

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

Advice June 2018 for 2019 and 2020





**Recommendation for 2019 and 2020**

Scientific Council advises that there is a low risk of Greenland halibut in Subarea 0 + 1A (offshore) and 1B-F being below  $B_{lim}$  if the TAC for 2019 and 2020 does not exceed 36 370 t.

There is no scientific basis with which to provide separate advice for Div. 0A+1AB and Div. 0B+1C-F. Scientific Council advises that consideration be given to the distribution of effort in each area to avoid localized depletion.

**Management objectives**

Canada and Greenland adopted a total allowable catch (TAC) of 32,300 t in 2018. Canada requests that the stock status should be evaluated in the context of management requirements for long-term sustainability and the advice provided should be consistent with the precautionary approach.

<i>Convention objectives</i>	<i>Status</i>	<i>Comment/consideration</i>	
Apply Precautionary Approach		Stock well above $B_{lim}$	 OK
Minimise harmful impacts on living marine resources and ecosystems		Fishing closures are in effect in SA0 and Div. 1A. No specific measures.	 Intermediate

**Management unit**

The Greenland halibut stock in Subarea 0 + Div. 1A (offshore) and Div. 1B-1F is part of a larger population complex distributed throughout the Northwest Atlantic. In Subareas 0 and 1, two separate assessments are conducted on this species. In addition, 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**

The combined Div. 0A-South + Divs. 1CD biomass index remains above  $B_{lim}$ . The index was relatively stable until 2014 then increased between 2014 and 2016. The decline observed in 2017 is a result of a decline in the 0A-South survey biomass. Recruitment has been increasing in recent years, and in 2017 was one of the highest in the time series.

**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 for the combined 0A-South + Div. 1CD survey biomass index for years 1999 to 2012.

**Assessment**

The assessment is qualitative with input from research surveys (biomass and abundance indices, a recruitment index, and length disaggregated survey indices) and fishery data (catch per unit effort and length frequencies).

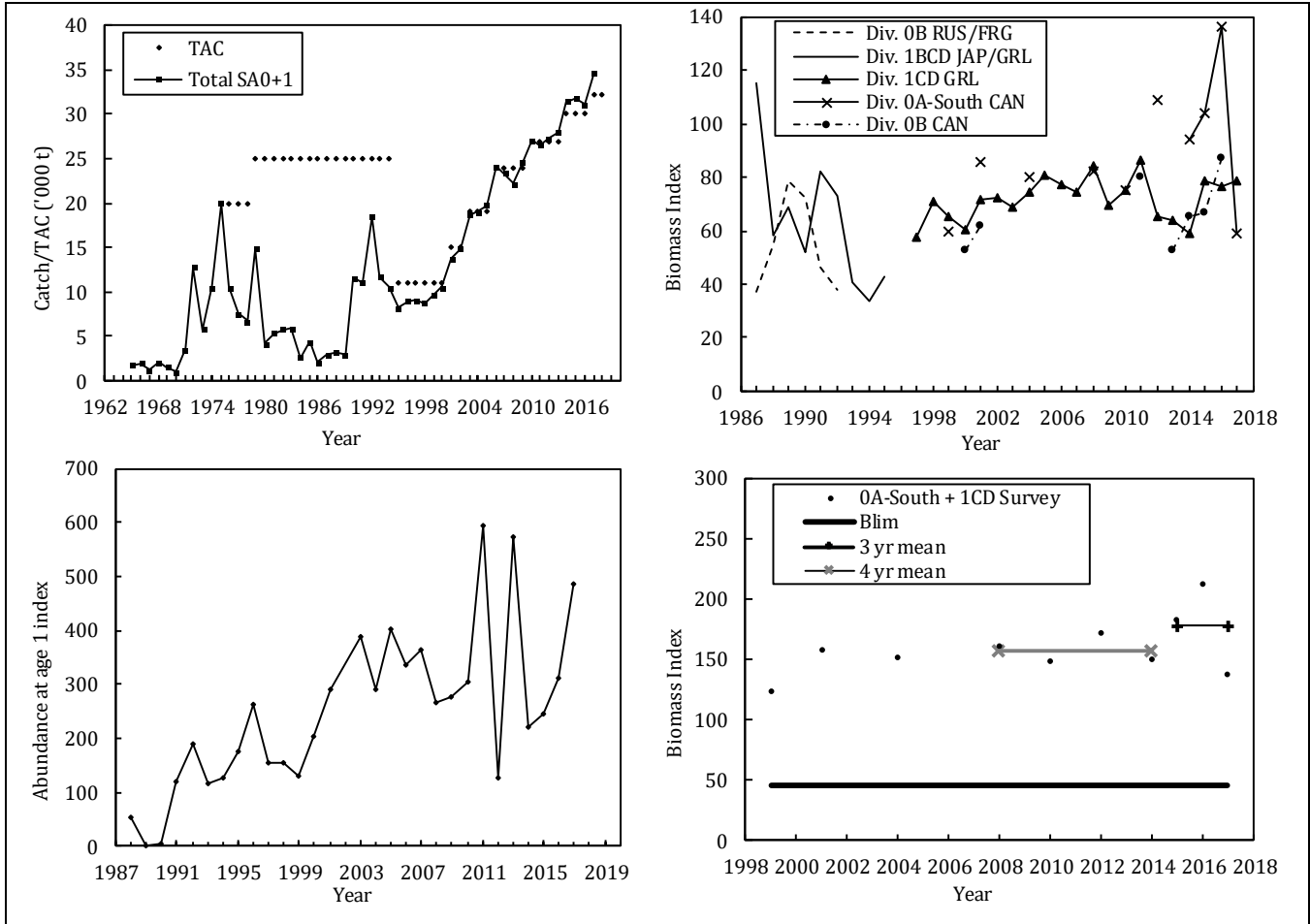
The next assessment is expected to be in 2020.

*Human impact*

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

*Biology and Environmental interactions*

No specific studies were reviewed during this assessment



**Fishery**

Catches were first reported in 1964. Catches increased from 1989 to 1992 due to a new trawl fishery in Div. 0B with participation by Canada, Norway, Russia and Faeroe Islands and an expansion of the 1CD fishery with participation by Japan, Norway and Faeroe Islands. Catch declined from 1992 to 1995 primarily due to a reduction of effort by non-Canadian fleets in Div. 0B. Since 1995 catches have been near the TAC and increasing in step with increases in the TAC, with catches reaching a high of 34,661 t in 2017.

Recent catch and TACs ('000 t)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>TAC</b>	24	27	27	27	27	30	30	30	32.3	32.3
<b>SA 0</b>	12	13	13	13	13	15	14	14	16	
<b>SA 1</b>	13	13	14	14	15	16	17	17	18	
<b>Total STACFIS<sup>1,2</sup></b>	25	26	27	27	28	31	31	31	35	

<sup>1</sup>Based on STATLANT, with information from Canada and Greenland authorities used to exclude 1A and 0B inshore catch.

<sup>2</sup>Includes inshore 1B-F catches that were <500t prior to 2013 and have varied between 1,000 t and 2,000 t since then.



### Effects of the fishery on the ecosystem

No specific information available. General impacts of bottom trawl gear on the ecosystem should be considered.

### Basis for Advice

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. In 2016 the ICES Harvest Control Rule 3.2 for data limited stocks was accepted as a basis for giving TAC advice. This method was used again to provide the following advice for the next two years.

$$C_{y+1} = \text{Catch}_{\text{advised}} * r$$

where  $r = \text{index mean for 2015-2017} / \text{index mean for 2008, 2010, 2012, 2014}$   
 $= 1.126$

$\text{Catch}_{\text{advised}} = 32,300 \text{ t}$  (catch advised for 2017 and 2018 and subsequently implemented as the TAC).

Catch in 2019 and 2020 =  $32,300 \text{ t} * 1.126$   
 $= 36,370 \text{ t}$

### Special comments

The vessel that has conducted surveys in SA 0+1 since 1997 has been retired and there will be no survey in 2018. Also, it will not be possible to calibrate this survey series with the next survey that is expected to begin in 2019. The absence of a continuous survey series may constrain the ability of SC to assess/provide advice on this stock in coming years and furthermore, SC may be unable to evaluate the impact of the advised TAC.

### Sources of information

SCR Doc. 18/15, 21, 32, 40; SCS Doc. 18/10, 13