

THE BARENTS SEA CAPELIN 1983-1988.

by

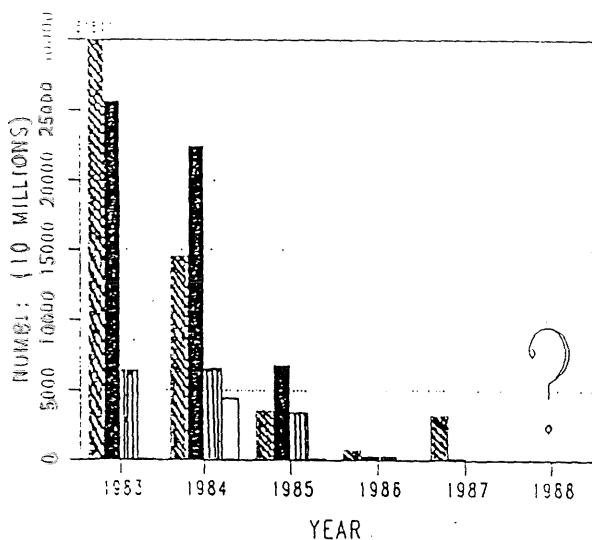
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In the period 1983-1988 the capelin stock collapsed. At present, the situation is unclear. It may recover, as did the Icelandic capelin in 1983, or it may be kept at a low level for some time through continued predation pressure from cod and the 1988 year-class of herring.

The decline was caused by a very strong increase in natural mortality, mainly as result of predation from cod and, possibly, from young herring. To serve as a basis for a discussion of the various causes of stock decline, some observations in the period 1983-1988 are summarized below.

STOCK SIZE OF THE BARENTS SEA CAPELIN



AGE-GROUP STOCK SIZE: Figure 1.

- 1 1983: Stock at the 1980-1982 level.
- 2 1984: Number of 1-year-olds put back by more than 70%. Older age-groups not affected.
- 3 1985: The decline continues. All age-groups are reduced.
- 4 1986: The collapse is a fact! One-year-olds 1%, two-year olds 2%, and three-year-olds 8% of 1983-level.
- 1987: Stock depleted. A first sign of recovery? One-year-olds back at the 1985-level.
- 1988: No information yet.

RECRUITMENT: Figures 1 and 2.

1983-1985: Larval index at the pre-1983 level. The resulting yearclasses as one-year-olds in the acoustic estimates:

1983: 30% of 82 level,

1984: 10% of 82 level,

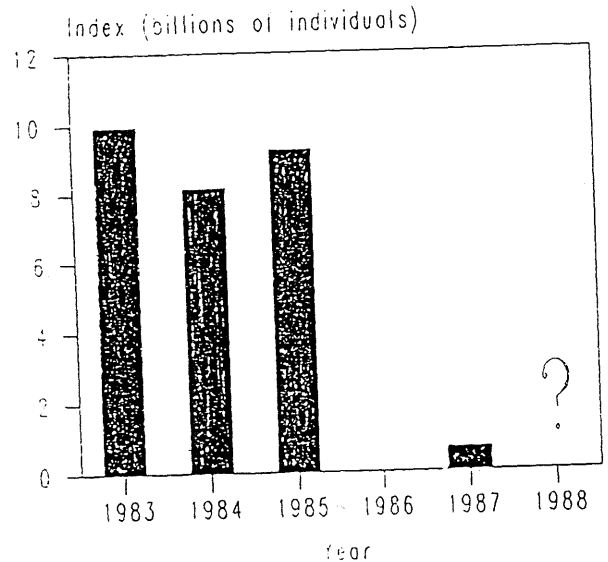
1985: 1% of 82 level. A serious recruitment failure is taking place, while the larval production is normal!

1986: No larval index available. Some spawning took place in late spring. No larvae found on the larval cruise, probably conducted too early. The year-class appeared as one-year-olds in 1987 at about 7% of the 1982 year-class level.

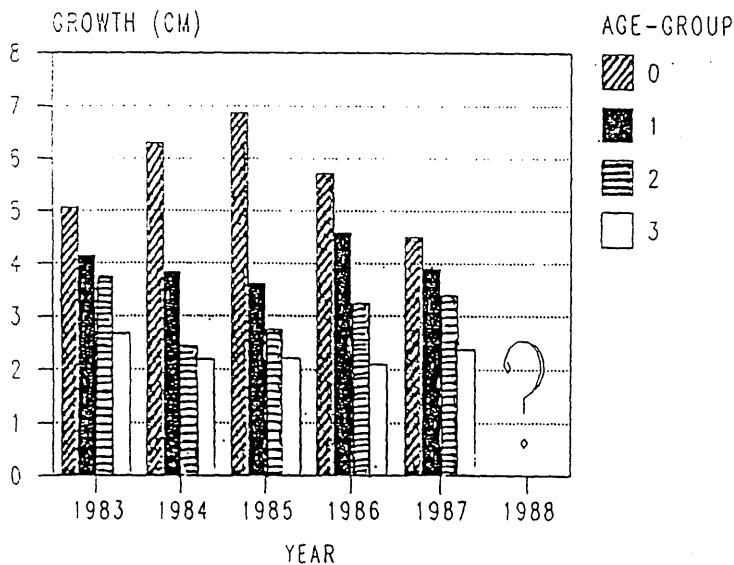
1987: Larval index about 10% of the 1981-1985 level. Strength at age 1 still unknown.

1988: Unknown.

LARVAL INDICES FOR CAPELIN



GROWTH OF THE BARENTS SEA CAPELIN.



GROWTH: Figure 3.

1983: Growth of all age groups at the 1979-1982 level.

1984: 0-group growth (length of 1-group at January 1st.) increasing, growth of older age groups decreasing, especially the 2- and 3-year-olds, reaching the lowest level since 1977.

1985: The 0-group growth increases to an observed maximum of almost 7 cm. The growth of older age groups is unchanged.

1986: While the 0-group growth is decreasing, the 1- and 2-year-olds have faster growth.

1987: The 0-group is very small this year. No clear trends can be seen in the growth of older fish.