

ECOREGION Iceland and East Greenland
STOCK Capelin in Subareas V and XIV and Division IIa west of 5°W
(Iceland–East Greenland–Jan Mayen area)

Advice summary for 2011

Management Objective (s)	Catch in 2011
MSY	
Transition to an MSY approach with caution at low stock size	
Cautiously avoid impaired recruitment (Precautionary Approach)	No fishery
Cautiously avoid impaired recruitment and achieve other objective(s) of a management plan (e.g., catch stability)	

Advice for 2011

There should be no fishery until new information on stock size becomes available after the planned survey in November 2010. The TAC should be set so that at least 400 000 t is left to spawn in March 2011. The 2008 year class was estimated acoustically as the third lowest age-1 abundance estimate in the time series and not sufficient for a fishery in 2010/11.

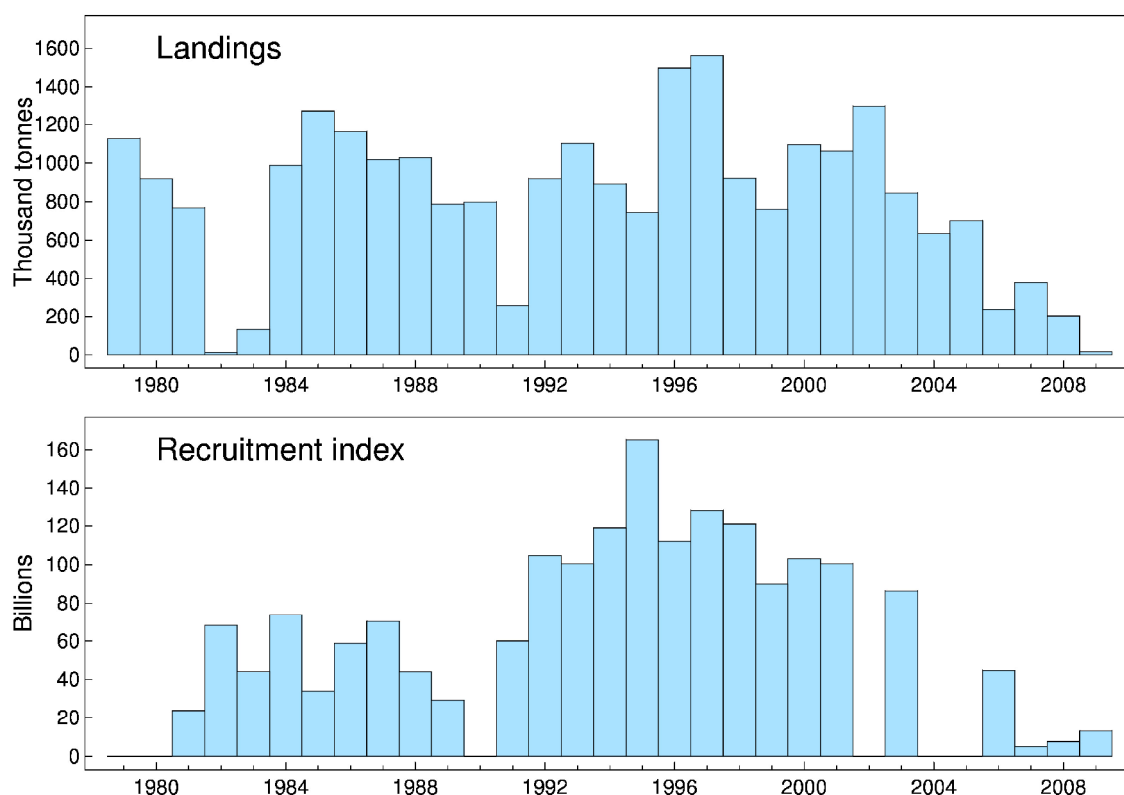


Figure 2.4.12.1 Capelin in Subareas V and XIV and Division IIa west of 5°W (Iceland–East Greenland–Jan Mayen area)

Management plans

The fishery is managed according to a two-step management plan which requires a minimum spawning-stock biomass of 400 000 t by the end of the fishing season. The first step in this plan is to set a preliminary TAC based on the results of an acoustic survey carried out to evaluate the immature (age 1 and most of age 2) part of the capelin stock about a year before it enters the fishable stock. The initial quota is set at 2/3 of the preliminary TAC, calculated on the condition that 400 000 t of the SSB should be left for spawning. The second step is based on the results of another survey

conducted during the fishing season for the same year classes. This result is used to revise the TAC, still based on the condition that 400 000 t of the SSB should be left for spawning.

ICES has not evaluated the management plan with respect to its conformity to the precautionary approach.

Biology

Capelin is a short-lived species that dies after spawning (aged 3-4). The SSB is comprised of only one or two age groups and is highly dependant on recruitment

Environmental influence on the stock

In the years 2002–2005 and 2007 it is likely that the juveniles did not occupy the conventional areas on the Icelandic continental shelf. In this period, the quarterly monitoring of environmental conditions of Icelandic waters shows a rise in sea temperatures north and east of Iceland, which probably also reaches farther north and northwest. A northward shift in the distribution may have affected the productivity of the Icelandic shelf system.

The fisheries

The fishery in recent years has largely been confined to the period January-March which coincides with the last 3 months of the spawners lifespan.

Catch by fleet	Total catch (2009/10) 151 kt where 100 % landings (99% purse seine, 1% pelagic trawl), 0 % discards, 0 % industrial by-catch, 0 % unaccounted removals
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Effects of the fisheries on the ecosystem

Capelin is an important forage fish and declines in stock may be expected to have implications on the productivity of their predators,.

Quality considerations

The practice of a variable searching time depending on the initial acoustic estimates may result in a biased assessment of stock size.

Scientific basis

Assessment type	Measurement based on acoustic surveys.
Input data	acoustic surveys and catch-at-age information
Discards and by-catch	Not included in the assessment
Indicators	
Other information	The stock was on the agenda in the Benchmark Workshop WKSHORT 31 August – 4 September 2009. The WKSHORT was unable to approve the assessment of the Icelandic capelin stock. The workshop recommended further work, which is ongoing.
Working group report	<u>NWWG</u>

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Outlook for 2011*MSY approach*

Further work is required on implementation of the MSY framework.

PA approach

There should be no fishery until new information on stock size becomes available after the planned survey in November 2010. The TAC should be set so that at least 400 000 t is left to spawn in March 2011. The 2008 year class is acoustically measured as the third lowest age-1 abundance estimate in the time series and not sufficient to start a fishery in 2010/11.

Additional considerations*Regulations and their effects*

Discards are allowed when catches are beyond the carrying capacity of the vessel. Methods of transferring catches from the purse-seine of one vessel to another vessel were invented long ago, and since skippers of purse-seine vessels prefer to operate in groups, discards are practically zero. In the pelagic trawl fishery, such large catches of capelin rarely occur.

A regulation calling for immediate, temporary area closures when high abundance of juveniles are measured in the catch (more than 20% of the catch composed of fish less than 13 cm) is enforced, using on-board observers.

Changes in fishing technology and fishing patterns

In recent years, the fishery for capelin has changed from being mostly an industrial fishery to being mostly for human consumption. This is largely because of the low abundance and low TACs.

Data and methods

The basis for stock assessment and short-term forecasts are acoustic surveys and catch-at-age information.

Information from the fishing industry

In the period 1 November 2009 until 18 February 2010, 5 acoustic surveys were conducted to assess the capelin stock. Scouting vessels participated also in the search of capelin in January/February. During February a few more attempts were made to assess the spawning migration.

Sources

ICES. 2010. Report of the North-Western Working Group, 27 April - 4 May 2010 ICES CM 2010/ACOM:07.

Table 2.4.12.1 Capelin in Subareas V and XIV and Division IIa west of 5°W (Iceland–East Greenland–Jan Mayen area). ICES advice, management and landings

Year	ICES Advice	Predicted catch ¹ corresp. to advice	Agreed ² TAC	ICES landings ³
1986	TAC	1,100	1,290	1,333
1987	TAC ¹	500	1,115	1,116
1988	TAC ¹	900	1,065	1,036
1989	TAC ¹	900	*	808
1990	TAC ¹	600	250	314
1991	No fishery pending survey results ¹	0	740	677
1992	Precautionary TAC ¹	500	900	788
1993	TAC ¹	900	1,250	1,179
1994	Apply the harvest control rule	950	850	842
1995	Apply the harvest control rule	800	1,390	930
1996	Apply the harvest control rule	1,100	1,600	1,571
1997	Apply the harvest control rule	850	1,265	1,245
1998	Apply the harvest control rule	950	1,200	1,100
1999	Apply the harvest control rule	866	1,000	934
2000	Apply the harvest control rule	650	1,090	1,071
2001	Apply the harvest control rule	700	1,300	1,250
2002	Apply the harvest control rule	690	1,000	988
2003	Apply the harvest control rule	835	900	741
2004	Apply the harvest control rule	*335	985	784
2005	Apply the harvest control rule	*No fishery	235	238
2006/07	Apply the harvest control rule	*No fishery	385	377
2007/08	Apply the harvest control rule	*207	207	202
2008/09	Apply the harvest control rule	*No fishery		15**
2009/10	Apply the harvest control rule	*No fishery	150	151
2010/11	Apply the harvest control rule	*No fishery		

Weights in '000 t.

¹⁾TAC advised for the July–December part of the season.

²⁾Final TAC recommended by national scientists for the whole season.

³⁾July–March of following year.

*Preliminary TAC set according to the results of a preliminary assessment.

** only scouting quota was allocated in the latter half of February 2009