

A note on the capelin in East Greenland, Jan Mayen and Iceland

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Biology.

Capelin is a short lived species that die after spawning (3-4 yrs old). The spawning stock is composed of only one or two age groups and therefore highly dependent and variable with the recruitment of young fish. Spawning takes place in February to April in areas south of Iceland (Figure 2 and 3, red areas). After spawning the eggs and larvae drift with the water currents towards the north of Iceland. Age groups 1 and 2 aggregate in autumn northeast and northwest of Iceland, often as far as the Greenland part of the continental shelf. In this period the capelin is densely schooling and therefore accessible for acoustic measurements (Figure 2 and 3, blue areas). The following summer capelin conducts extensive feeding migrations north and west of Iceland, as far as Jan Mayen, and migrates back to Iceland in October-November (Figure 2 and 3, green areas). From there the spawning migration is initiated towards southern Iceland.

The fishery

The capelin fishery is an international fishery with the main nations being Norway, Greenland, Faroe Islands and EU. The fishery is mainly conducted as a purse seine fishery (75%) and with pelagic trawl (25%). The fishery has historically been in two periods; a summer fishery from June to September and a winter fishery in January to March. Due to a zero catch advice the summer fishery has been absent the latest 7-8 years (Figure 1). Parallel with decreasing catches the fishery has now developed into consumption fishery previously being a fishery for reduction purposes.

Management and advisory process

The capelin stock is assessed by ICES and jointly managed by Greenland, Iceland and Norway. The management is a two-step process: a minimum required spawning stock biomass at 400 kt shall be estimated to be available for spawning by the end of the fishing season (March). If this requirement is fulfilled an initial quota is set based on acoustic measurements of young fish. This initial quota is set as 2/3 of the expected final quota. The basis for the final quota is a survey of adult capelin in the fishing season. The management plan is not evaluated by ICES.

The ICES catch advice is provided in June based on acoustic measurements of young fish in the winter, earlier in the year. However, weather conditions are often preventing surveys in wintertime and therefore estimates from acoustic surveys in autumn (the year before) are used. The ICES catch advice in June is according to the management plan an initial TAC that is effective from beginning of the fishing year, e.g. approx. July 1 the same year. Based on surveys of adult fish in the summer are later in the year

calculated a final TAC. This final TAC is not calculated or evaluated by ICES but autonomously estimated by Iceland.

Comments on the advisory and management process.

The preliminary TAC is advised and released by ICES immediately before the start of the fishing season. As the capelin stock is only available for harvest in a limited period in June/July, the international participants in the fishery (EU) have only a short time to prepare for this fishery. As the preliminary TAC is most often based on acoustic measurements in the year before (autumn), ICES is able to conduct the stock assessment and to release the advice earlier in the year, e.g. stock assessment in January/February and advice release in March. Such a change in the advice timing from ICES is already confirmed by the involved parties (MRI Iceland and ICES). It is therefore expected that the capelin stock catch advice for the fishing year 2013/14 will be released in early 2013.

The present practice that Iceland is autonomously assessing and releasing the final TAC is not appropriate or up to date. Analyses, assumptions and the entire process is not transparent to other parties, a practice that ICES normally aims for and have a high priority for in its advisory process. Likewise, information on eventual new surveys is neither provided by Iceland, and clients of the advice have therefore no possibility to follow the process of the final advice. The entire assessment and advisory process for both initial and final TAC setting should therefore be conducted by ICES in order to ensure the necessary transparency. As the present management of the capelin resource in East Greenland, Iceland and Jan Mayen is trilateral by Greenland, Iceland and Norway, these nations are responsible for any changes in the procedure and it is their obligation to make the process open for the ICES community.

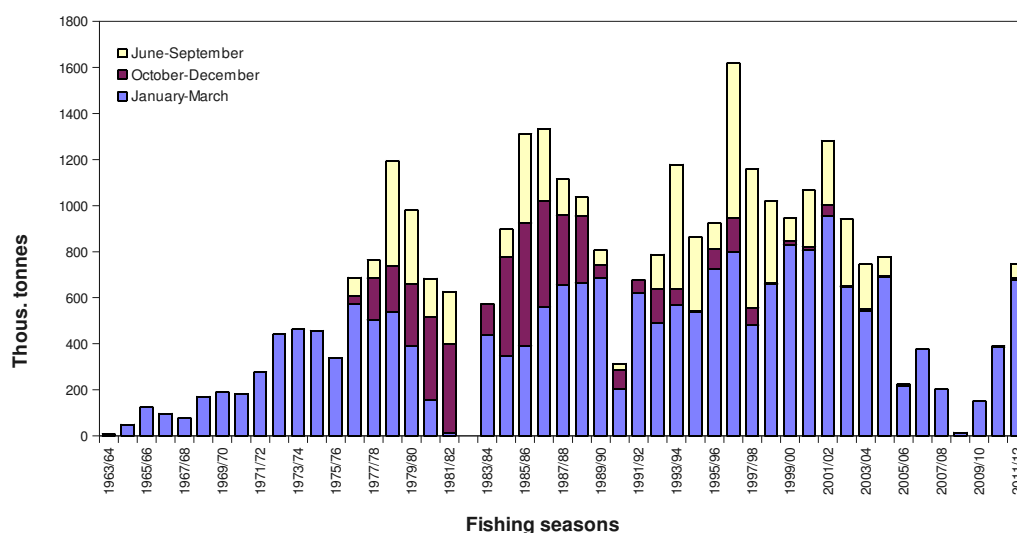


Figure 1. Summer and winter fishery for capelin since 1963 (NWWG 2012).

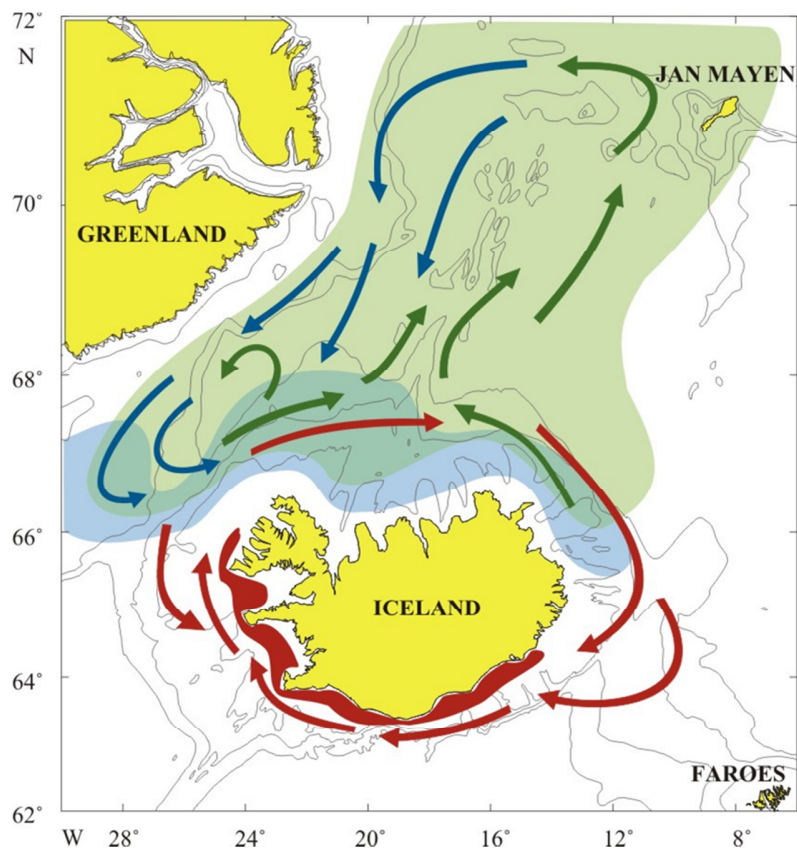


Figure 2 Capelin migration pattern before 2002. Red area: spawning, blue: young fish distribution, green: adult capelin distribution (Wilhjálmson 2007).

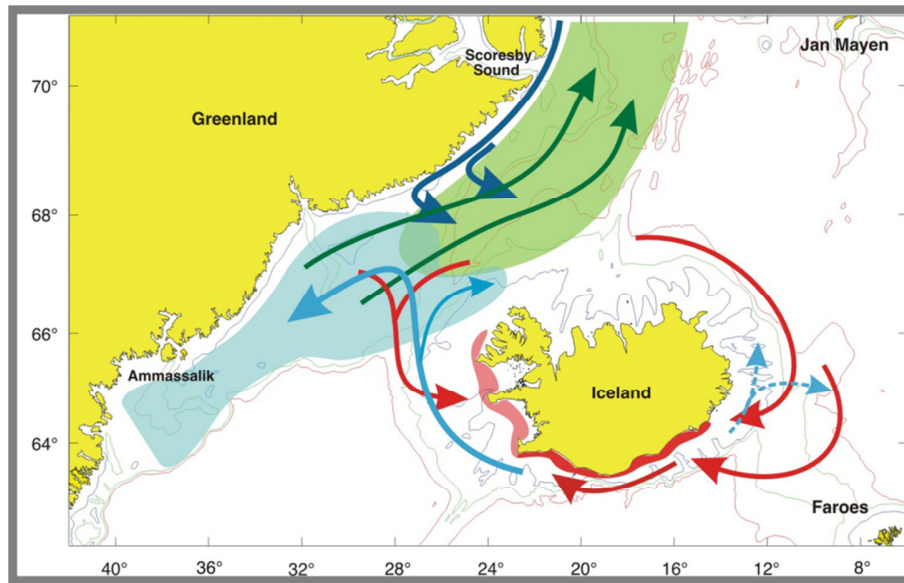


Figure 3 Capelin migration pattern after 2002. Red area: spawning area, Blue area: young fish distribution, Green area: adult capelin distribution (Wilhjálmson 2007).