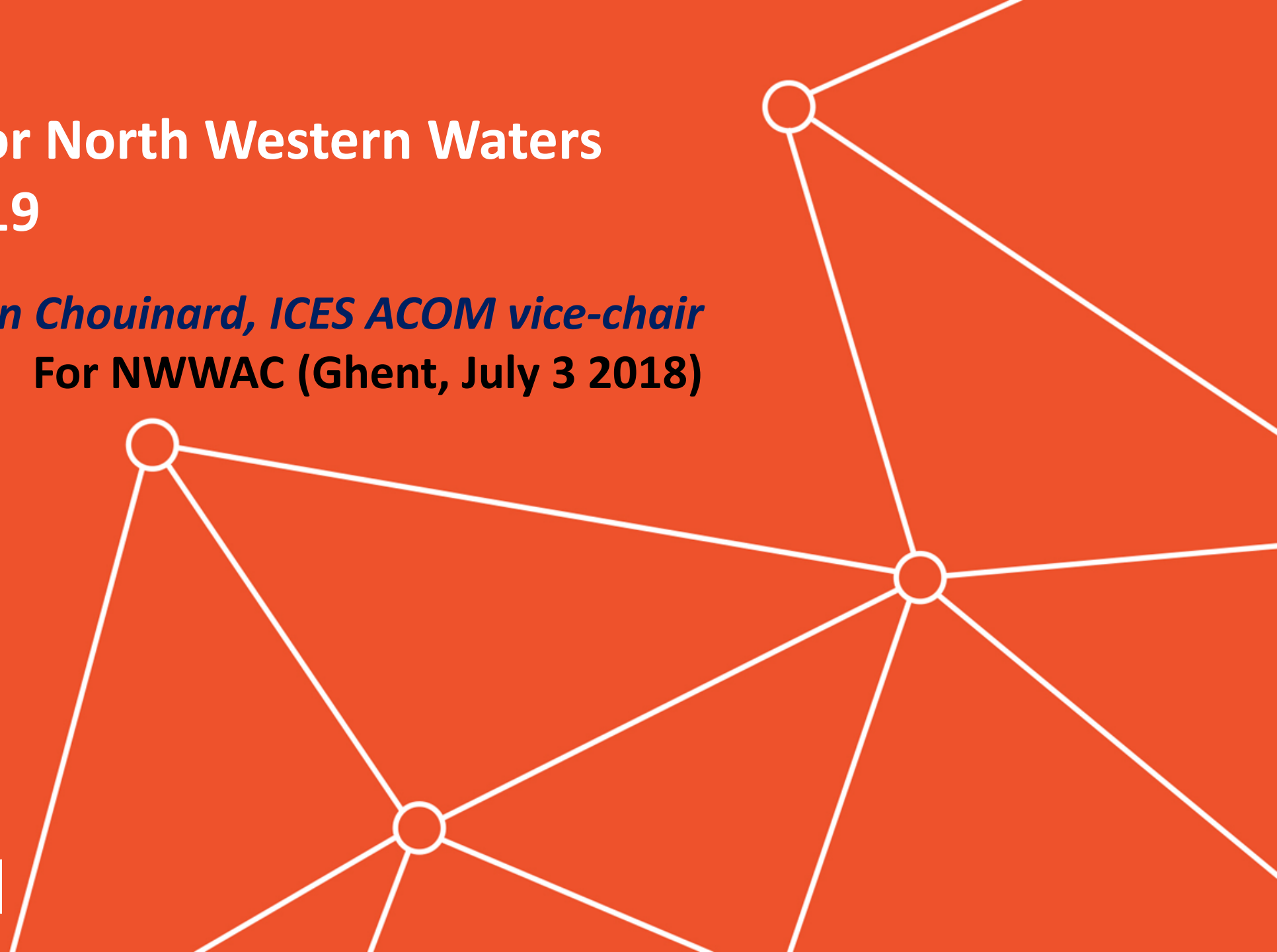
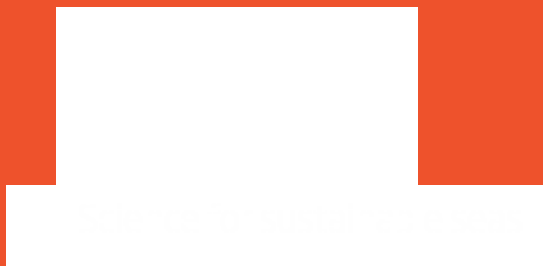


# ICES advice for North Western Waters stocks for 2019

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



# North Western Waters stocks



## West of Scotland & Rockall (6.ab)

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

## Deep-sea stocks

## Irish Sea (7.a)

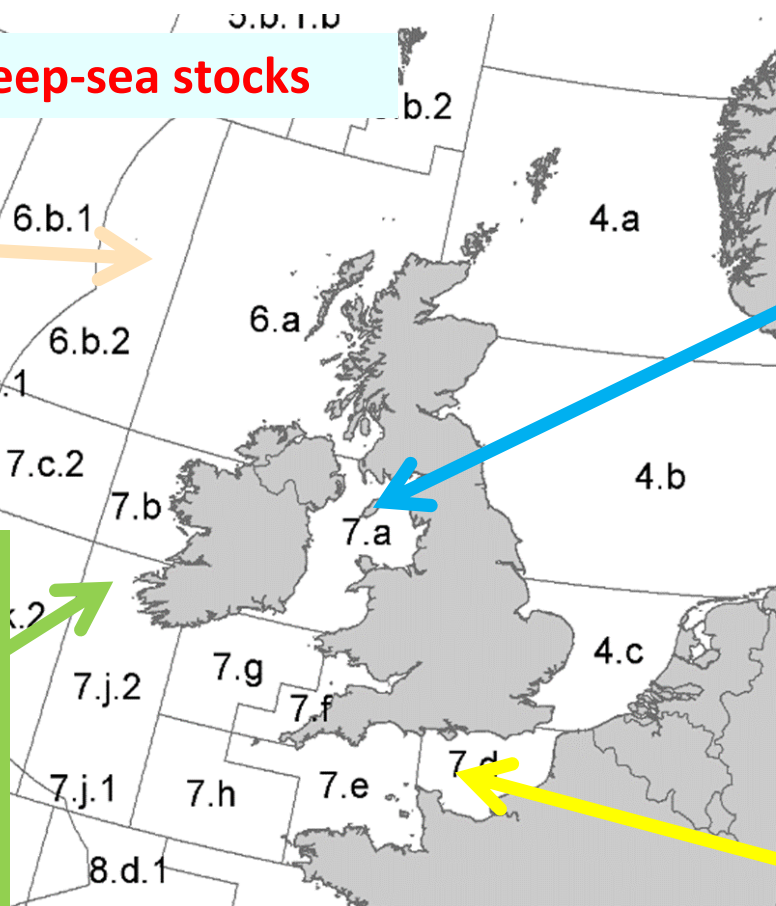
- Cod
- Haddock
- Whiting
- Plaice
- Sole
- *Nephrops* (FUs 14-15-19)

## Channel

- Cod (4, 7.d, Skagerrak)
- Plaice (7.d; 7.e)
- Sole (7.d; 7.e)
- Whiting (4,7d)
- Brill (3.a, 4, 7.de)
- Witch (3.a, 4, 7.d)
- Lemon sole (3.a, 4, 7.d)
- Striped red mullet (3.a, 4, 7.d)

## Celtic Sea & West, Southwest Ireland

- Cod (7.e-k)
- Haddock (7.b-k)
- Whiting (7.e-k)
- Plaice (CS; 7.h-k; 7.bc)
- Sole (CS; 7.h-k; 7.bc)
- Northern hake
- Anglerfish (7.b-k, 8.abd)
- Megrin (7.b-k, 8.abd)
- Pollack (6,7)
- Sea bass (6.a, 7.b,7.j; 4bc,7ad-h )
- *Nephrops* (FUs 16-17-20-22)



**ADVICE IN AUTUMN FOR:** *Nephrops*,  
*Megrin* (6.b),  
*Anglerfish* (3.a,4,6)  
*Skates and rays*

**All advice available online at:**



<http://www.ices.dk>

*Click on*

**Follow Our Advisory process → Latest advice**

In addition to advice items, “Introduction to ICES Advice” document describes principles and advice basis

*For advice release dates, follow link:*

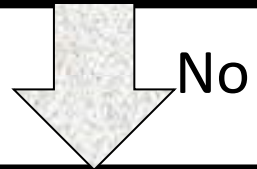
**Follow Advisory process → Advice requests and advice release dates**

# Basis of ICES Advice



## Management Plan

Consistent with Precautionary Approach & agreed by competent authorities as potential basis for advice



## ICES MSY approach



## ICES PA approach

All options available in catch advice document



# Basis of ICES Advice

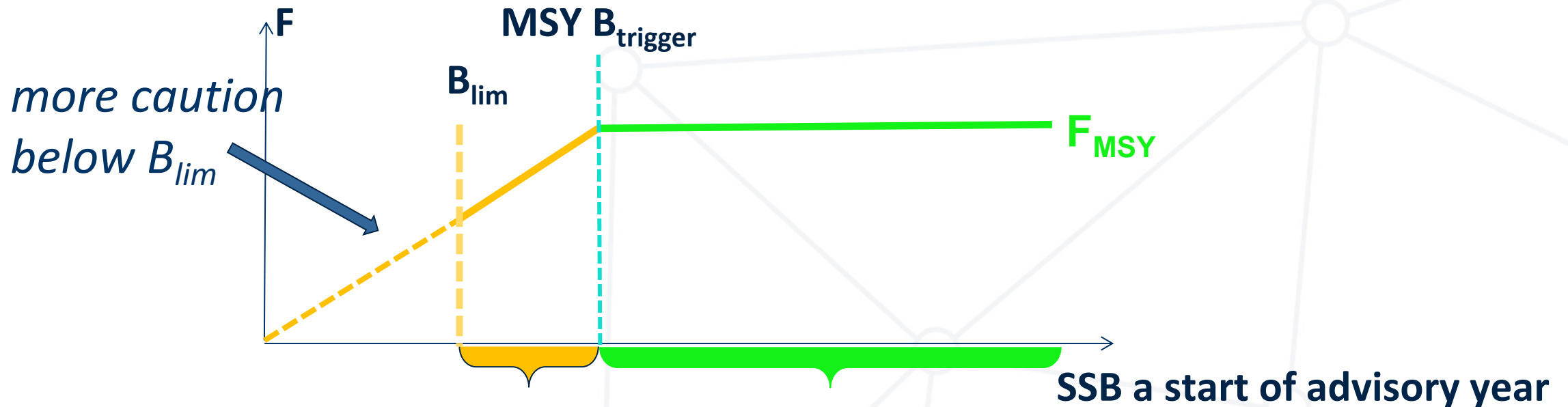
Stock categories (based on available knowledge)		Advice basis
1	Stocks with an accepted analytical assessment and forecast	MSY approach
2	Stocks with an analytical assessment and forecast accepted for trends only	MSY approach
3	Stocks with abundance or biomass indices indicative trends	Precautionary approach MSY proxy reference points
4	Stocks with reliable catch and biological data	Precautionary approach MSY proxy reference points
5	Only landings available	Precautionary approach
6	Only landings available and largely discarded	Precautionary approach

# ICES MSY approach (Category 1-2 stocks)





- ✓ Maximize long term average yield
- ✓ Safeguard against low SSB
- ✓ Stay within precautionary boundaries

## ICES MSY Advice Rule (AR):



# Advice framework for stocks in categories 3-6



- ✓ Implemented since 2012
- ✓ Various approaches depending on available information
- ✓ Advice Rules providing quantitative advice are available for all stock categories
- ✓ Developed MSY proxy reference points for stocks in categories 3 & 4
- ✓ Proxies for selected stocks in Western Waters (EU special request, 2016)
- ✓ Proxies for other stocks where data available and methods suitable in 2017
  - Used to determine stock status -  or 

## Category 3 (stocks with abundance index)



Advice based on previous advice [or recent catch or landings], modified according to index information; typically last 5-year index trend:

$$\text{Advice} = (\text{previous advice}) \times \frac{\text{average index last 2 years}}{\text{average index 3 previous years}}$$

also incorporating:

1. **Uncertainty cap** (20% change limit, to dampen noise)
  2. **Precautionary buffer** (20% reduction considered every 3 years if status in relation to reference points unknown --- exceptions if significant increases in stock size or reductions in exploitation)
- Advice often does not change every year



# Terminology: Wanted & Unwanted catch



## For stocks under the EU landing obligation:

To provide clear linkage to previous advice on catch and landings the advised catches are split into two components, termed wanted catch and unwanted catch.

- **“Wanted catch”** is used to describe fish that would be landed in the absence of the EU landing obligation.
- **“Unwanted catch”** refers to the component that was previously discarded.

This split, **based on the recent past performance of the fishery**, is expected to evolve and the relative magnitude of the components will change.

- **WKIRISH**

- *WKIrish4 (Oct. 2017, Dublin) Stakeholder engagement workshop for input into ecosystem modelling for a holistic approach to management of the main fish stocks of the Irish sea*
- *WKIrish5 in planning, potential for end 2018 Workshop towards Development of an Integrated Ecosystem Assessment and Advice in the Irish Sea*

- **WKLIFE8**

- *further develop methods for stocks in categories 3–6, focusing on the provision of sound advice rules that are within the ICES MSY framework. (8-12 Oct 2018, Lisbon)*

- The basis for the Advice on  $F_{MSY}$  ranges was developed mainly through ICES workshops held in 2014 and 2015 (WKMSYREF3 and WKMSYREF4).
- Advice is contained in several documents.
  - EU request to ICES to provide  $F_{MSY}$  ranges for selected North Sea and Baltic Sea stocks - June 2016
  - EU request to ICES to provide  $F_{MSY}$  ranges for selected stocks in ICES subareas 5 to 10 – July 2016
  - EU request to ICES to provide plausible and updated  $F_{MSY}$  ranges for the stocks of species inhabiting western EU waters – March 2018
  - Individual advice sheets

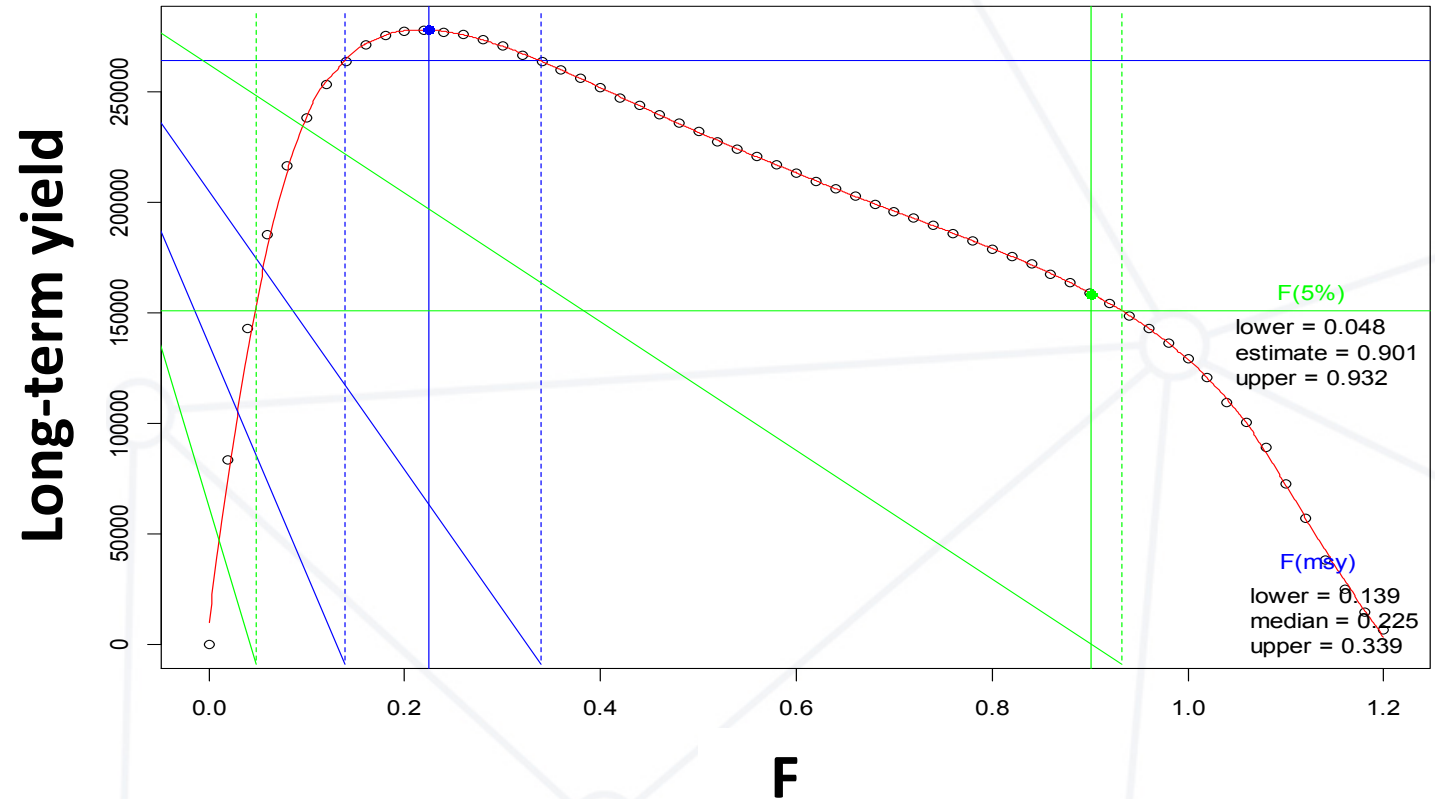
# $F_{MSY}$ ranges ( $F_{MSY\ lower}$ and $F_{MSY\ upper}$ )



Calculate annual yield that may be expected on average in the long-term when the stock is continuously fished at the same rate fishing pressure (F).

Range defined as 95% of MSY

$F_{MSY}$  depends on natural mortality, growth, selection pattern in the fishery, stock-recruitment relationship, maturity.



Yield definition: catch above Minimum Conservation Reference Size

# $F_{MSY}$ ranges ( $F_{MSY\ lower}$ and $F_{MSY\ upper}$ )



## Notes:

- The width of the range depends on the biological and fishery characteristics of the individual stock.
- In the course of estimating the  $F_{MSY}$  and  $F_{MSY}$  range, a verification to ensure that the values do not result in >5% probability of SSB falling below  $B_{lim}$  is conducted. This can result in  $F_{MSYupper}$  and  $F_{MSY}$  being capped.

**Example: haddock in Subarea 4, division 6.a and subdivisión 20**

$$F_{MSY\ lower} = 0.167$$

$$F_{MSY} = 0.194$$

$$F_{MSY\ upper} = 0.194$$

# Use of $F_{MSY}$ ranges

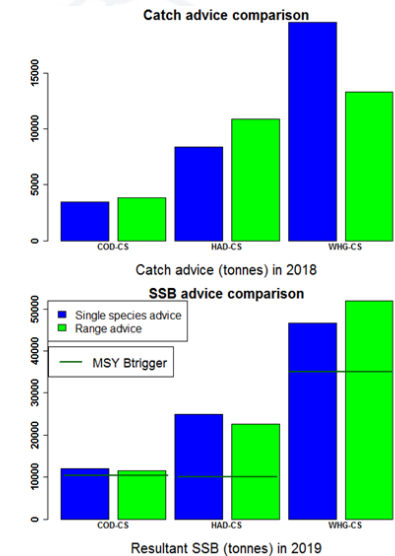
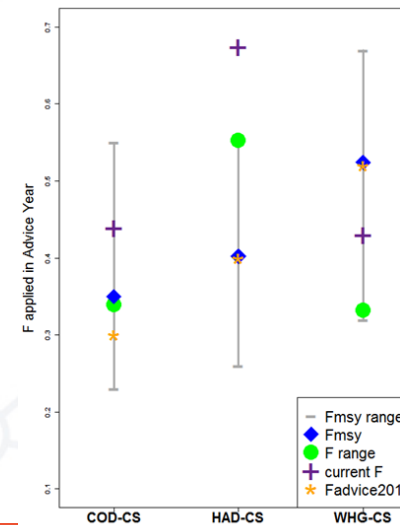


- Once in place, ICES advice would be given for a range according to the specification of the Multi-Annual Plan.

**Example: Advice for 2019 for Sole in subarea 4**

*ICES advises that when the proposed EU multiannual plan (MAP) for the North Sea is applied, catches in 2019 that correspond to the  $F$  ranges in the MAP are between 7451 tonnes and 21 644 tonnes. According to the MAP, catches higher than those corresponding to  $F_{MSY}$  (12 801 tonnes) can only be taken under conditions specified in the MAP, whilst the entire range is considered precautionary when applying the ICES advice rule.*

- Use of ranges can help with to reduce the impact of choke species. Mixed fisheries analysis can inform on scenarios.





**Thank you  
for your  
attention!**



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