

Greenland halibut in SA 0 + Div. 1A Offshore and Divs. 1B-1F

Advice June 2017 and 2018

Recommendation for 2017 and 2018

Div. 0A+1AB: Scientific Council advises that there is a low risk of Greenland halibut in Div. 0A and Div. 1AB being below B_{lim} if the TAC for 2017 and 2018 does not exceed 17150 t.

Div. 0B+1C-F: Scientific Council advises that there is a low risk of Greenland halibut in Div. 0B and Div. 1C-F being below B_{lim} if the TAC for 2017 and 2018 does not exceed 15150 t.

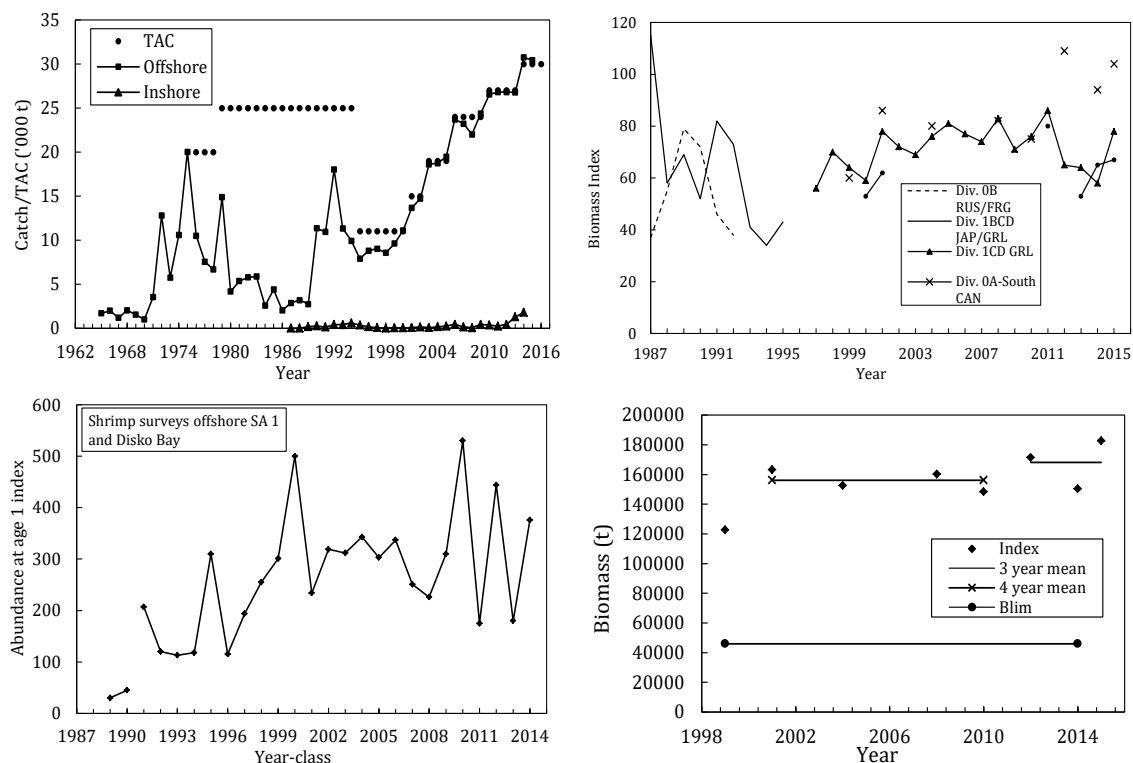
Management objectives

Canada requested Scientific Council to provide advice on this stock within the context of the NAFO Precautionary Approach Framework (SCS Doc 15/02).

Convention objectives	Status	Comment/consideration
Apply Precautionary Approach	●	Stock well above B_{lim} ● OK

Management unit

The Greenland halibut stock in Subarea 0 + Div. 1A offshore and Div. 1B-1F is part of a population distributed in Davis Strait and southward to Subarea 3, however, two separate assessments are made on this population. Since 2002 advice for the Subarea 0 + Div. 1A offshore and Div. 1B-1F stock has been given separately for the northern area (Div. 0A and Div. 1AB) and the southern area (Div. 0B and 1C-F).



Stock status

Overall the biomass (combined Div. 0A + Divs. 1CD index) has been relatively stable with a slight increasing trend in recent years and was well above B_{lim} in 2015.

Div. 0B+1C-F: The biomass index in Div. 0B has increased from 2013 to 2015 but levels are still below the high observed in 2011. The biomass index for Div. 1CD has been decreasing since 2011 and was in 2014 at

the lowest level seen since 1997, but increased to a level above average for the time series in 2015. Length compositions in the catches and deep sea surveys have been stable in recent years.

Div. 0A+1AB: The biomass index has been variable with an increasing trend since 2010. Length compositions in the 1AB commercial catches have been relatively stable in recent years. The trend to increased numbers of larger fish observed in the 0A-South survey from 2008 to 2014 has stopped with a shift to smaller sizes (18-36 cm) in the length distribution for 2015. In the 0A fishery abundance at length declined in the 2015 trawl fishery, compared to 2013 and 2014, and in the gillnet fishery the proportion <62 cm has been increasing since 2013.

Reference points

Age-based or production models were not available for estimation of precautionary reference points. In 2014 a preliminary proxy for B_{lim} was set as 30% of the mean biomass index estimated for surveys conducted between 1997 and 2012 in Div. 1CD combined with surveys from 1999-2012 in Div. 0A-South to establish a proxy for B_{lim} for the entire stock.

Assessment

Based upon a qualitative evaluation of stock biomass trends compared to the limit reference point and recruitment indices. The assessment is considered data limited and as such associated with a relatively high uncertainty. Input data are research survey indices and fishery data (STACFIS 2016). If TACs are established for the next two years, the next full assessment of this stock is recommended for 2018.

Human impact

Mainly fishery related mortality has been documented. Other sources (e.g. pollution, shipping, oil-industry) are undocumented.

Biology and Environmental interactions

A study in 2015 showed that year class strength and abundance of Greenland halibut at West Greenland may be driven by environmental pulses.

Fishery

Catches have increased in response to increases in the TAC from approximately 10 000 t in the late 1990s to approximately 27000 t during 2010 to 2012 then increased to 32 000 t in 2014 and 2015. The TAC for 2016 is 30000 t.

Recent catch estimates and TACs are as follows:

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
TAC	24	24	24	27	27	27	27	30	30	30
SA 0	11	11	12	13	13	13	13	15	15	
SA 1 excl. Div. 1A inshore	12	12	12	14	14	14	15	17	17	
Total STATLANT 21 ¹	22 ²	22	25	27	27	27	28	32	32	
Total STACFIS	23	23	25	27	27	27	28	32	32	

¹ Excluding inshore catches in Div. 1A

² Excluding 3565 reported by error from Div. 1D

Effects of the fishery on the ecosystem

The by catch in the commercial fishery for Greenland halibut in NAFO Div. 1CD was estimated based on information from ground fish surveys conducted by Greenland Institute of Natural Resources in the same area as the commercial fishery. The total by-catch in weight is estimated to be 13% of the total catch of Greenland halibut, comprised primarily of roughhead grenadier (*Macrourus berglax*), blue antimora (*Antimora rostrata*) and Agassiz's smoothhead (*Alepocephalus agassizii*). The conversion is based on a number of assumptions and the results should be considered as indicative.

A study has shown that the fishery in Div. 1CD has not affected the abundance of the nine most common by-catch species but a decrease in mean weight is observed for a number of the species. General impacts of fishing gears on the ecosystem should also be considered.

Special comments

A quantitative assessment of risk at various catch options is not possible for this stock. Therefore it is not possible to quantitatively evaluate the sustainability of the TAC. The ICES Harvest Control Rule 3.2 for data limited stocks was accepted as a basis for giving TAC advice. 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.

Sources of information

SCR Doc. 16/04, 5, 14, 25, 29, SCS Doc. 16/07, 10;