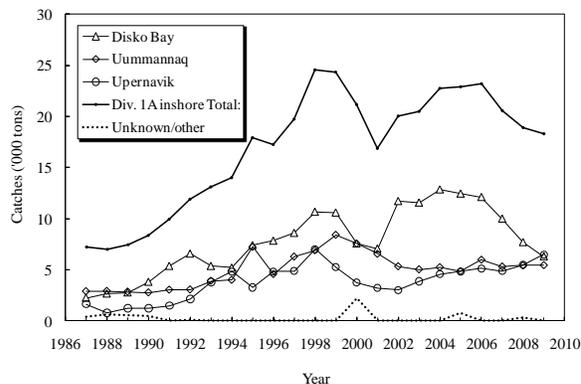


Greenland Halibut (Reinhardtius hippoglossoides) in Division 1A inshore

Background: The inshore stock is dependent on the spawning stock in Davis Strait and immigration of recruits from the offshore nursery grounds in Div. 1A and 1B. Only sporadic spawning seems to occur in the fjords, hence the stock is not considered self-sustainable. The fish remain in the fjords, and do not appear to contribute back to the offshore spawning stock. This connection between the offshore and inshore stocks implies that reproductive failure in the offshore spawning stock for any reason will have implications for the recruitment to the inshore stocks.

Fishery and Catches: Total landings in all areas combined have increased gradually since the late 1980s and peaked in the late 1990s at a level of 25 000 t. Landings then decreased to 16 900 t, but increased again during 2002-2005 reaching 23 000 tons. Since 2006 landings have decreased again to a level of 18 300 t, and this decrease is caused exclusively by decreasing catches in the Disko Bay, where landings have decreased from above 12 000 t to just 6 321 t in 2009. Landings in the Uummannaq fjord has been at a level of 5 000 t since 2002 and in Upernavik landings have increased since 2002 from 3 000 t to 6 498 t in 2009.



Data: Length frequencies from the commercial fishery were available for all three areas, except for the summer fishery in Uummannaq in 2009. Catch-at-age was available from 1988 to 2009 although with years missing especially for Upernavik. Catch and effort data provided from the Upernavik area allowed for a un-standardized CPUE index to be developed, although only covering fishery since 2007. Survey catch rate and length frequency data from the longline survey in Uummannaq was only available until 2007 and from the gillnet survey in Disko Bay until 2008. A biomass and abundance estimate and a recruitment index for age 1 was available from the shrimp/fish trawl survey in Disko Bay.

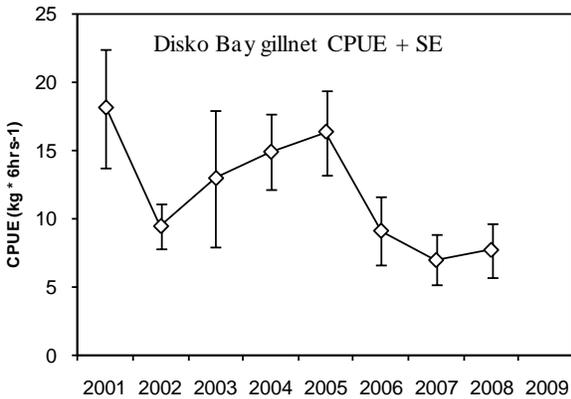
Assessment: No analytical assessment could be performed.

Disko Bay: From 2002 to 2006 catches were at a record high level above 12 000 t, but decreased in just 3 years to just 6 321 t in 2009. Mean length in the catches decreased from 2001 to 2007, but has increased since then and percentage of age-class 10 and younger has increased since 2002 to 90%. The gillnet survey (2001-2008) shows decreasing CPUE and NPUE from 2005 to 2007, but the 2008 estimates are at the same level as in 2007.

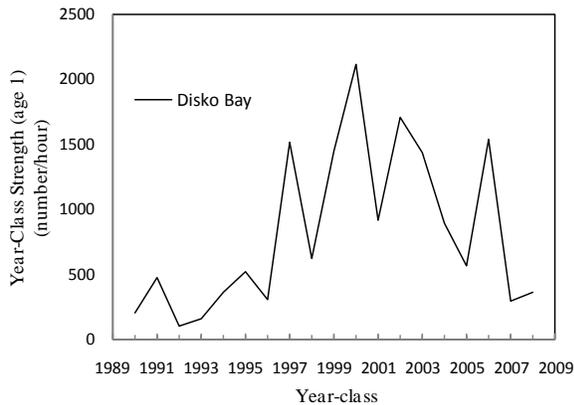
Area	Year	Catch ('000 tons)		TAC ('000 tons)	
		STACFIS	Recomm.	Agreed	
Disko Bay	2007	10.4	ni ²		
	2008	7.7	ni ²	12.5	
	2009	6.3	8.8	8.8	
	2010		8.8	8.8	
Uummannaq	2007	5.3	5.0		
	2008	5.4	5.0	5.0	
	2009	5.5	5.0	5.0	
	2010		5.0	5.0	
Upernavik	2007	4.9	na ¹		
	2008	5.5	na ¹	5.0	
	2009	6.5	na ¹	5.0	
	2010		na ¹	6.0	

¹ No advice

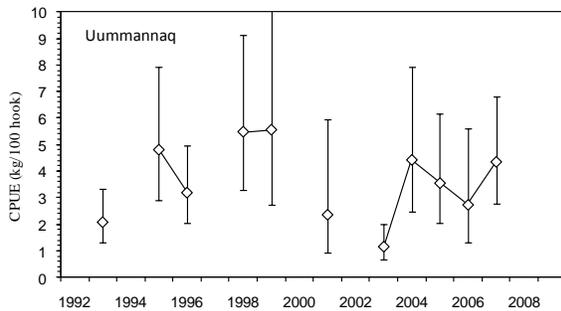
² No increase in effort



The abundance and biomass indices from the Greenland shrimp/fish trawl survey, declined significantly from 2004 to 2008, but seem to have stabilized in 2009. Recruitment indices in 2008 and 2009 of age 1 are below average, but since 2000 recruitment of age 1 has been well above average. The increase in mean length in the commercial catches seen since 2007 could be caused by year-classes from the high recruitment period entering the fishery.



Uummannaq: Landings have remained stable since 2002 and longline-survey abundance indices indicated a stable stock until 2007. Mean lengths in the summer fishery has decreased since 2004 and the winter fishery since 2007. Percentage of age 10 and younger in the catches has increased since 2002 to 80%.



Upernavik: Surveys have not been conducted since 2000 in the Upernavik area. Samplings from the commercial fishery have been sporadic from 2002 to 2007. However, with the extensions of the sampling in 2008 and 2009, mean length in the commercial landings seems to have been stable since 1999. Percentage of age 10 and younger is around 50 %. The un-standardized CPUE index from the commercial fishery is too short to determine trends.

State of the Stock: Except for Upernavik the age compositions in catches have been reduced to fewer and younger age groups compared to the early 1990s and the fishery has thus become more dependent on incoming year-classes.

Disko Bay: The CPUE and NPUE indices from the gillnet survey declined from 2005 to 2007 but stabilized in 2008. The abundance and biomass indices from the Greenland shrimp/fish trawl survey, declined from 2004 to 2008, but seem to have stabilized in 2009. Recruitment indices in 2008 and 2009 of age 1 are below average, but from 2000 to 2006 recruitment of age 1 was well above average. The increase in mean length in the commercial catches seen since 2007 could be caused by year-classes from the high recruitment period entering the fishery. However the decreasing catches and survey indices indicate a decreasing stock.

Uummannaq: Landings have remained stable since 2002. The survey indices indicate a stable stock until 2007. The steady decrease in mean length of the commercial catches since 2007 and the increase in percentage of age 10 and younger could indicate a decreasing stock but could also be caused by incoming year-classes.

Upernavik: Mean length in the commercial landings has been stable since 1999. Percentage of age 10 and younger in the catches is less than prior to 2001.

Recommendation: Scientific Council still considers that separate TACs are appropriate for each of the three areas.

Disko Bay: Exploitable biomass has shown a decreasing trend since 2005 following some years with high catches and low recruitment. An extended period of higher recruitment is expected to enter the fishery in the coming years. However, until this is fully confirmed in the assessment, Scientific Council recommends that catches in 2011-12 should not exceed the mean catch level of the recent 2007-2009 period. SC therefore recommends that catches in 2011-12 should not exceed 8 000 t/yr.

Uummannaq: Based on the stable catches and CPUE indices SC found no reason to consider that the status of the stock has changed. Therefore Scientific Council recommends that catches for 2011-2012 should not exceed 5000 t/yr.

Upernavik: Given the short time-series of the CPUE index, the index could not be used for advice. no advice can be given for this area.

Reference Points: not determined.

Special Comments: The lack of information on fishing effort makes it difficult to fully evaluate whether the change in catches is a result of a change in stock biomass or changing fishing effort.

Because the stock is dependent on recruitment from Davis Strait, exploitation of the spawning stock and by-catches in the shrimp fishery should be taken into account when managing the fishery in the fjords.

Sources of Information: SCR Doc. 08/28, 38; SCS Doc. 08/11.