



About this Meeting

Canadian Science Advisory Secretariat (CSAS) introduction.



CSAS Peer Review Process

- Goal is to provide sound, objective, and impartial science advice.
- The issue of resource allocation is strictly a Resource Management consideration, and as such will not be part of the discussions at today's technical briefing.
- Resource allocation considerations will be discussed at the upcoming advisory meeting led by DFO's Resource Managers.



Outline for Today's Technical Briefing

- The Department's Stock Lead for Northern cod, Paul Regular, will present the conclusions from the peer reviewed stock assessment process.
- Followed by a question-and-answer period.
- The same presentation will then be given to media outlets.



- To be added to the speakers list, please raise your hand in Microsoft Teams. If you are joining by telephone only, then please e-mail Hilary.Rockwood@dfo-mpo.gc.ca to be added to the speakers list.
- If you run into any technical difficulties, you can also e-mail Hilary Rockwood or message in the Teams chat forum for assistance.



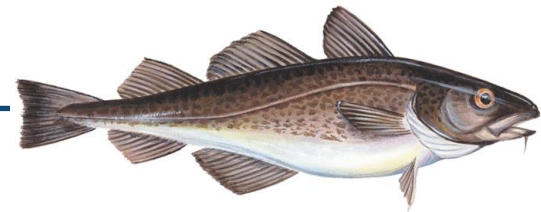
Guidelines for Respectful Meetings

1. Listen to the entire message, without interrupting.
2. Explain why you agree or disagree.
3. Maintain a respectful tone and volume when sharing opinions.
4. Be respectful of time when making comments.
5. Value the many different sources of knowledge in the room.
6. Turn off your webcam and mute your microphone until ready to ask a question during the Q&A period.

Northern Cod NAFO Divisions 2J3KL

2024 Stock Assessment

March 18-21, 2024



Purpose of this briefing

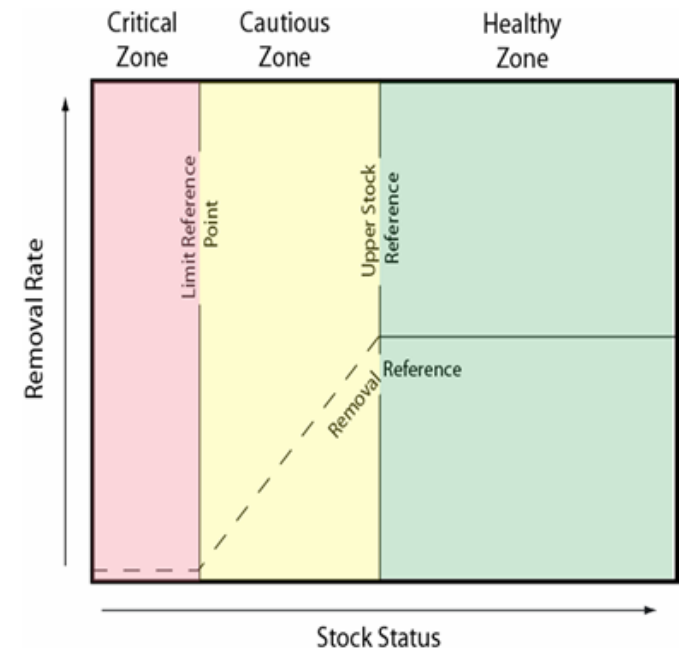
- A CSAS peer-review of the Northern cod stock assessment took place from March 18-21, 2024.
- This presentation will describe the results of the stock assessment and the advice provided to fisheries managers.

What is CSAS?

A national body that oversees the review and provision of science advice to inform DFO management decisions. Specifically, this group helps organize meetings where DFO scientists, biologists and others, which may include provincial government, fish harvesters, Indigenous groups, university researchers, and other technical experts get together to review scientific information and help inform how commercial fish stocks are managed.

Precautionary Approach Framework

- The Precautionary Approach decision framework is one part of DFO's Sustainable Fisheries Framework.
- **Limit Reference Point:** represents the stock status below which *serious harm* is occurring to the stock. Fishing is to be kept to the lowest possible level below the LRP.
- **Upper Stock Reference:** represents a threshold below which catch must be progressively reduced in order to avoid reaching the Limit Reference Point.



Current status

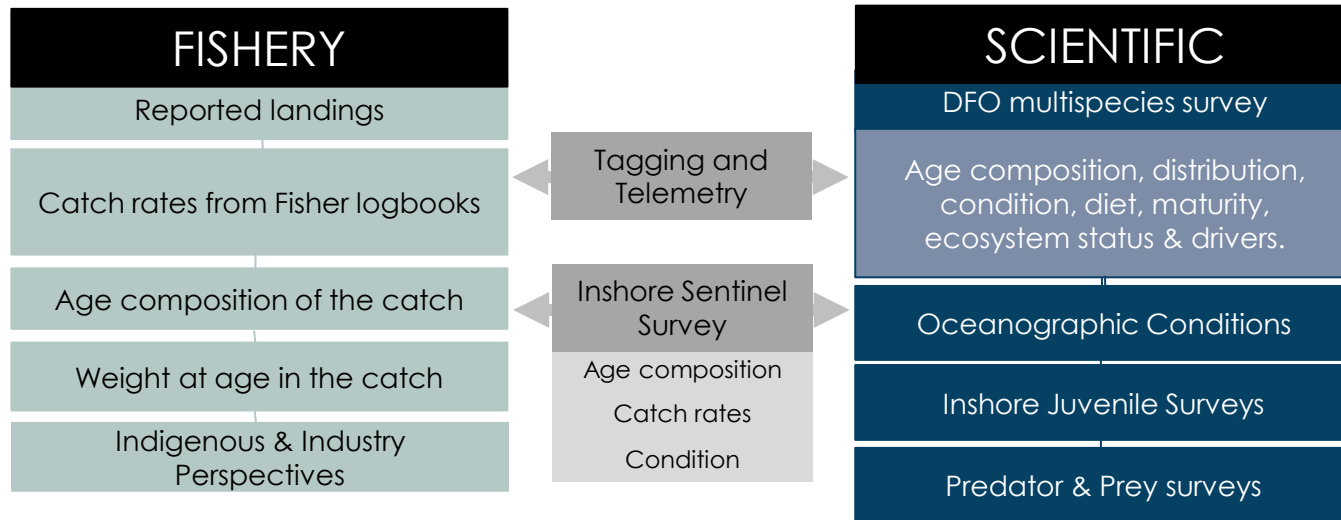
- This is the first assessment of this stock to use the updated assessment model and Limit Reference Point (LRP) defined at the 2023 Framework process.
- The Northern cod stock is currently in the Cautious Zone, roughly 20% above the Limit Reference Point.
- There is an estimated 22% probability that the stock is in the Critical Zone.

How did we come to these findings?

How we assess the stock

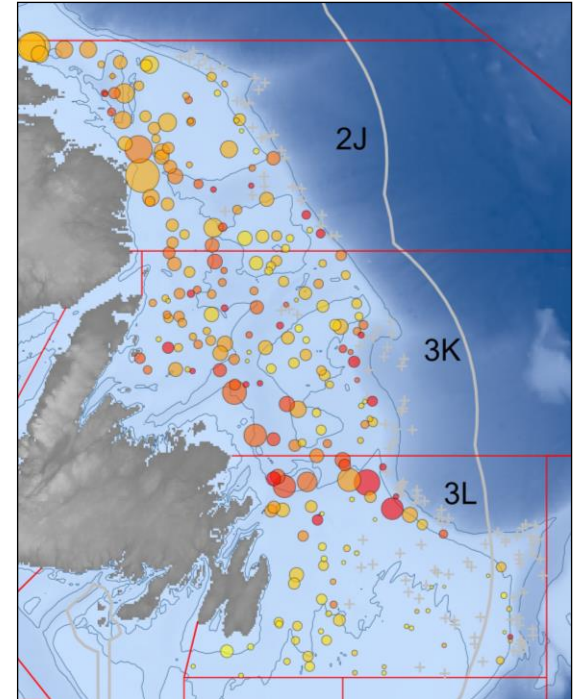


The assessment considers data from the fishery and scientific research. The status of this stock is determined with a custom model which examines stock productivity since 1954.



Multispecies survey

- The 2J3KL survey was successfully completed in 2023.
- Indices of stock size were near levels observed since 2016, with catches widely distributed across the stock area.
- Cod show seasonal movements between the inshore and offshore. The 2023 survey was earlier than usual and it is possible that a portion of the stock hadn't yet migrated offshore.

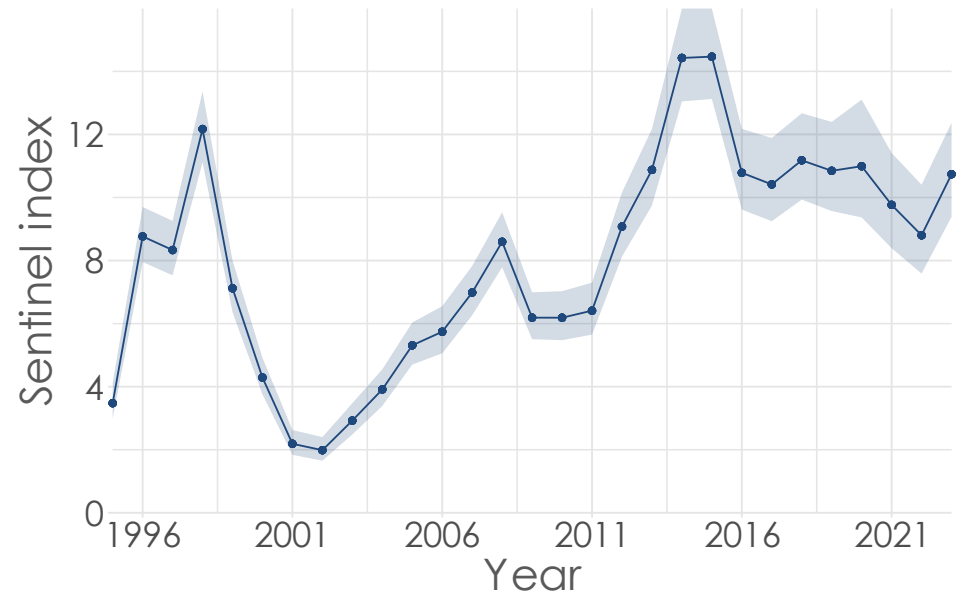


Circle size = numbers

Warmer colour = mean weight

Sentinel survey

- Collaborative survey with industry (FFAW).
- Provides nearshore information.
- Indicates recent stability like the multispecies survey.



Tagging Program

- Ongoing research that helps inform on movement, growth, and mortality for Atlantic cod.
- Tag returns from harvesters and recreational fishers are key to this program!

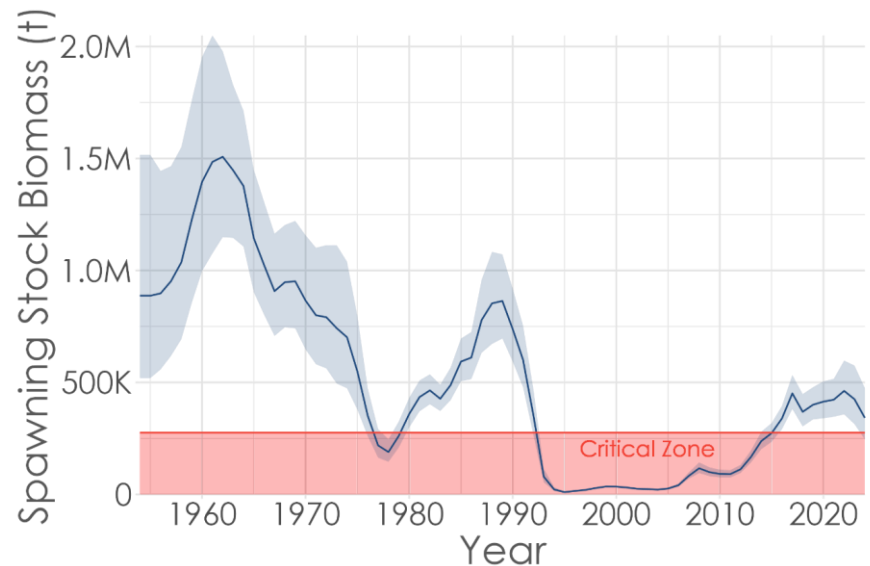
**Find a tag?
Send it to:**

**Science Branch,
Cod Tag Rewards
Dept. of Fisheries & Oceans
P.O. Box 5667
St. John's NL
A1C 5X1**



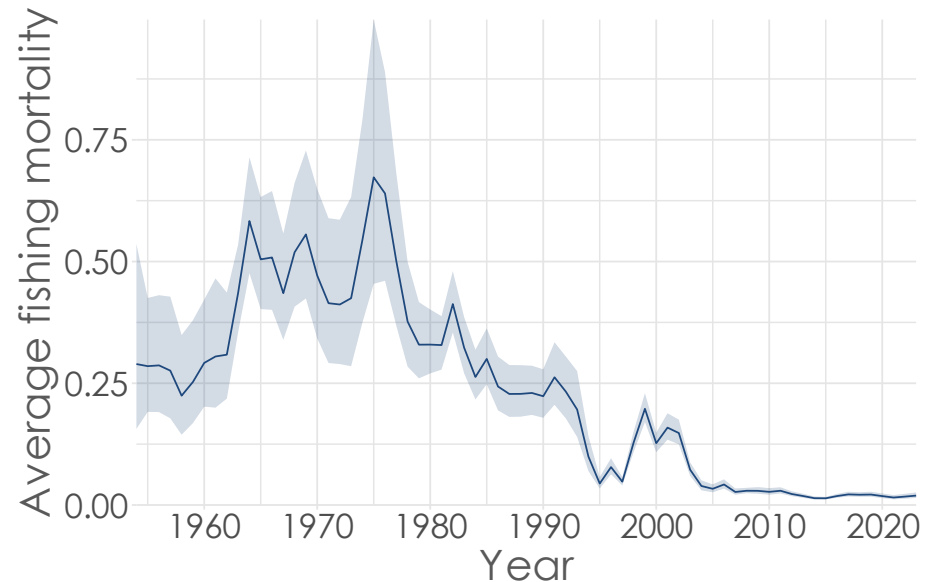
Our estimates of stock size

- Following a period of growth from 2010 to 2016, stock size has generally remained unchanged.
- Spawning stock biomass (SSB) has been around 300-400 Kt since 2016.



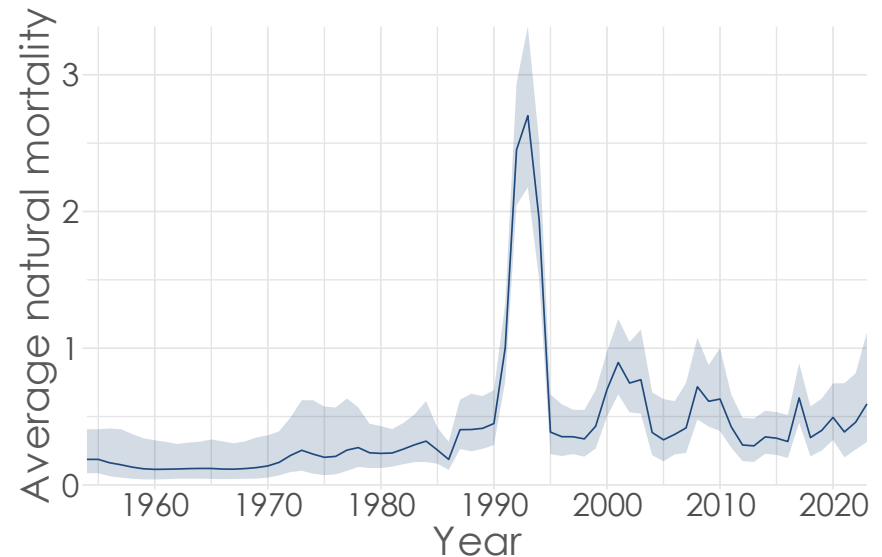
Fishing mortality

- Total annual removals by fishing has been around 13-16 Kt since 2016.
- Fishing mortality has been relatively low since the mid-2000s.



Natural mortality

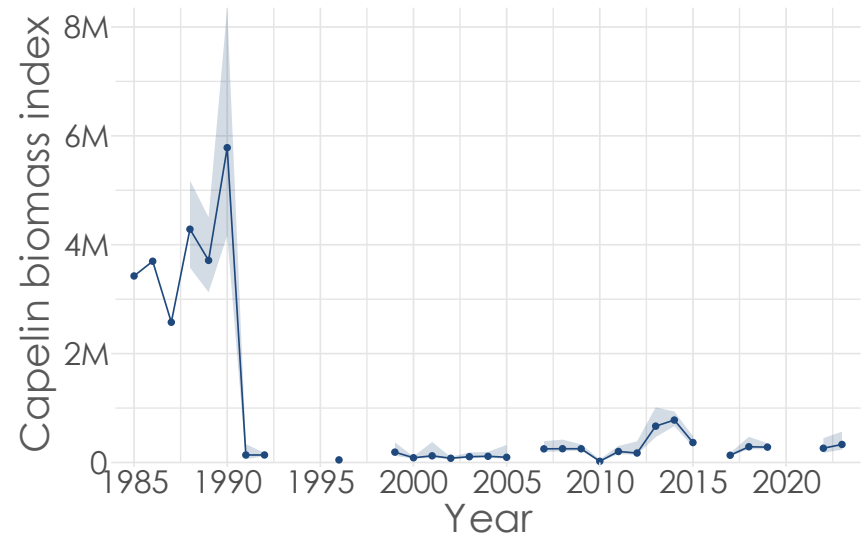
- Natural mortality and ecosystem conditions, including lower capelin availability, are negatively impacting Northern cod growth.
- Estimates of natural mortality in 2023 were above the average observed since the mid-1990s.



Capelin



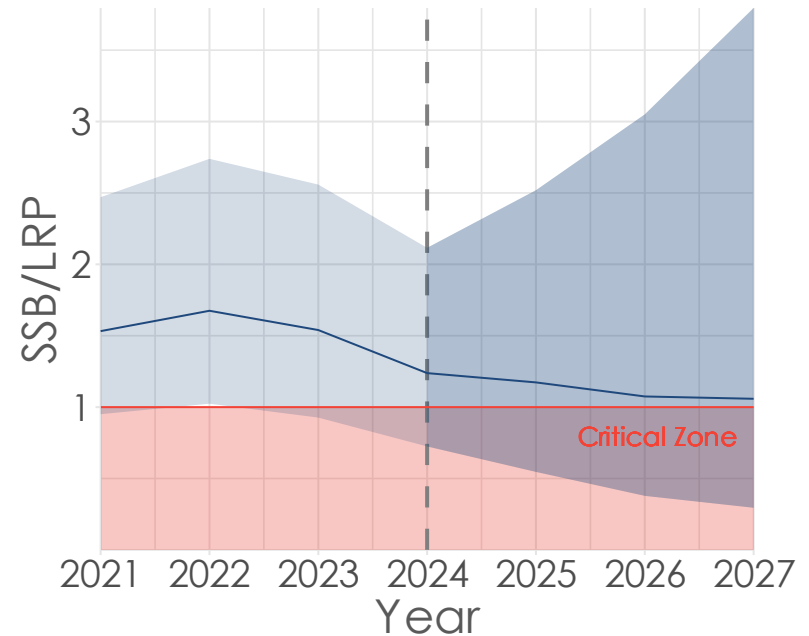
- Northern cod productivity is directly linked to capelin availability.
- Capelin collapsed in 1991 and has yet to recover. The current stock size is around 10% of pre-collapse levels.
- Capelin is expected to remain at current levels in the short term. This will impede cod stock growth.



Looking ahead

- Projections of stock size to 2027 were completed for annual fishing removals ranging from zero (no fishing) to two-times current levels.
- The risk of stock decline from 2024-2027 is moderately high (62%) to high (76%).
- The probability of the stock declining into the Critical Zone increases from 42% with zero removals to 52% if removals are doubled from current levels.

Projections under status quo removals



Takeaways

- The Northern cod stock has not shown growth since 2016 and, even with no fishing, the risk of decline over the next three years is moderately high.
 - The stock is currently in the Cautious Zone, slightly above the Limit Reference Point established in October 2023.
 - Factors such as natural mortality and ecosystem conditions, including lower capelin availability, are negatively impacting Northern cod growth.
 - Increased fishing removals increases the risk of the stock declining back into the Critical Zone.
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Next steps

- The Department will hold an advisory meeting on March 27. DFO science advice will be presented and discussed with industry stakeholders at this meeting.
- The stock assessment advice, input from industry and Indigenous partners, socioeconomics, and fisheries policy will be considered in developing this year's management approach. Once a decision has been made, it will be communicated broadly.

QUESTIONS?