

# Prospects for cod (skrei) catches in the near future

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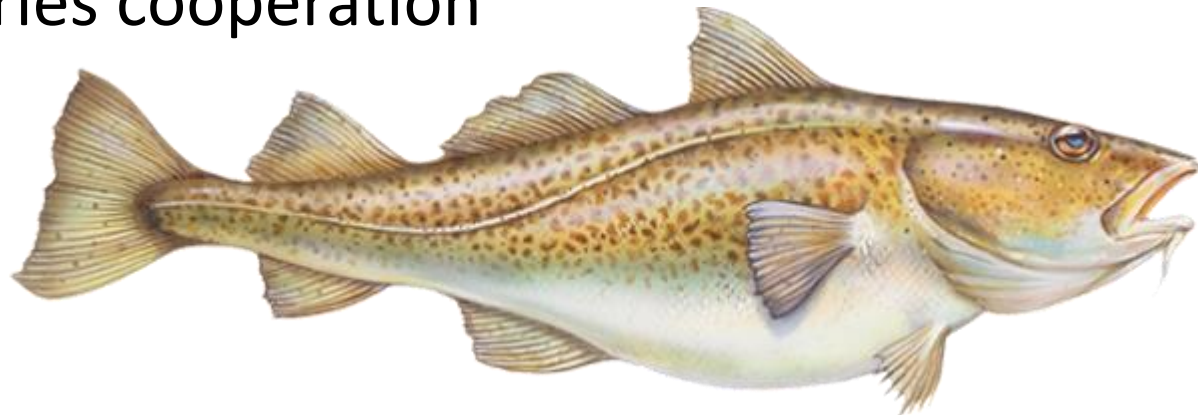
O futuro do Bacalhau, Lisboa  
16 February 2023

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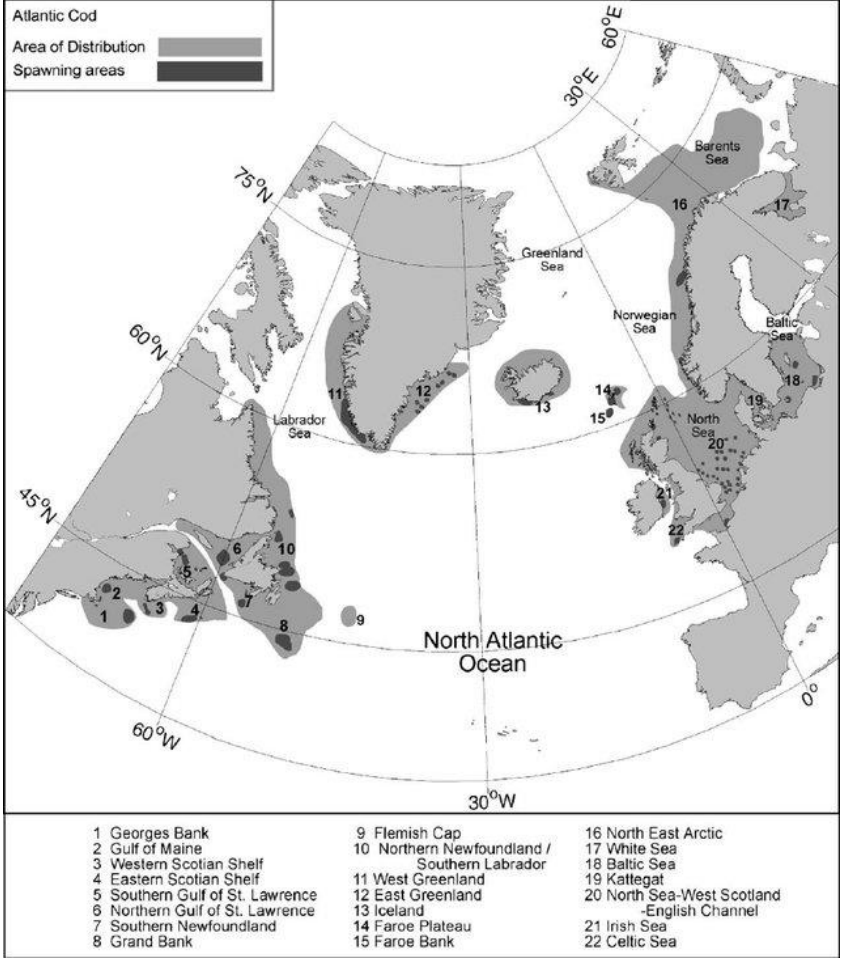
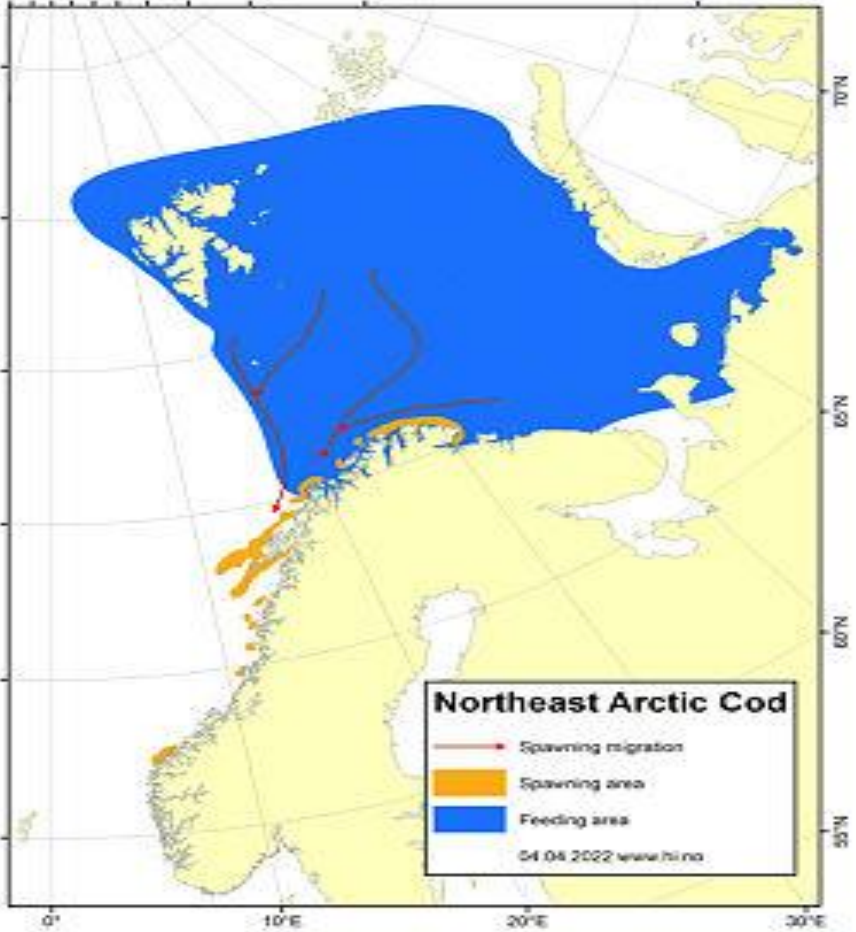


# Contents

- Some basics about Northeast Arctic cod (skrei) biology and management
- Stock and catch development in the near future
- Trends in size of cod in catches
- Other cod stocks – status and prospects
- Norway-Russia fisheries cooperation



Cod is widely distributed in the North Atlantic, and Northeast Arctic cod is the largest cod stock in the world



# Some features of Northeast Arctic cod (skrei) biology

- Mean age at first maturation: 7 years
- Growth rate: about 10cm/year before maturation, slower afterwards
- Highest reliable observations of length, weight and age: 169 cm, 55 kg, 24 years, fish older than 15 years is rare
- Minimum size in fisheries: 44 cm, 15% undersized fish is allowed
- Length vs. round weight (approximately): 50 cm/1kg, 70 cm/3kg, 90 cm/7kg
- A female cod spawns several million eggs
- Large variation in year-class strength – ratio between smallest and largest observed year-class at age 3 is about 1:20





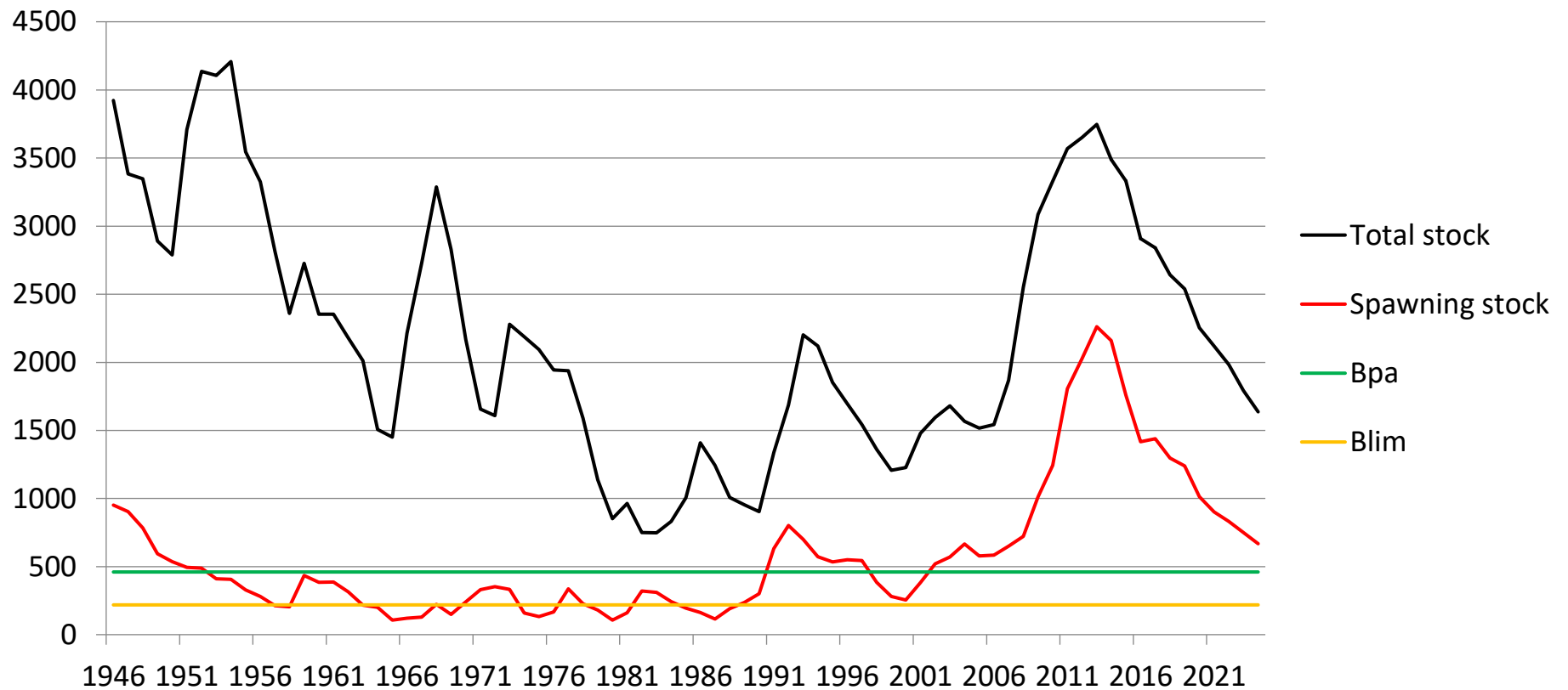
# Scientific surveys

- Scientific surveys are carried out annually to monitor stock abundance and size at age
- Both bottom trawl and acoustic measurements are used – as relative indices and not absolute estimates of stock size



# Historic stock development, total stock (TSB) and spawning stock (SSB) – including prediction to 2024

Stock development cod (1000 tonnes)

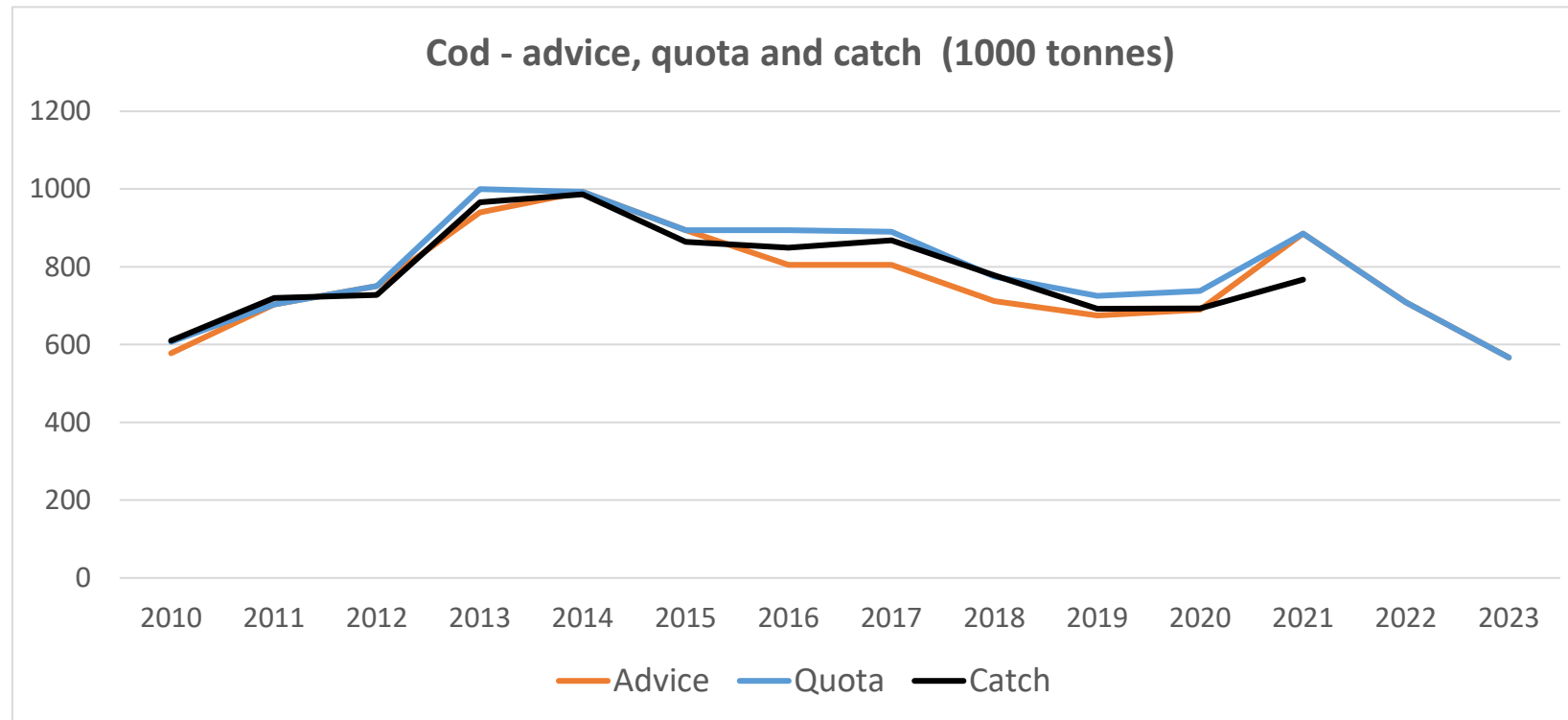


# Northeast Arctic (NEA) Cod management

- Quota advice given annually from scientists through ICES (International Council of Exploration of the Seas)
- Quota advice is based on assessment of current stock size, short-term prediction and a harvest control rule
- Stock size is calculated by a model combining survey and commercial catch data
- A harvest control rule describes which proportion of the stock can be fished each year, for given stock size
- In addition there is a constraint on maximum 20% annual change in quota between years if the spawning stock is above  $B_{lim}=460\ 000$  tonnes
- The quota (often denoted as TAC=Total Allowable Catch) is then decided by Norway and Russia - will get back to Norwegian-Russian cooperation at the end of my talk
- Quota divided between Norway, Russia and third countries approximately as 43-43-14%
- Norwegian quota divided between trawlers (32%) and other vessels (68%)
- 10% of quota can be transferred between years



Managers usually follow the advice – in some cases the quota (TAC – Total Allowable Catch) is set somewhat above the advice



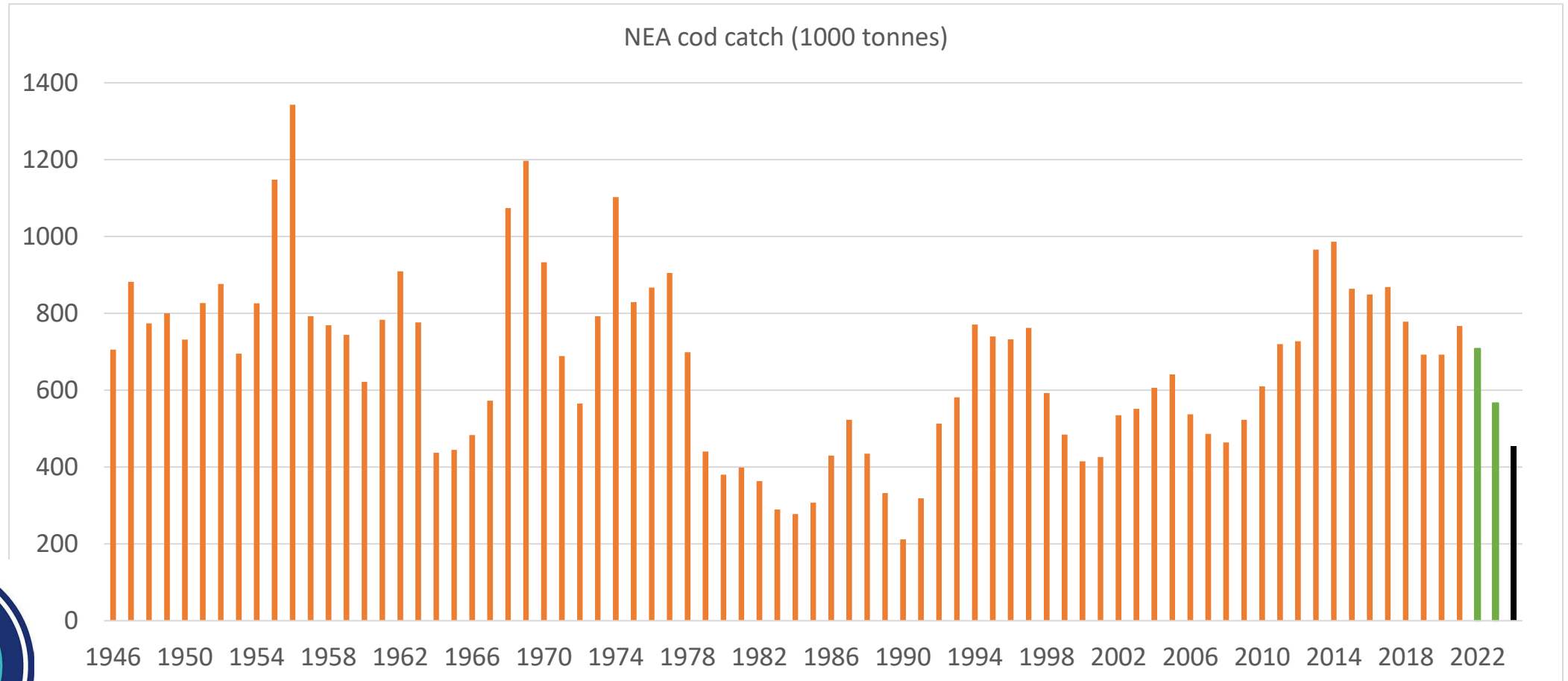


# Stock assessment and advice for 2023 and predictions for 2024

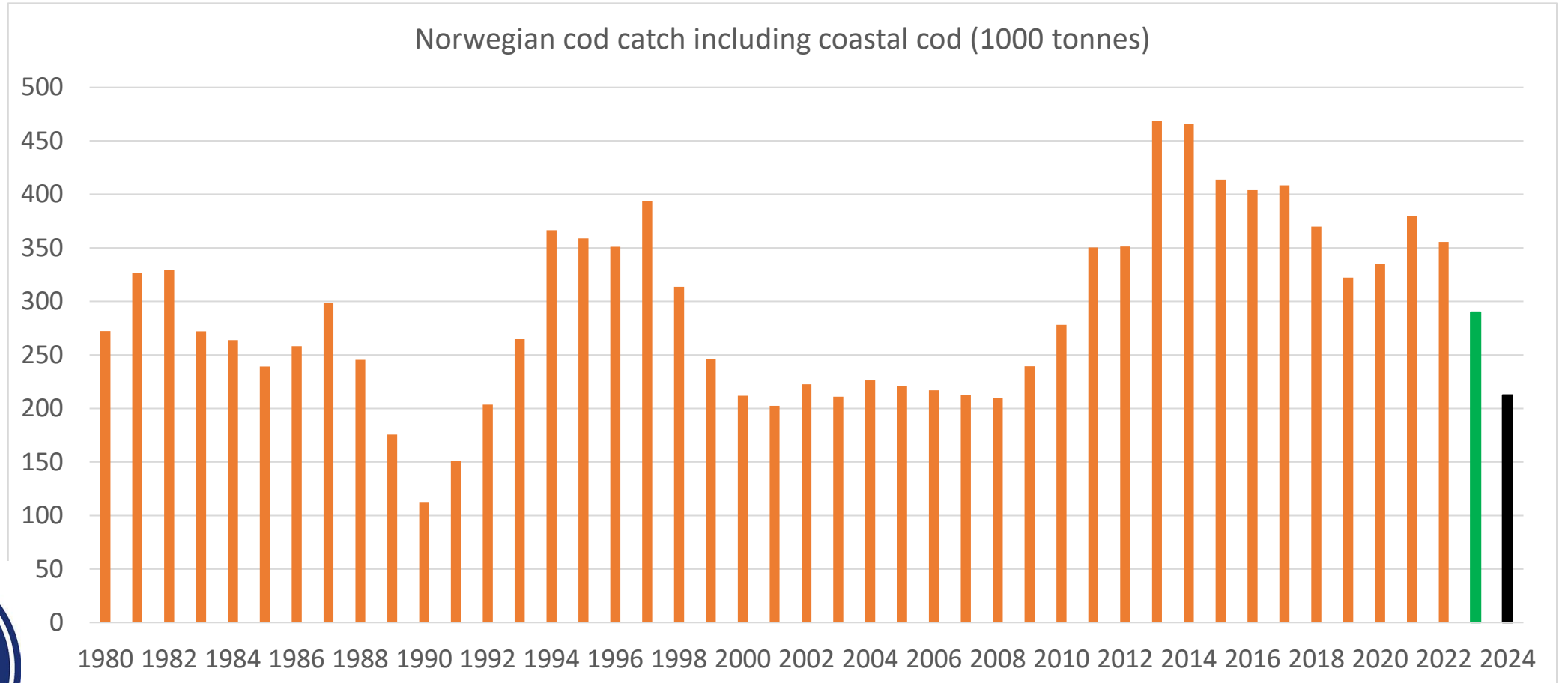
- Russian scientists are suspended by ICES, thus the cod assessment and advice for 2023 was made by a Joint Norwegian-Russian group of scientists following standard ICES procedures
- The advised and agreed TAC for 2023 is 566 784 tonnes (-20% from 2022, limited by the harvest control rule), which is the lowest since 2009. Norwegian TAC including coastal cod is 260 782 tonnes
- Additionally, quota transfer from 2022 to 2023 is about 30 000 tonnes or 10%, 15% transfer between 2021 and 2022 was an exception
- The Norwegian catch will thus decrease from about 355 000 tonnes in 2022 to about 290 000 tonnes in 2023 (assuming all quota including transfers taken in 2023)
- Further 20% reduction in advice from 2023 to 2024 expected, then levelling off close to average 2000-2009 level
- Russian quota transfer about 30 000 tonnes from 2022 to 2023



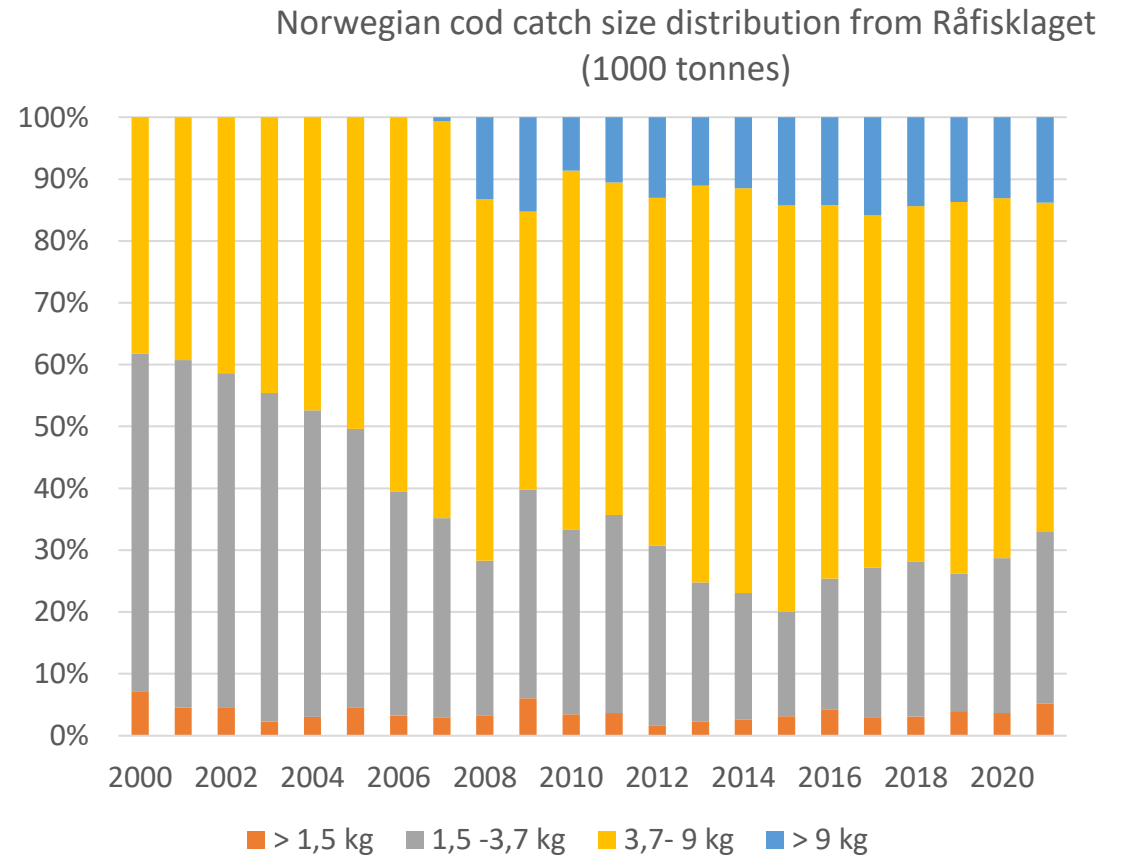
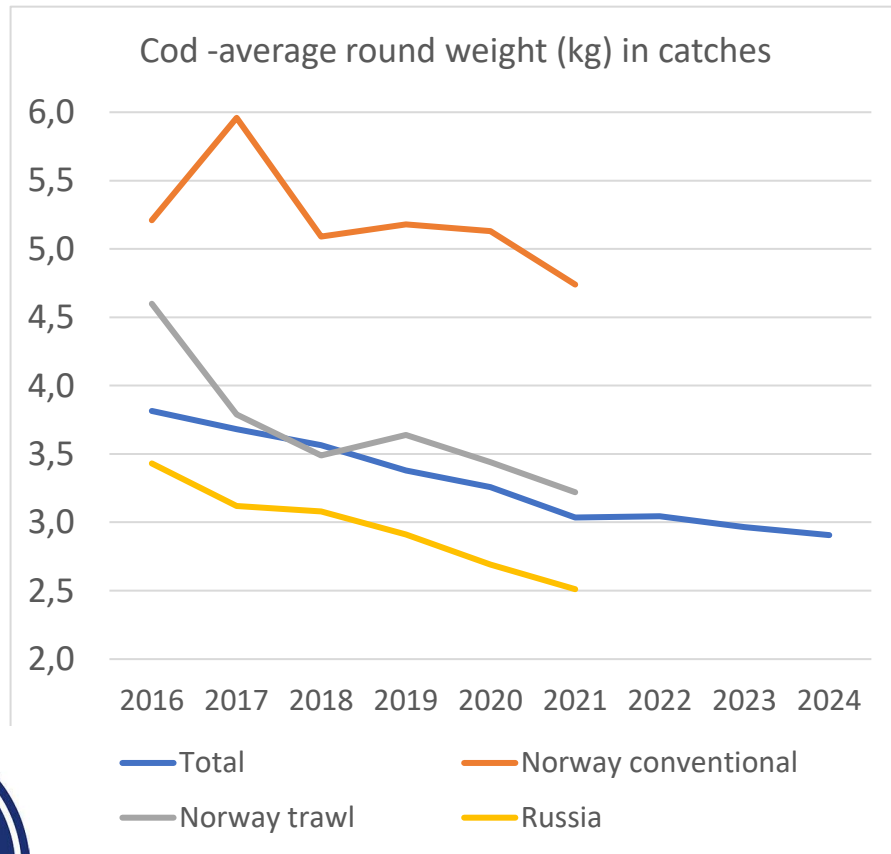
# Cod catches – total for all countries (with TAC 2022 and 2023 and current prognosis for 2024, but without taking transfer between years into account)



# Norwegian cod catches and predictions for 2023-2024

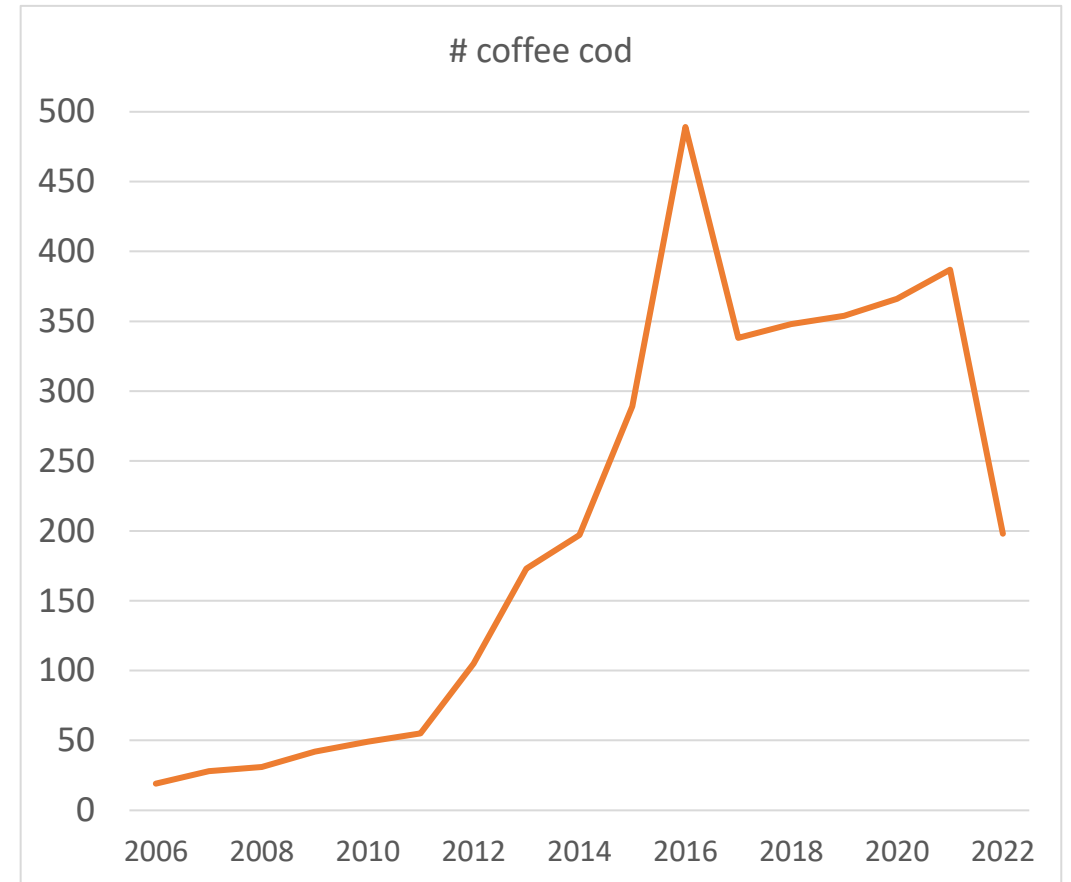


# Size of cod in catches



# Fun fact – «coffee cod»

- Many years ago, the local newspaper Lofotposten decided as a gimmick to hand out 1 kg of coffee to each fisher who reported a catch of a cod weighing more than 30 kg – such cod is called «coffee cod»
- This number has increased considerably in the latest decade but is now past its peak

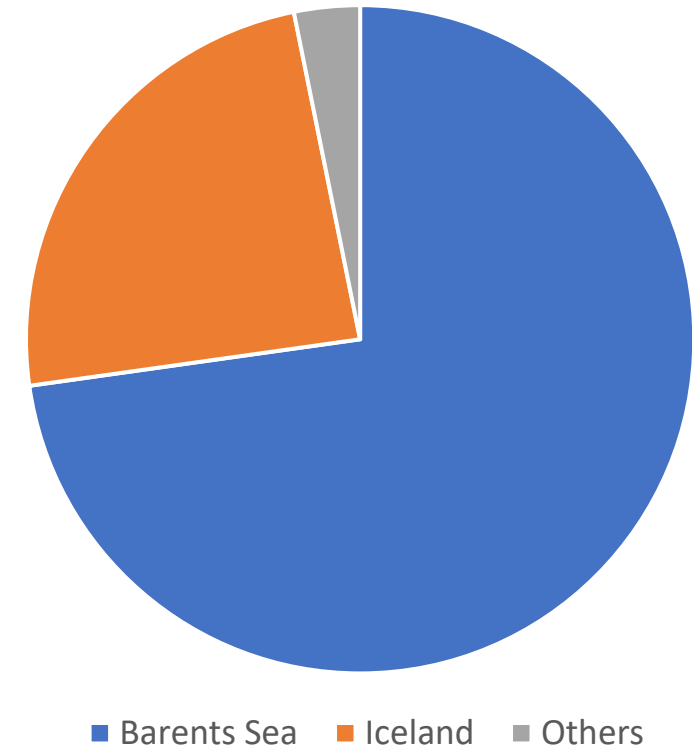




# Other cod stocks

- Northeast Arctic (Barents Sea, skrei) cod is the largest cod stock in the world
- Icelandic cod is a clear runner-up, catches are decreasing from about 265 000 tonnes in 2018-2021 to a TAC of 208 846 tonnes for the quota year 2022/2023
- All other cod stocks are small in comparison, and many of them have been overexploited and/or negatively affected by environmental conditions and are now in a bad state
- Do not expect large changes in total catch of other cod stocks in the near future

Cod catches 2021



# Norway-Russia fisheries cooperation

- Started in 1958
- Norwegian-Soviet Fisheries Commission (now Norwegian-Russian Fisheries Commission- JNRFC) – met for the first time in January 1976
- 52th session of JNRFC in 2022 (online, as in 2020 and 2021)
- JNRFC sets annual quotas for joint stocks (cod, haddock, redfish, Greenland halibut, capelin) and agrees on access to fishing in the other party's EEZ, minimum size and gear regulations etc.
- Quota setting is based on advice from International Council of Exploration of the Seas (ICES) – but bilateral Norway-Russia advice given for 2023 as Russian scientists suspended from ICES
- This has worked out well, and has led to sustainable management of cod and other stocks in the Barents Sea
- Stable personell on both sides and good relations on the personal level between Norwegian and Russian scientists – broad cooperation on all components of the Barents Sea ecosystem
- The fisheries cooperation is one of the few fields where Norway still has official cooperation with Russia after the invasion of Ukraine in February 2022
- This is a decision made by the Norwegian Government
- We still communicate frequently with our Russian colleagues by e-mail and Teams



# Take-home messages

- Northeast Arctic cod (skrei) are currently declining but are expected to level out at around 450 000 tonnes from 2024 onwards
- Norwegian catches will then be around 200 000 tonnes
- This is at the same level as in the decade 2000-2009
- No danger to the stock
- Mean size in catches has declined, but is expected to stabilize at current level

