

Cruise number 2004606

Herring larvae survey 2004

Main objective: Calculate the distribution and abundance of herring larvae and other fish larvae, take hydrography, nutrients, chlorophyll and zooplankton measurements.

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The larval survey in 2004 was carried out with R/V “Håkon Mosby” during the period 1-12 April. The survey started at Fugløya (70°N) and continued along the Norwegian shelf south to Stad (62°N). On a previous survey the area south of Stad had been covered, but no herring larvae were found in this area. High concentrations of herring larvae were found in the whole area north of Stad. Most of the larvae were in the first post yolk sac stage and the mean length was 12.6 mm. This is more than 2 mm less than last year. The number of larvae was, however, much higher than last year, and a larger number has only been recorded once, in 1997. Like the previous year a high proportion of the larvae were found in the northern part of the investigated area. The total number of larvae was estimated to be $56.4 \cdot 10^{12}$. Also a record high number of saith larvae were found north of Stad $2.1 \cdot 10^{12}$ (Tabel 2).

Tabel 1. The total number of herring larvae found on the Norwegian shelf during the period 1981-2003 in billions (10^{12}).

Year	Index 1	Index 2	Year	Index 1	Index 2
1981	0.3		1993	24.7	78.0
1982	0.7		1994	19.5	48.6
1983	2.5		1995	18.2	36.3
1984	1.4		1996	27.7	81.7
1985	2.3		1997	66.6	147.5
1986	1.0		1998	42.4	138.6
1987	1.3	4.0	1999	19.9	73.0
1988	9.2	25.5	2000	19.8	127.5
1989	13.4	28.7	2001	40.7	131.9
1990	18.3	29.2	2002	27.1	113.9
1991	8.6	23.5	2003	3.7	18.9
1992	6.3	27.8	2004	56.4	175.7

Index 1. The total number of herring larvae found during the cruise.

Index 2. Back-calculated number of newly hatched larvae with 10% daily mortality.

The larval age is estimated from the duration of the yolk sac stages and the size of the larvae.

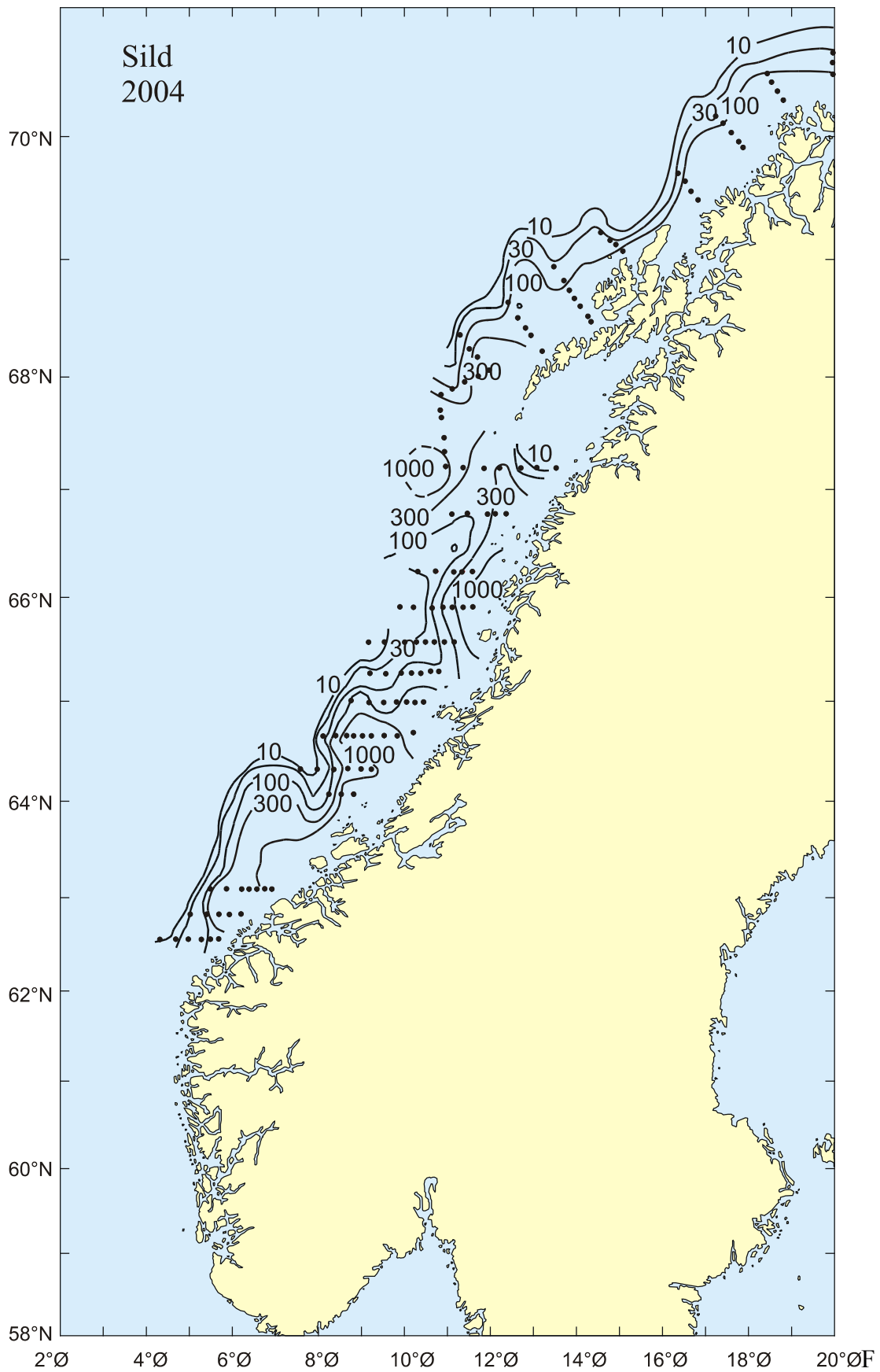


Fig. 1. Distribution and abundance of herring larvae (all stages) on the continental shelf from 62°-70° N in April 2004.

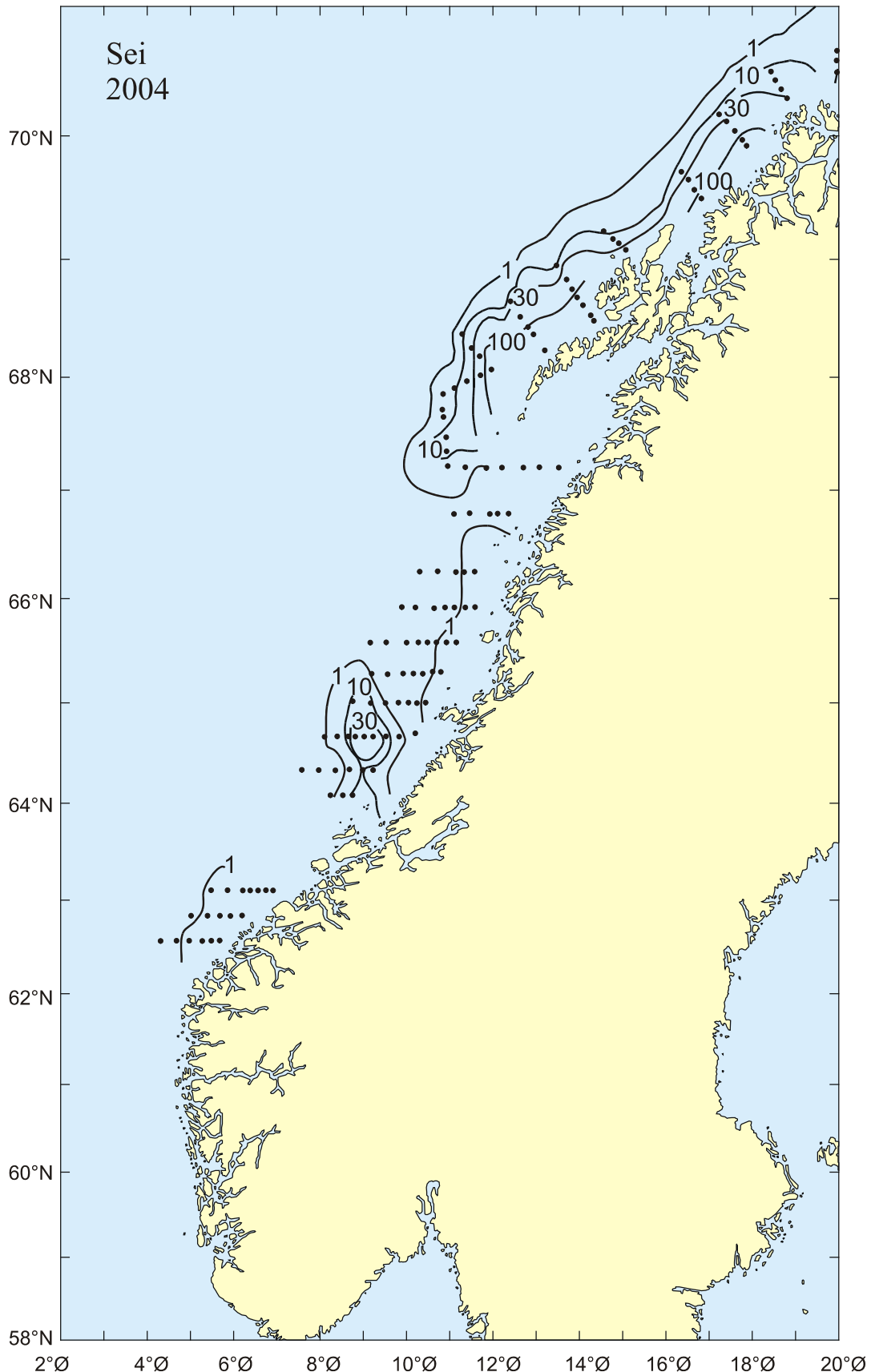


Fig. 2. Distribution and abundance of saith larvae on the continental shelf from 62°-70° N in April 2004.

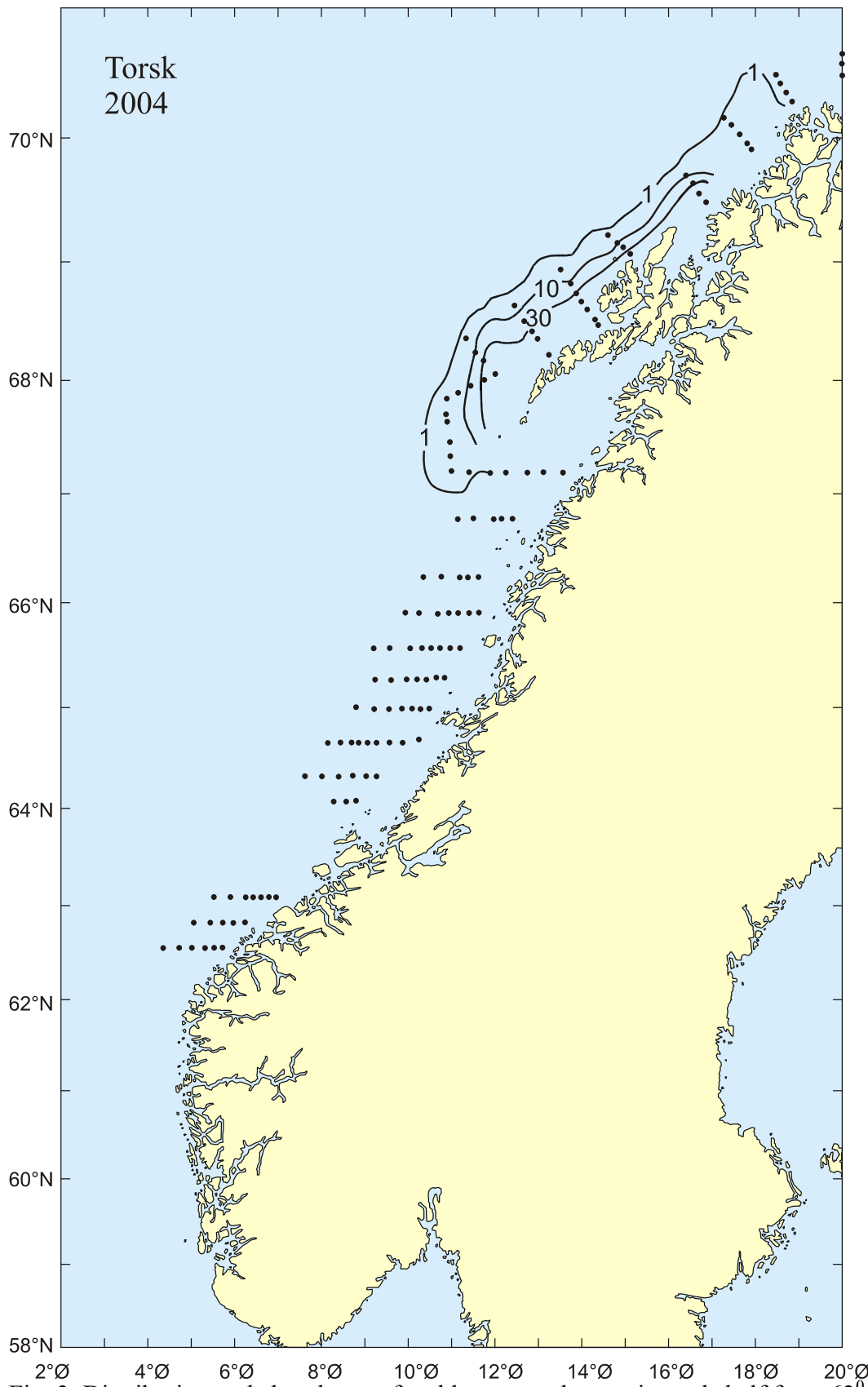


Fig. 3. Distribution and abundance of cod larvae on the continental shelf from 62°-70° N in April 2004.

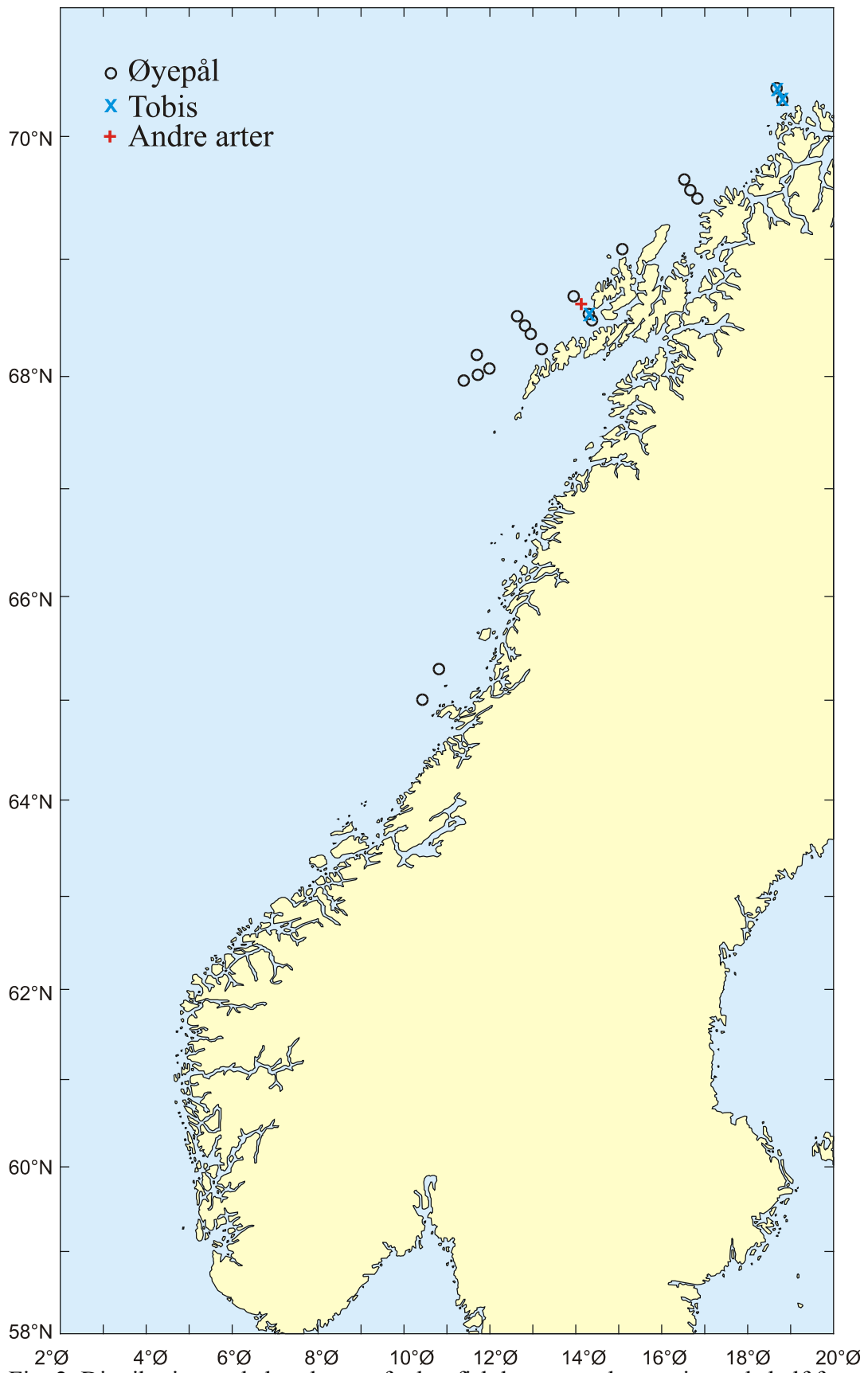


Fig. 2. Distribution and abundance of other fish larvae on the continental shelf from 62⁰-70⁰ N in April 2004.

Tabel 2. Number of saith larvae in billions on the Norwegian shelf in April 2004.

År	Total	Nord for 62 ⁰ N	Sør for 62 ⁰ N	Andel (%) sør for 62 ⁰ N
1996	401	344	57	14.2
1997	2	2	0	0
1998	152	146	6	4.0
1999	414	360	54	13.0
2000	244	81	163	66.8
2001	277	228	49	17.7
2002	553	442	111	20.1
2003	1191	1165	33	2.8
2004	2135	2135	0	0

Bergen
19. August 2004
Petter Fossum