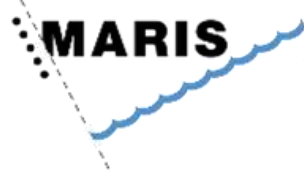


27-29 May 2024 



imdis

# International conference on Marine Data and Information Systems



# advice**x**plorer

A new app that makes ICES fisheries advice interactive and accessible

IMDIS 2024, Bergen, Norway (29<sup>th</sup> of May)

Sarah Louise Millar – Professional Officer  
Luca Lamoni – Advice and Data Analyst



# International Council for the Exploration of the Sea

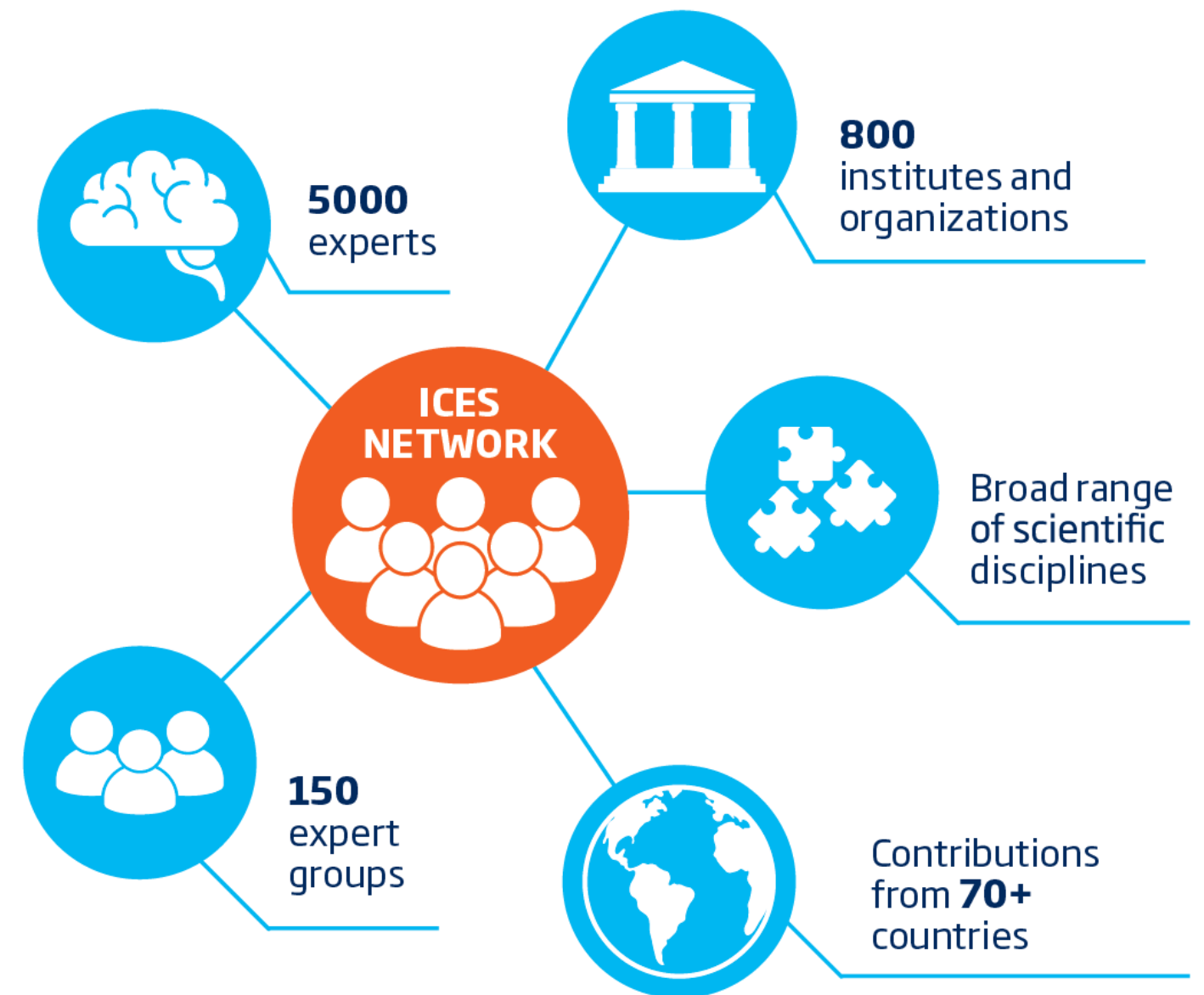
Intergovernmental organization leading marine science cooperation since 1902

## Mission:

To advance scientific understanding of marine ecosystems and provide knowledge for the sustainable management of our seas.

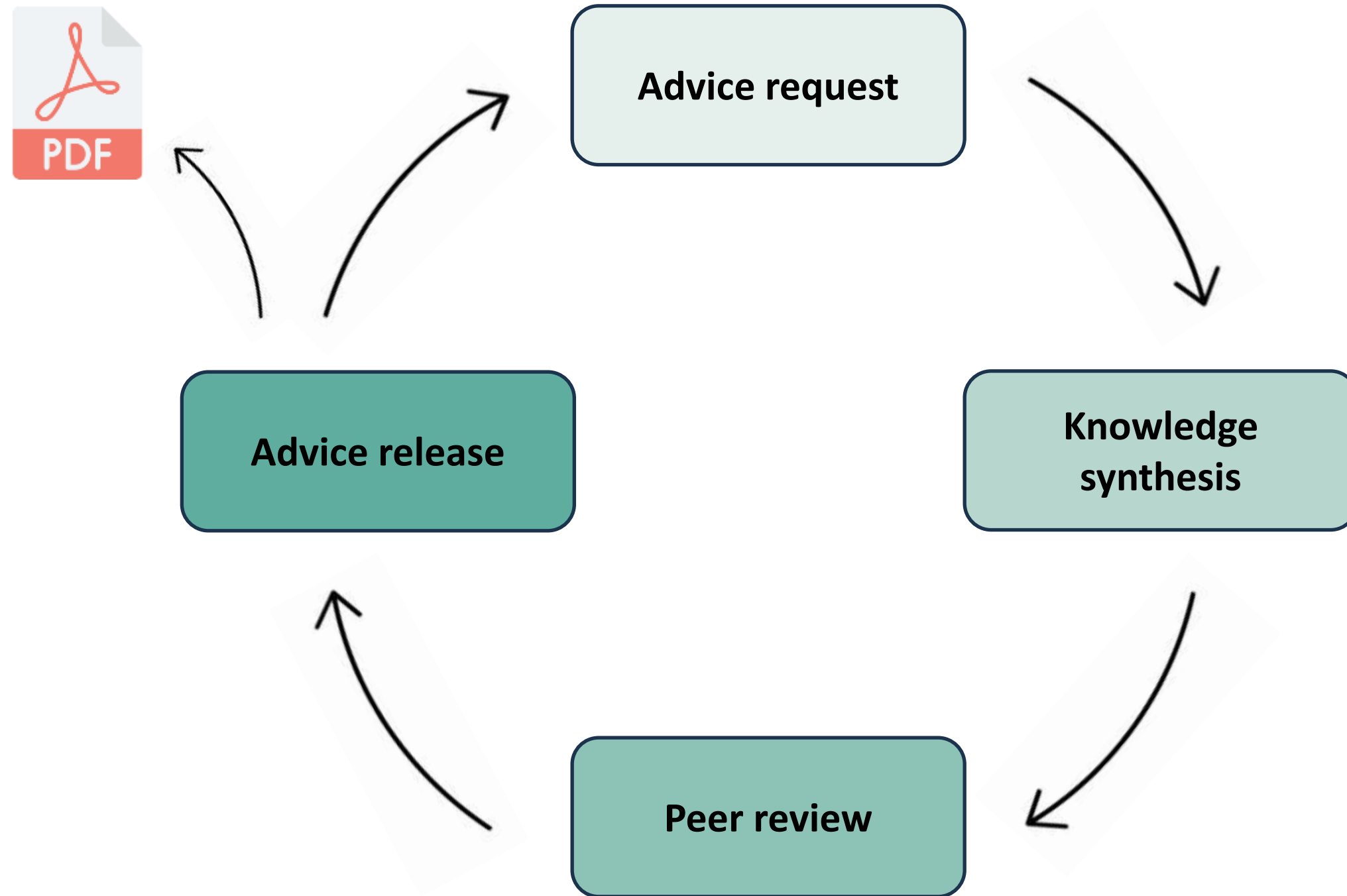
## ICES provides:

- scientific advice
- data and information products
- scientific cooperation



ICES annual report 2022

# ICES advice process



# Why a web-based interactive product?

- One location only
- Easier access to stock's advice
- **Interactive data visualisation**
- **Direct access to the data behind the advice figures**
- **Easier integration and connection of multiple ICES products**
- Customizable user experience
- Always up-to-date



Credit

# What is adviceXplorer?

A web-application built using Shiny open-source R package

## When...

- Development period (2021-2023)
- Released on the 30<sup>th</sup> June 2023

## Aim...

- *facilitate visualisation of the advice on fishing opportunities*
- *facilitate access to the data used to produce it*

Fully integrated with ICES databases and processes



adviceXplorer

Advice process

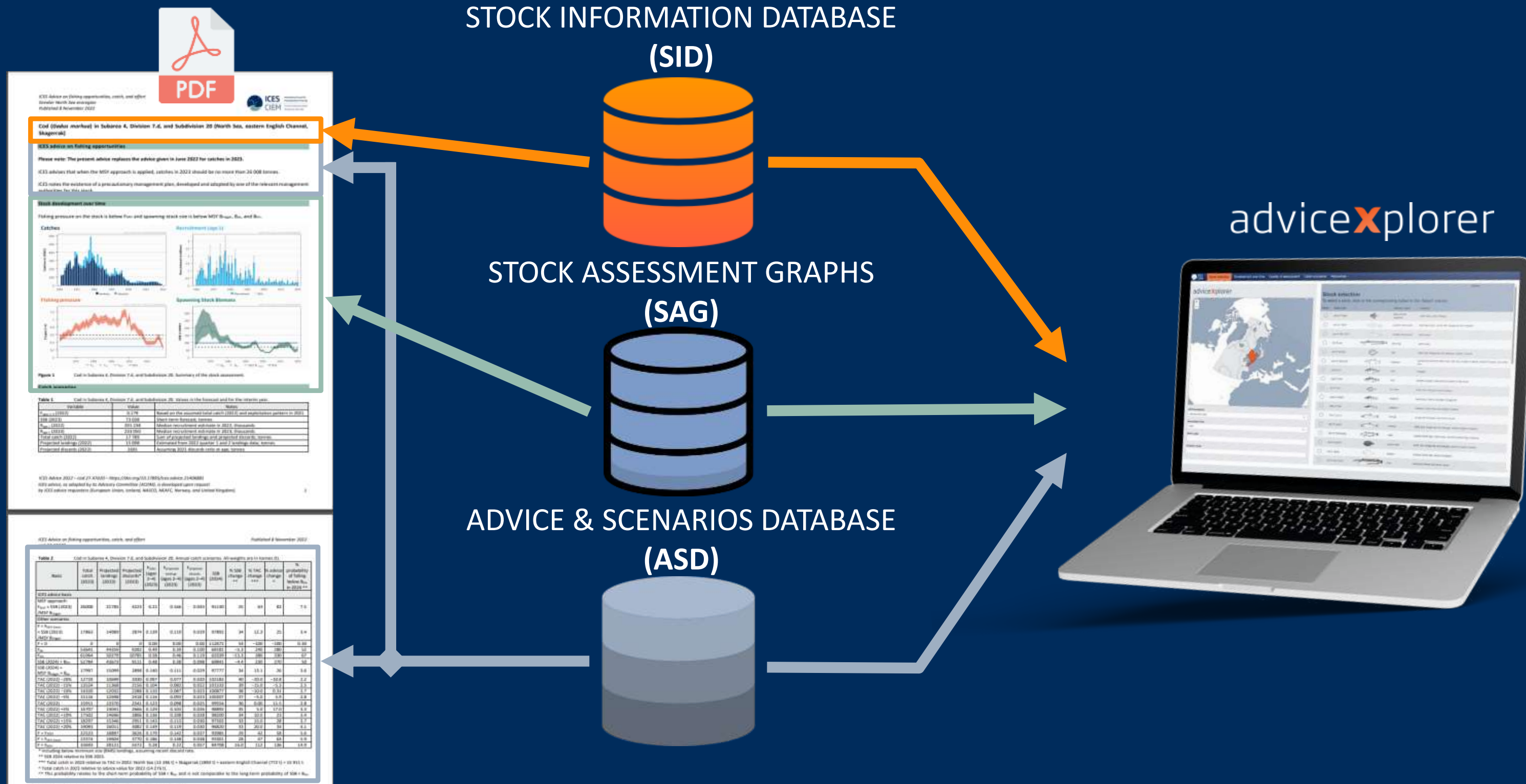
Expert Groups

ICES secretariat staff

Transparent Assessment Framework (TAF)

ICES Databases & webservice

# ICES Databases



**PDF**

ICES Advice on fishing opportunities, catch, and effort  
Northern North Sea management  
Published 8 November 2022

**Cod (Gadus morhua) in Subarea 4, Division T.A, and Subdivision 2B (North Sea, eastern English Channel, Skagerrak)**

ICES advice on fishing opportunities

Please note: The present advice replaces the advice given in June 2022 for catches in 2023.

ICES advises that when the MSY approach is applied, catches in 2023 should be no more than 24 000 tonnes.

ICES notes the existence of a precautionary management plan, developed and adopted by one of the relevant management authorities. See this link.

**Stock development over time**

Fishing pressure on the stock is below F<sub>msy</sub> and spawning stock size is below MSY Stock<sub>msy</sub>, B<sub>msy</sub> and B<sub>lim</sub>.

**Catches**

**Recruitment (age 0)**

**Fishing pressure**

**Spawning Stock Biomass**

Figure 1 Cod in Subarea 4, Division T.A, and Subdivision 2B. Summary of the stock assessment.

**Stock scenarios**

Variable	Value	Note
MSY (t)	24 000	Based on the assumed total catch (2023) and exploitation pattern in 2023.
B <sub>msy</sub> (t)	175 000	Based on the assumed total catch (2023) and exploitation pattern in 2023.
B <sub>lim</sub> (t)	800 000	Based on the assumed total catch (2023) and exploitation pattern in 2023.
F <sub>msy</sub>	0.12	Based on the assumed total catch (2023) and exploitation pattern in 2023.
F <sub>lim</sub>	0.05	Based on the assumed total catch (2023) and exploitation pattern in 2023.
Projected catches (2023)	24 000	Estimated from 2022 (month 3) and 2023 (month 3) using the stock scenario.
Estimated catches (2023)	24 000	Estimated from 2022 (month 3) and 2023 (month 3) using the stock scenario.

ICES Advice 2022 - cod (7) 476601 - <https://doi.org/10.17896/ices.advice.2022.0476601>  
ICES advice, as adopted by the Advisory Committee (ACOM), is developed upon request by ICES advice requesters (European Union, Iceland, NAFO, NEAC, Norway, and United Kingdom).

ICES Advice on fishing opportunities, catch, and effort  
Northern North Sea management  
Published 8 November 2022

**Table 2 Cod in Subarea 4, Division T.A, and Subdivision 2B. Average ICES estimates, 50-weighted, per scenario (t)**

Scenario	MSY (t)	B <sub>msy</sub> (t)	B <sub>lim</sub> (t)	F <sub>msy</sub>	F <sub>lim</sub>	MSY (t)	B <sub>msy</sub> (t)	B <sub>lim</sub> (t)	F <sub>msy</sub>	F <sub>lim</sub>	MSY (t)	B <sub>msy</sub> (t)	B <sub>lim</sub> (t)	F <sub>msy</sub>	F <sub>lim</sub>	Probability of fishing below B <sub>lim</sub> in 2023 (%)
MSY (t)	24 000	175 000	800 000	0.12	0.05	24 000	175 000	800 000	0.12	0.05	24 000	175 000	800 000	0.12	0.05	0.0
MSY (t) + 10%	26 400	192 500	880 000	0.13	0.05	26 400	192 500	880 000	0.13	0.05	26 400	192 500	880 000	0.13	0.05	0.0
MSY (t) - 10%	21 600	157 500	720 000	0.11	0.05	21 600	157 500	720 000	0.11	0.05	21 600	157 500	720 000	0.11	0.05	0.0
MSY (t) + 20%	28 800	210 000	960 000	0.14	0.05	28 800	210 000	960 000	0.14	0.05	28 800	210 000	960 000	0.14	0.05	0.0
MSY (t) - 20%	19 200	135 000	640 000	0.10	0.05	19 200	135 000	640 000	0.10	0.05	19 200	135 000	640 000	0.10	0.05	0.0
MSY (t) + 50%	36 000	270 000	1 200 000	0.18	0.05	36 000	270 000	1 200 000	0.18	0.05	36 000	270 000	1 200 000	0.18	0.05	0.0
MSY (t) - 50%	12 000	67 500	320 000	0.06	0.05	12 000	67 500	320 000	0.06	0.05	12 000	67 500	320 000	0.06	0.05	0.0
MSY (t) + 100%	48 000	350 000	1 600 000	0.24	0.05	48 000	350 000	1 600 000	0.24	0.05	48 000	350 000	1 600 000	0.24	0.05	0.0
MSY (t) - 100%	0	0	0	0.00	0.05	0	0	0	0.00	0.05	0	0	0	0.05	0.05	100

\*\*\* Total catch in 2023 relative to TAC in 2022 (North Sea (1) + Skagerrak (2003) + western English Channel (21) + SE WIS) = 24 000 t in 2023 relative to total value for 2022 (24 000 t).  
\*\*\* This probability refers to the short-term probability of BMS > B<sub>lim</sub>, and is not comparable to the long-term probability of BMS > B<sub>lim</sub>.  
\*\*\* Fishing effort remains constant at 2022 levels, assuming recent observed rates.  
\*\*\* BMS 2023 relative to BMS 2022.

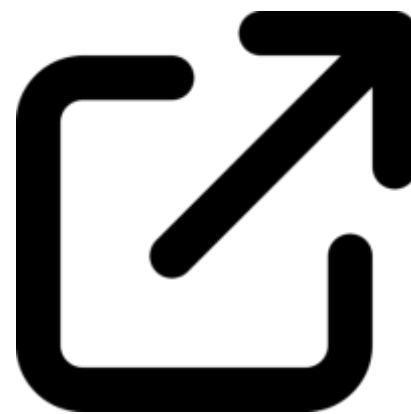


# What data can be found on adviceXplorer?

Year	2018	2019	2020	2021	2022	2023	2024
N. of stocks	181	202	187	186	190	176	8

For each stock assessment:

- Trends over time (landings, recruitment, fishing pressure, spawning stock biomass)
- Catch scenarios
- Links to ICES resources



# Live demo

ICES CIEM | Stock selection | Development over time | Quality of assessment | Catch scenarios | Resources -

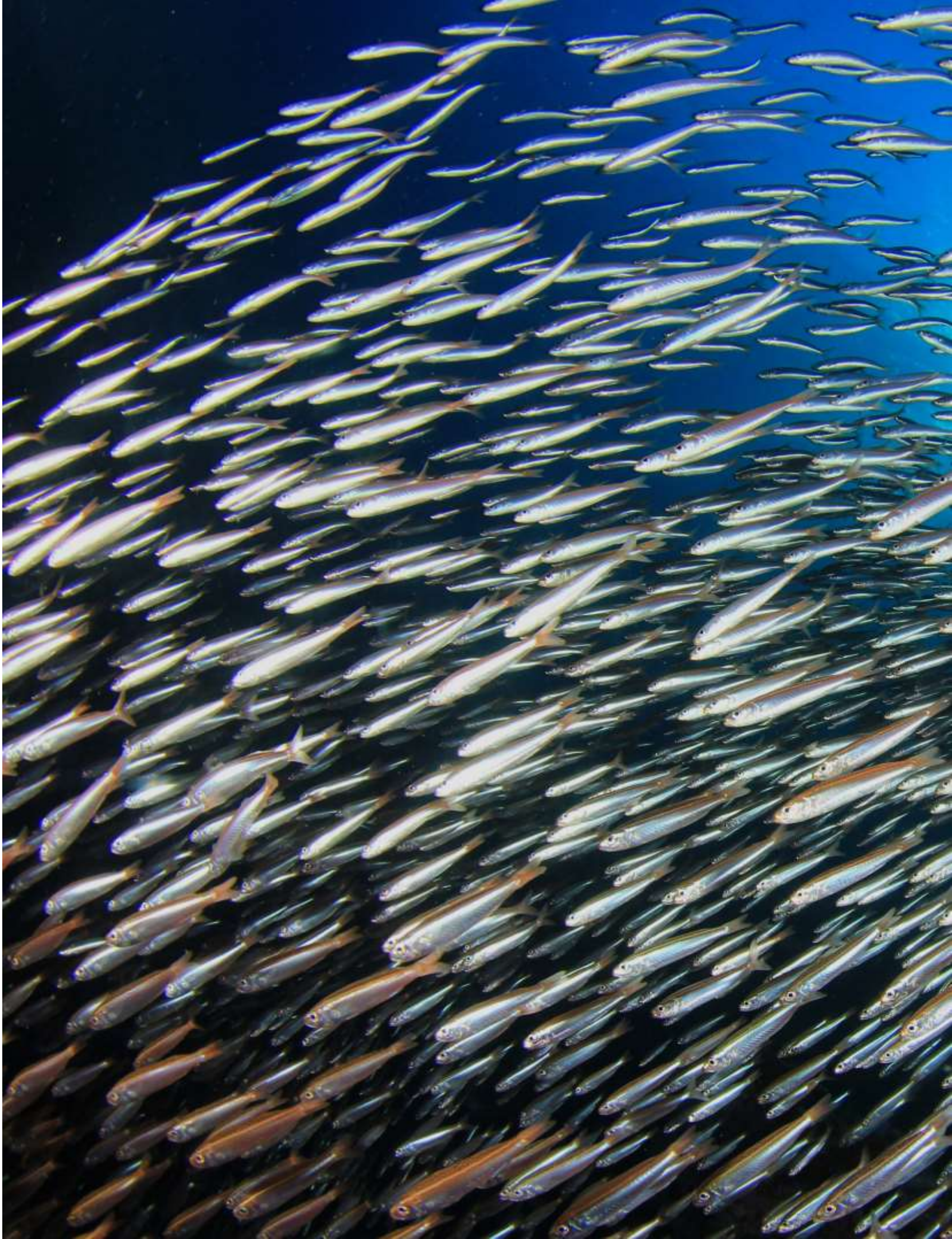
adviceXplorer

Search:

**Stock selection**  
To select a stock, click on the corresponding button in the 'Select' column.

Select	Stock code	Image	Common name	Location
<input type="radio"/>	ank.27.78abd		Black-bellied anglerfish	Celbic Seas, Bay of Biscay
<input type="radio"/>	aru.27.123a4		Greater silver smelt	Northeast Arctic, North Sea, Skagerrak and Kattegat
<input type="radio"/>	aru.27.6b7-1012		Greater silver smelt	other areas
<input type="radio"/>	bli.27.nea		Blue ling	other areas
<input type="radio"/>	bll.27.3a47de		Brill	North Sea, Skagerrak and Kattegat, English Channel
<input type="radio"/>	bss.27.4bc7ad-h		Seabass	central and southern North Sea, Irish Sea, English Channel, Bristol Channel

ICES Ecoregions: Greater North Sea  
Assessment Year: 2023  
Stock code:   
Common name:



# adviceXplorer



### ICES Ecoregions:

Greater North Sea

### Assessment Year:

2023






### Stock code:

Select

Search:

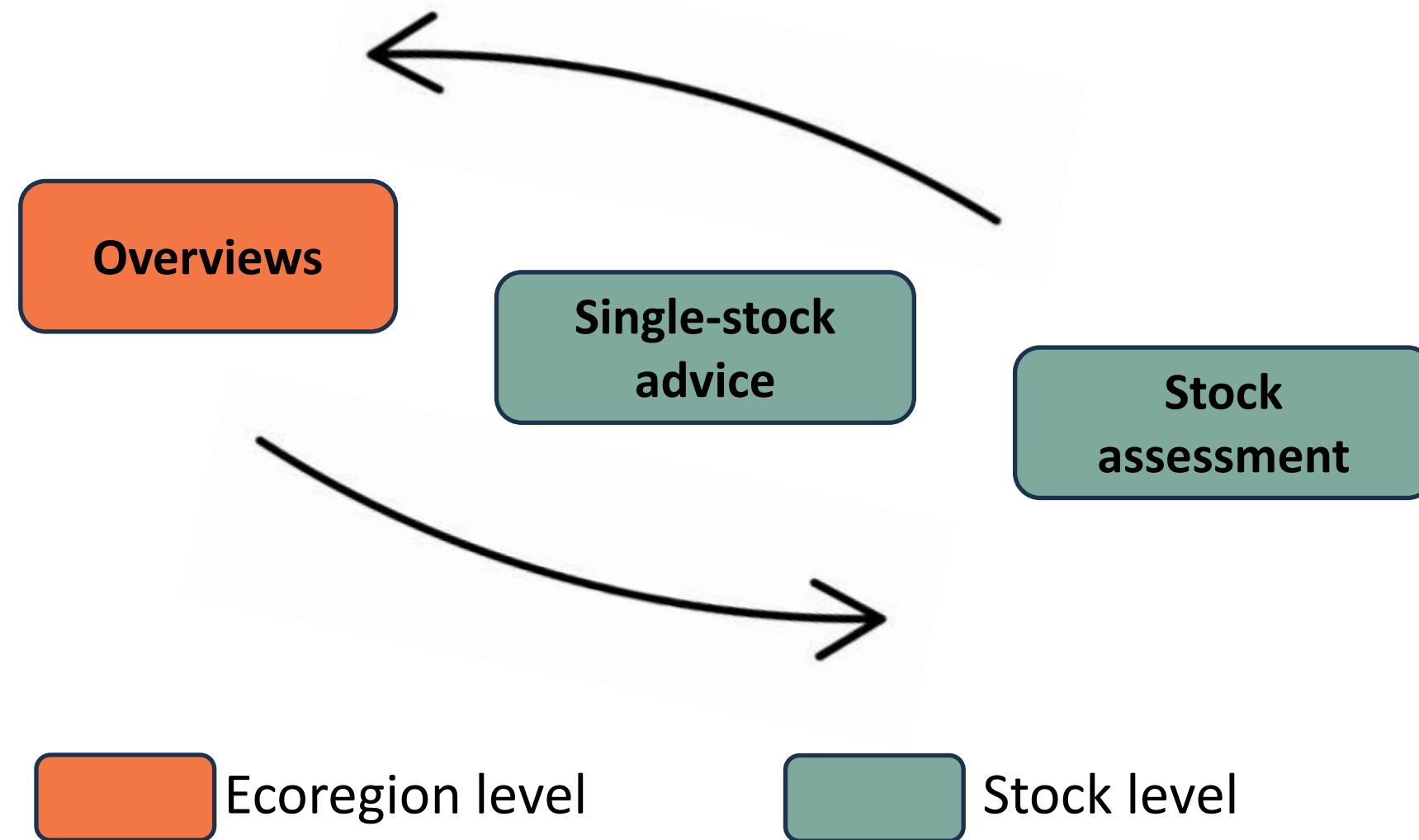
## Stock selection

To select a stock, click on the corresponding button in the 'Select' column.

Select	Stock code		Common name	Location
<input type="radio"/>	agn.27.nea		Angel shark	the Northeast Atlantic and adjacent waters
<input type="radio"/>	ank.27.78abd		Black-bellied anglerfish	Celtic Seas, Bay of Biscay
<input type="radio"/>	aru.27.123a4		Greater silver smelt	Northeast Arctic, North Sea, Skagerrak and Kattegat
<input type="radio"/>	aru.27.6b7-1012		Greater silver smelt	other areas
<input type="radio"/>	bli.27.nea		Blue ling	other areas
				North Sea.

# Future developments

- ICES vision to develop a suite of web-based interconnected applications to move easily from regional-level overviews to stock-level assessments



# Acknowledgments

**Vision and lead:** Mark Dickey-Collas, Colm Lordan, Lotte Worsøe Clausen, Neil Holdsworth

**Project management:** Sarah Louise Millar

**Development:** Luca Lamoni, Colin Millar, Neil Maginnis

**Data management:** Carlos Pinto, Laura Andrea Petre, David Miller

**Communication:** Terhi Minkkinen, Celine Byrne

**Graphic Design:** Maria Torres Karlsrose

**Thank you!**

