

Greenland halibut in Division 1A inshore – Disko Bay

Advice June 2022 for 2023-2024

Recommendation for 2023 – 2024

Scientific Council advises that the TAC in 2023 and 2024 should not exceed 5 215 tons.

Management objectives

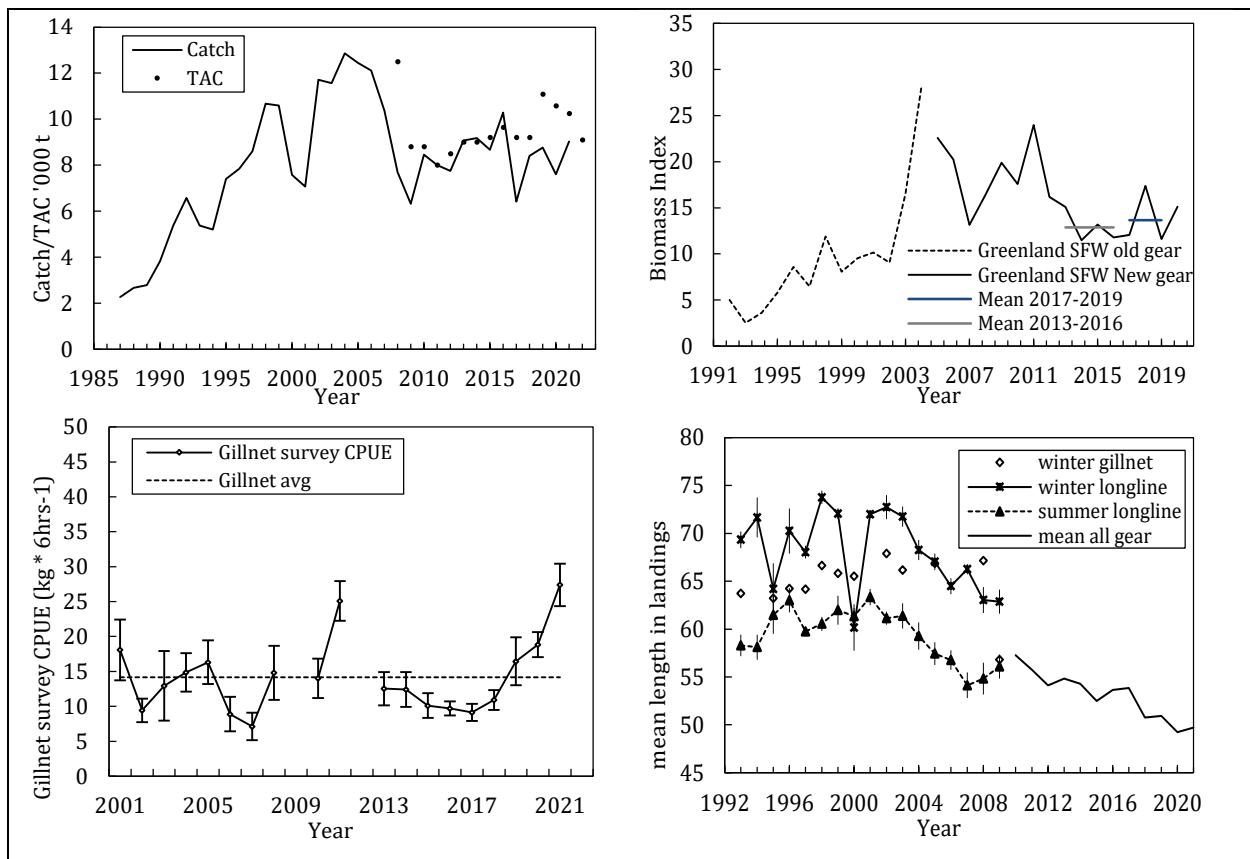
No explicit management plan or management objectives has been defined by the Government of Greenland but a management plan is currently under development.

Management unit

Three inshore stocks in Subarea 1A (Disko Bay, Uummanaq, and Upernavik) are believed to recruit from the SA 0+ 1 offshore spawning stock (in the Davis Strait), and there is little migration between the separated areas and the stock in SA 0 + 1 offshore. Separate advice is given for each area, within the specific management unit, in Subarea 1A inshore.

Stock status

Survey biomass index has been stable since 2013 but the recent increase in the gillnet survey indicates potential for growth of the stock based on an observed increase in small fish.



Reference points

Could not be established.

Assessment

No analytical assessment. A surplus production model in a Bayesian Framework was presented and while it was not accepted this year, work will continue.

The next assessment is planned for 2024.



Human impact

Mainly fishery related mortality. Removal of lost fishing gear (lost gillnets, longlines and more) by the GINR research vessel RV Sanna has been conducted in 2020 and 2021. Other mortality sources (e.g. pollution, shipping, oil-industry) are undocumented.

Biology and environmental interactions

No studies were reviewed in this assessment.

Fishery

Catches increased in the 1980s, peaked from 2004 to 2006 at more than 12 000 t, but then decreased substantially to just above 6000 t in 2009. From this level, catches gradually increased reaching 10 760 t in 2016. In 2017, catch rates were unusually low and only 6 409 t were caught in Disko Bay. Since then catches have increased to 9 028t in 2021.

Recent catch estimates ('000 tons) are as follows:

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1A Disko Bay – TAC	9.0	9.0	9.2	9.6	9.2	9.2	11.1	10.6	10.2	9.1
1A Disko Bay – STACFIS	9.0	9.2	8.7	10.8	6.4	8.4	8.8	7.6	9.0	

Effects of the fishery on the ecosystem

Greenland halibut in the area is targeted with longlines and gillnets. Both gears select adult fish with large body size and do not retain recruits or small sized fish. Impacts on VMEs have not been addressed.

Basis for advice

The application of the ICES guidance on data limited stocks (DLS) method 3.2 (ICES 2012a and 2012b, ICES 2014) using the Greenland Shrimp and Fish survey (Div. 1A-F) was accepted by SC in 2016, as the basis for giving TAC advice on Greenland Halibut, in the Disko Bay. This method was applied again to provide the following advice for the next two years. This rule was developed and tested as an empirical approach that uses the trend in the stock response to fishing pressure (ICES 2012a, Jardim et al. 2015). The empirical basis was given a generic expression

$$C_{y+1} = \text{advice}_{\text{recent}} * r$$

where $r = \text{index mean for 2018-2020} / \text{index mean for 2014-2017} = 1.2$ (no trawl survey in 2021)

Should changes in excess of +- 20% be generated using this rule, a 20% cap is applied. In 2016 or 2018, no precautionary buffer was applied. Since both the mean length in the fish landings and the commercial CPUE's have decreased in both 2018 and 2019 and stock status relative to reference points is unknown, a PA buffer was applied in 2020.

This results in the following advised catch:

2023 and 2024 Catch_{advised} = 5215 t (catch advised for 2021 and 2022=4346*1.2)

This rule should be reviewed in the next assessment.

Multi-year advice is recommended when applying this index-ratio based rule. Also, Greenland has requested advice for as many years as is considered appropriate. A two-year advice cycle is suggested at this time.

Special comments

Although the index provided by the Greenland shrimp and fish trawl survey experienced vessel changes in 2018 -2020, the results are considered to be comparable with those from earlier years.

Recruits are mainly received from the offshore stock in SA 0 + 1 offshore.

Sources of Information

SCR Doc. 22/008, 028, 036; SCS Doc. 22/011.