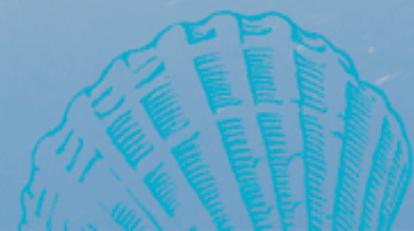
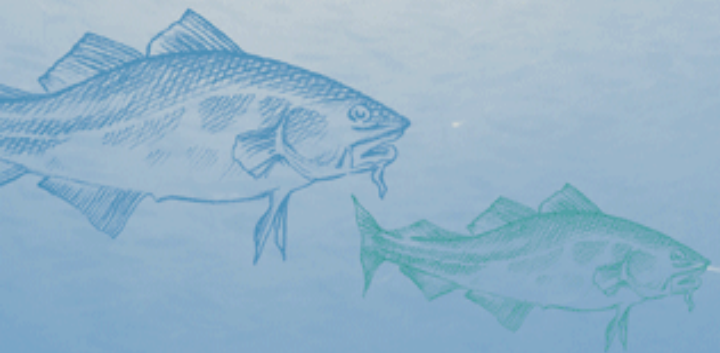




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# Barents Sea capelin

Capelin otolith workshop  
May 2009

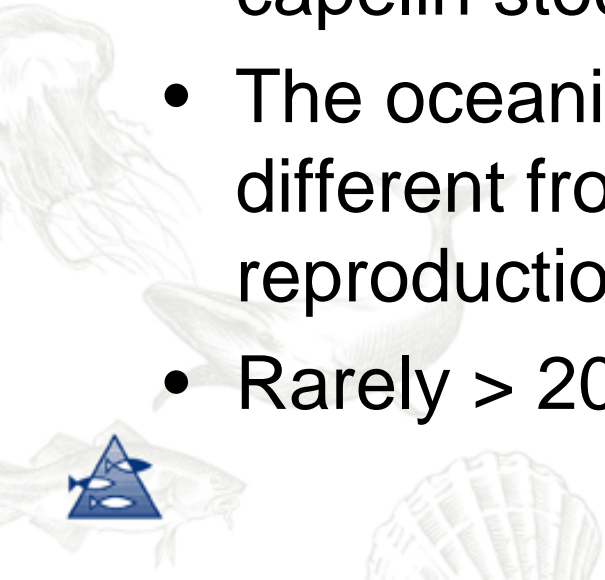
Harald Gjøsæter



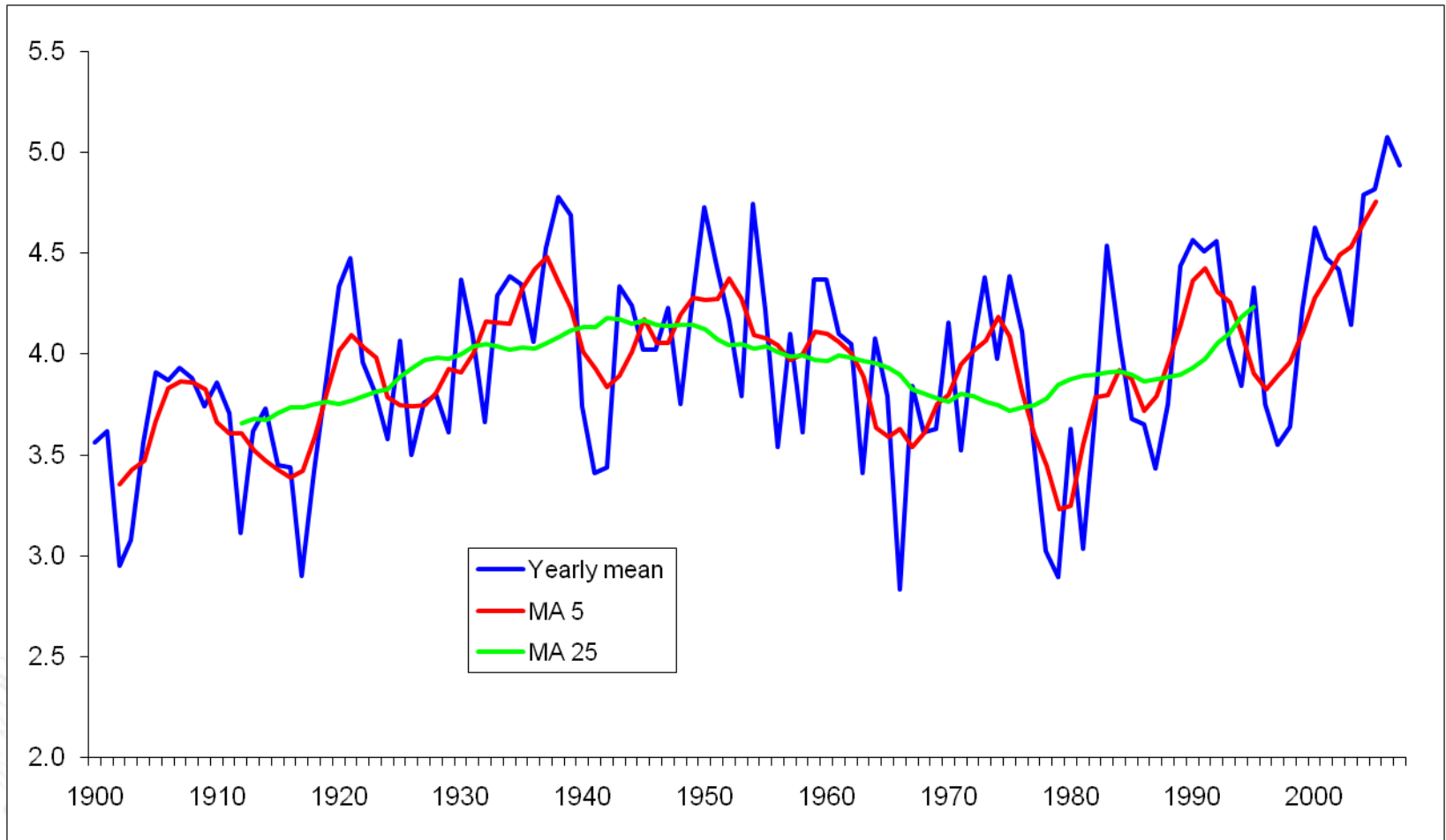
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# Biology

- One oceanic stock in the Barents Sea, and additional fjordic stocks in some northern Norwegian fjords
- The oceanic stock is potentially the largest capelin stock in the world
- The oceanic stock probably not much different from other capelin stocks, apart from reproduction characteristics
- Rarely > 20 cm, 50 gram, 5 year

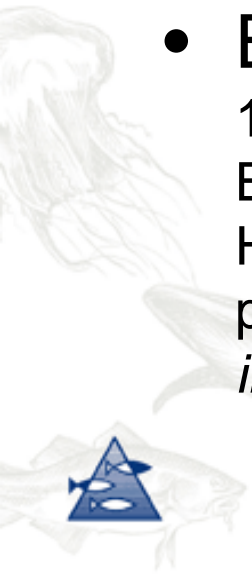


# Temperature in Kola section



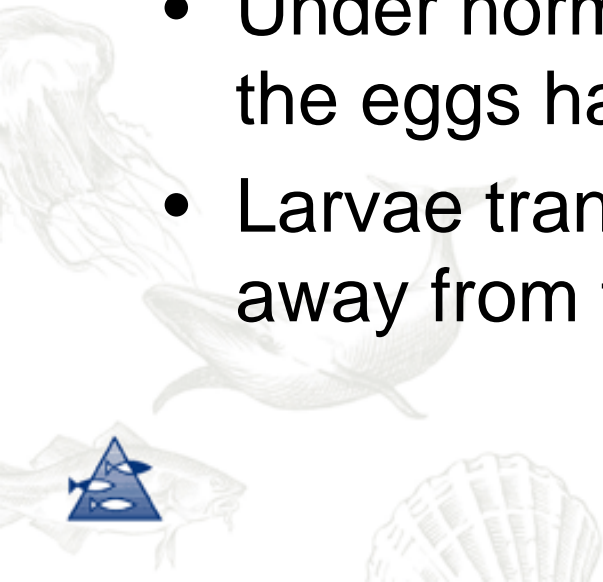
# Reproduction biology

- **Semelparous** (CHRISTIANSEN, J. S., PRÆBEL, K., SIIKAVUOPIO, S. I. and CARSCADDEN, J. E. 2008. Facultative semelparity in capelin *Mallotus villosus* (Osmeridae)-an experimental test of a life history phenomenon in a sub-arctic fish. *Journal of Experimental Marine Biology and Ecology*, 360: 47-55)
- **Bottom-spawning** (e.g. SÆTRE, R. and GJØSÆTER, J. 1975. Ecological investigations on the spawning grounds of the Barents Sea capelin. *Fiskeridirektoratets Skrifter, Serie Havundersøkelser*, 16: 203-227.; GJØSÆTER, H. 1998. The population biology and exploitation of capelin (*Mallotus villosus*) in the Barents Sea. *Sarsia*, 83: 453-496.)



# Reproduction biology

- Spawning typically from mid March till early April, but **additional spawning in summer**
- Variable spawning areas, from western (Troms), central (Finnmark) to eastern (Kola)
- Under normal temperature conditions (2-6°C), the eggs hatch after about 3-6 weeks
- Larvae transported north and eastwards away from the coast

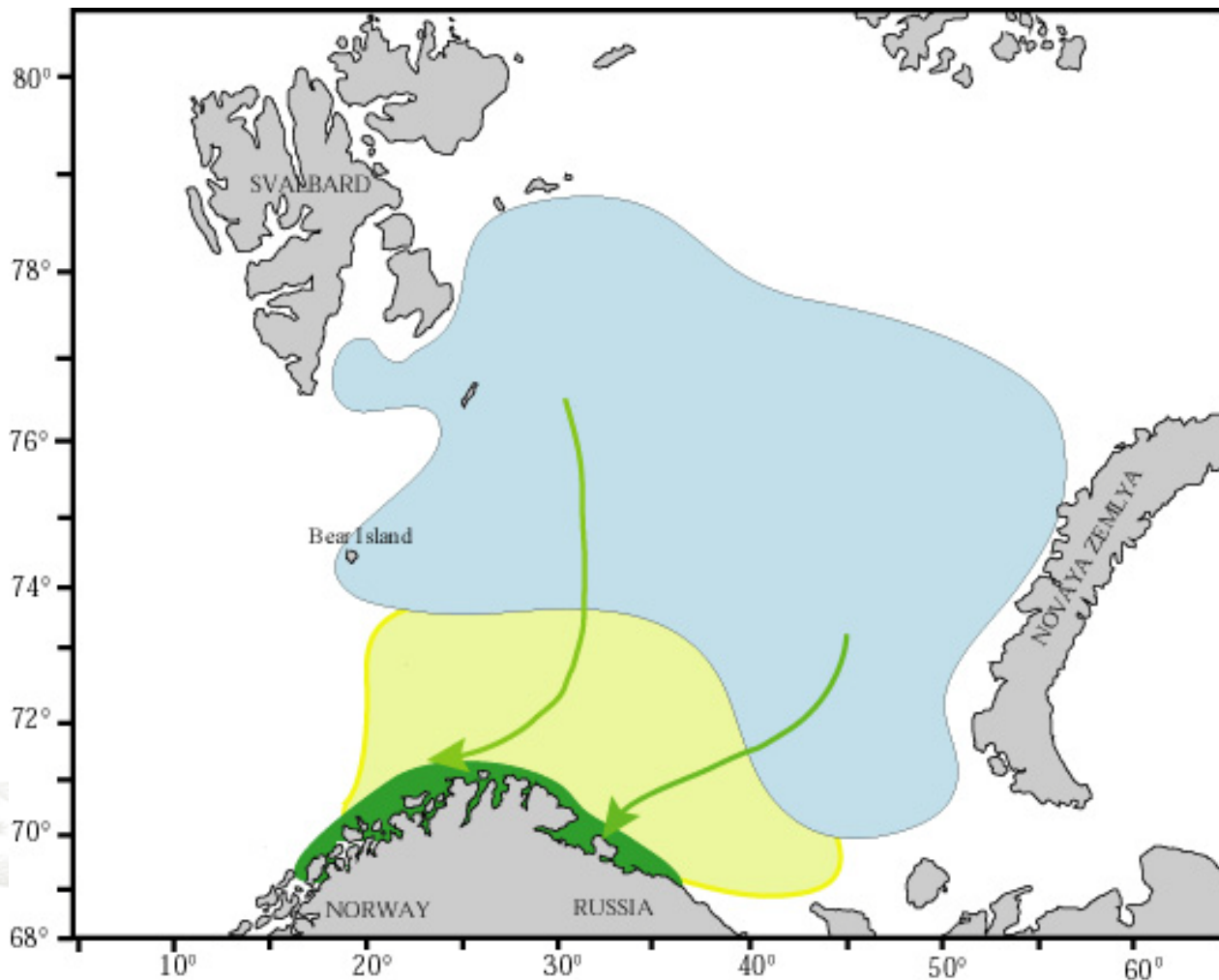


# Feeding and growth

- The larvae feed on small plankton organisms, gradually shifting to larger organisms as they grow. Adult capelin feed on copepods and krill
- **The growth is very variable**, and is affected both by sea temperature and feeding conditions



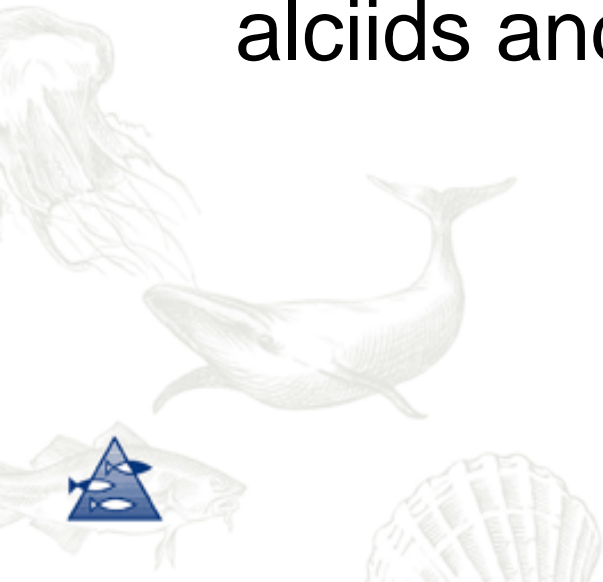
# Distribution and migrations



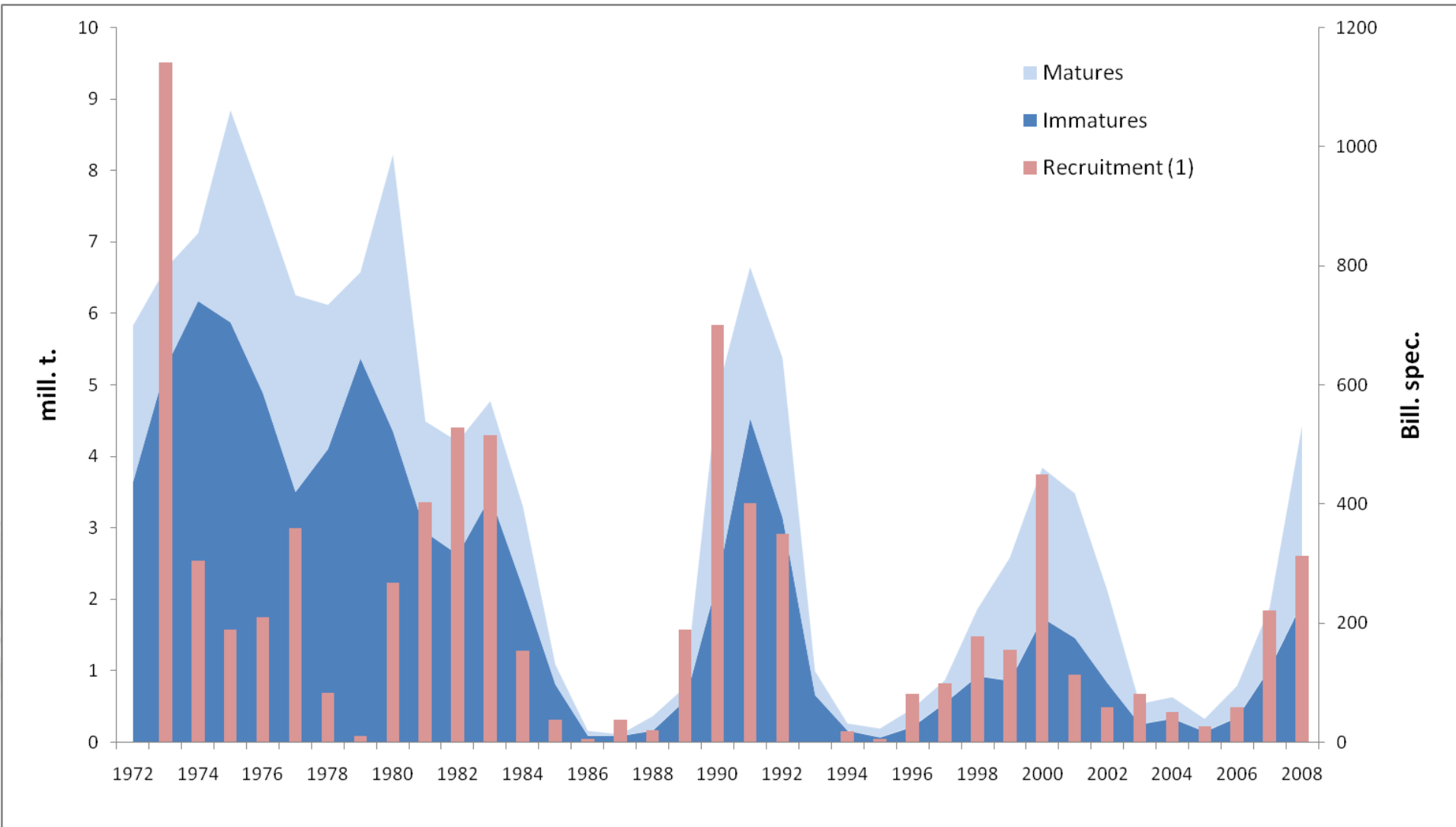


# Ecological role

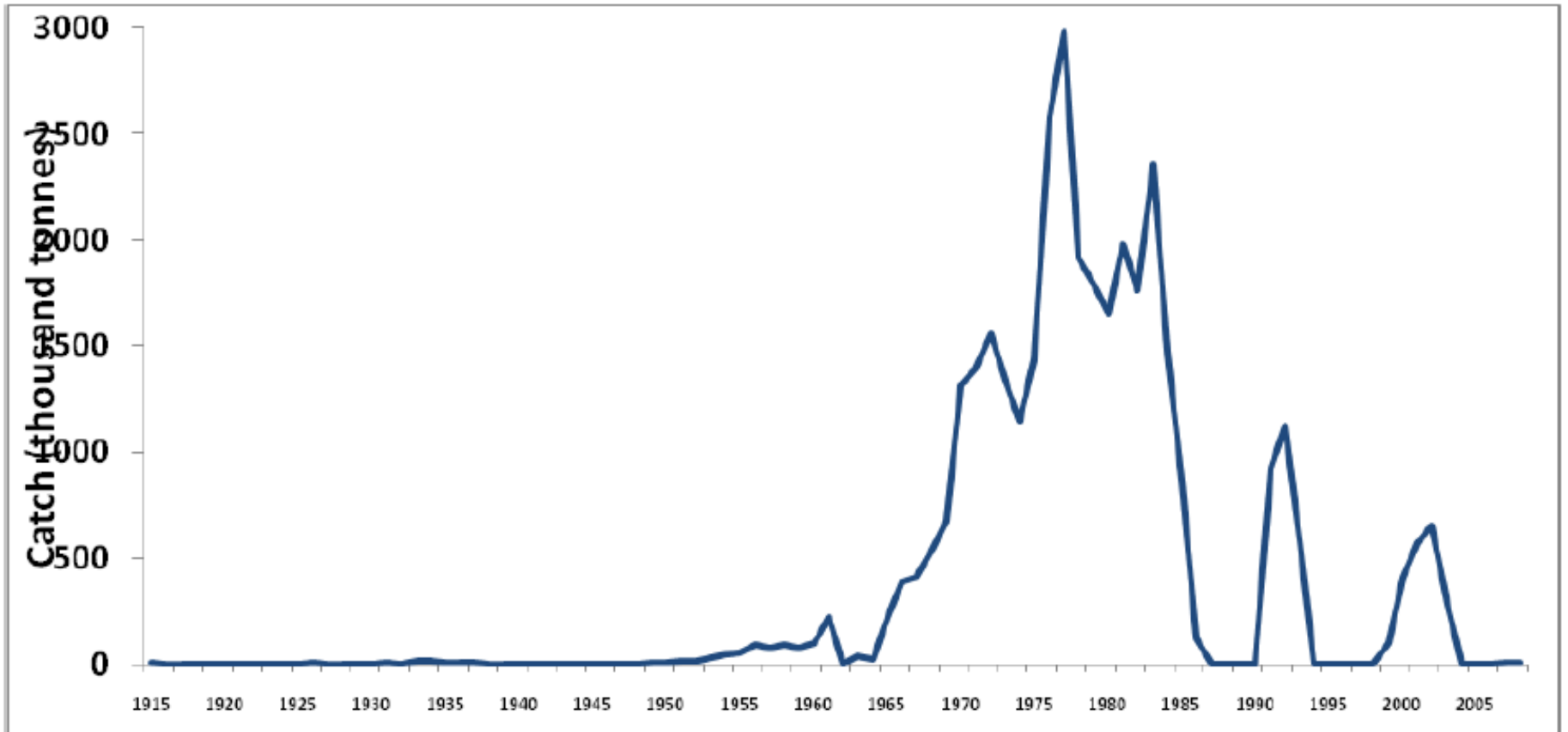
- The capelin is very important food for several predators, like cod, haddock, saithe and Greenland halibut, harp seals, minke whales, humpback whales, alciids and other sea birds



# Stock history



# Landings



# Timing of spawning

Nr. 3, 18. januar 1962

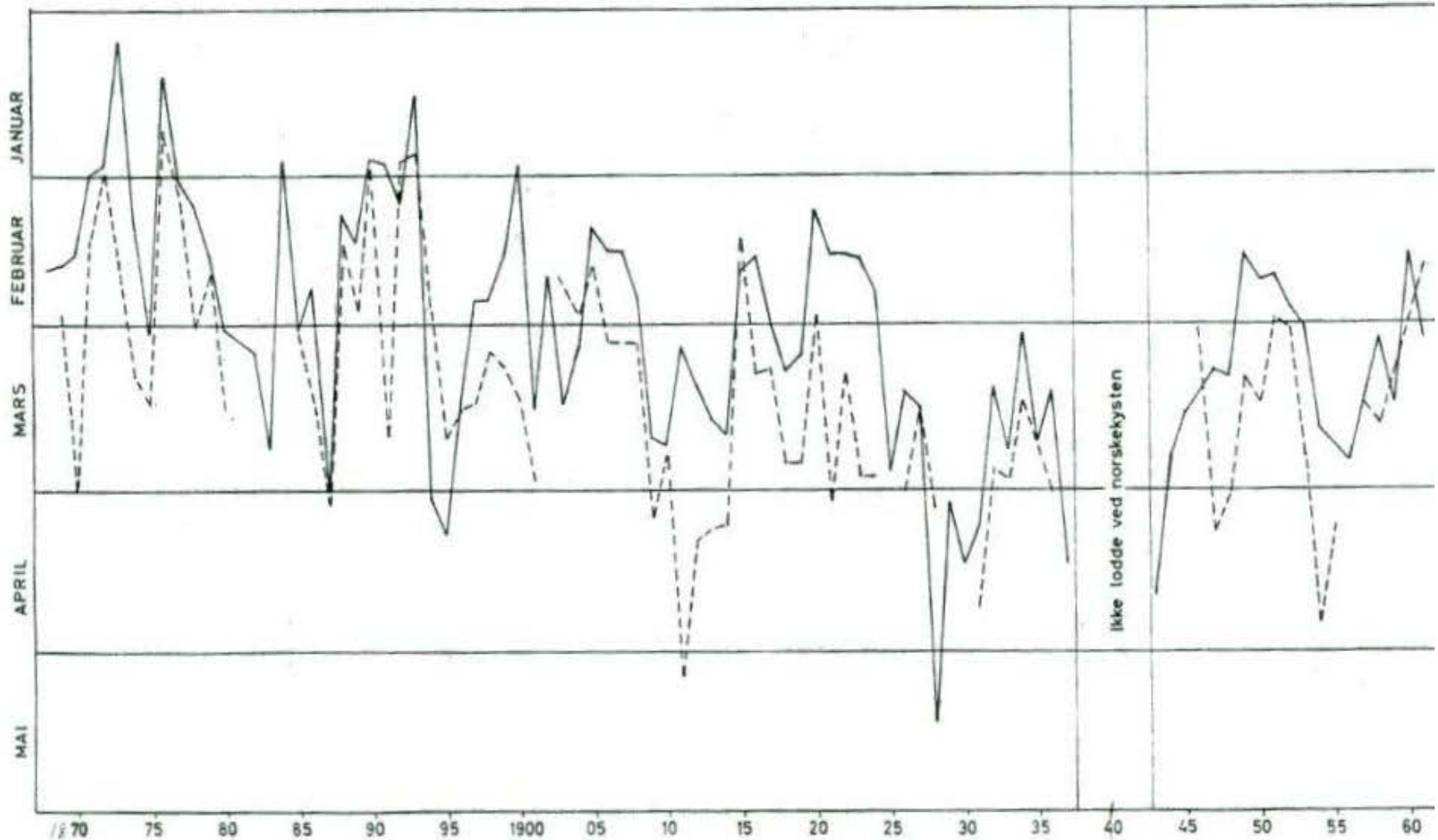


Fig. 3. Tidene for første rapporterte loddeinnsig ved Finnmarkskysten 1868–1961.

Helt opptrukket kurve: Norkyn og østover.

Stiplet kurve: Sværholt og vestover.

# Growth

