

## INTERN TOKTRAPPORT

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Fartøy: F/T "Anny Kræmer".  
Avgang: Tromsø, 7. august 1991.  
Ankomst: Tromsø, 14. september 1991.  
Formål: Kartlegge mengde og utbredelse av bunnfisk og reker i området Svalbard - Bjørnøya - Hopen.  
Personell: 7/8 - 14/9: Halland, Tor Ivar  
Senneset, Harald  
Torheim, Sverre  
7/8 - 22/8: Berntsen, Bjørn Kåre

### GJENNOMFØRING

Bunntrålsurveyet ble gjennomført med totalt 231 trålstasjoner, hvorav 203 stasjoner ble benyttet ved beregningene.  
Redskap: Campelen 1800/96 standard prøvetakingstrål, rockhopper-gear og 40 meter sveipelengde. Tauedistanse var 1,5 n.m. (30 min.).  
I tillegg ble det foretatt 12 hal med kommersiell torsketral.

Fordi vi skulle gjennomføre rekeundersøkelsene som "Michael Sars" hadde hatt fra midten av juli til midten av august hvert år tidligere, pluss at vi skulle gjennomføre det vanlige bunntrålsurveyet som vi tidligere år startet fra ca. 10. september og til midten av oktober, ble tidspunktet for årets Svalbardsurvey et kompromiss mellom disse to.

Med hensyn til rekeundersøkelsene ble alle hal dypere enn 300 meter tatt først, og vi startet syd og øst av Bjørnøya, for så å gå vest i eggakanten for å arbeide oss nordover.  
Det ble foretatt 10 trålhal nord for 80° N, og 6 trålhal nordøst av Hopen - som alle kommer utenfor strataområdet 1 - 47.  
For at resultatet skal bli direkte sammenlignbare med tidligere års resultat, er kun fangstdata som ligger innenfor strata 1 - 47 medtatt i denne presentasjonen.

### RESULTAT

Resultatet fra bunntrålsurveyet er vist i følgende tabeller og figurer:

Harald Senneset

Table 1A. Stratified indices on numbers (thousands) for different depths and areas in 1991.  
Stratifiserte indekser i antall (tusen) for ulike dyp og områder i 1991.

Species	North of 76° N						South of 76° N						Total all areas
	0-100	100-200	200-300	300-400	>400	Total	0-100	100-200	200-300	300-400	>400	Total	
Cod	5780	8210	4960	564	169	19700	165000	99400	38100	5530	3480	311000	331000
Haddock	11500	6590	7510	96	0	25700	39100	71300	25500	3370	1560	141000	167000
<u>S. Marinus</u>	7	3850	6940	995	100	11900	0	6680	16000	1320	225	24200	36100
<u>S. Mentella</u>	97	956000	163000	102000	23500	1240000	468	19500	1520000	590000	146000	2280000	3520000
Greenland halibut	0	0	1060	1410	2790	5260	0	0	3340	12600	9230	25200	30400
Long rough dab	3830	77100	25700	9030	2240	118000	16300	207000	387000	82400	36000	729000	846000
Blue whiting	0	0	5	327	981	1310	0	0	0	9550	23300	32900	34200
Catfish	321	3680	5940	834	25	10800	201	2950	1190	18	0	4360	15200
Smaller catfish	12	663	691	414	176	1960	260	1750	1740	393	36	4180	6140

Table 1B. Recalculated indices (numbers) to compare pre-1989 equipment standard (80-m sweeps and bobbins ground gear).  
Omregnede indekser (antall) for sammenligning med data fra før 1989 (gammel standard).

Species	North of 76° N						South of 76° N						Total all areas
	0-100	100-200	200-300	300-400	>400	Total	0-100	100-200	200-300	300-400	>400	Total	
Cod	1450	3410	2340	621	210	8030	77700	66300	25100	3690	2970	176000	184000
Haddock	4050	1590	2060	51	0	7750	28900	23300	5580	642	394	58800	66600

Table 2A. Stratified indices on weight (thousands kg) for different depths and areas in 1991.  
Stratifiserte indekser i vekt (tusen kg) for ulike dyp og områder i 1991.

Species	North of 76° N						South of 76° N						Total all areas
	0-100	100-200	200-300	300-400	>400	Total	0-100	100-200	200-300	300-400	>400	Total	
Cod	1230	10800	4960	2520	886	20400	111000	145000	67600	10600	6790	340000	361000
Haddock	1320	527	665	19	0	2530	13900	7890	1900	239	83	24000	26600
<u>S. Marinus</u>	1	881	2140	437	54	3510	0	964	4670	786	358	6780	10300
<u>S. Mentella</u>	2	34500	4840	5980	3290	48600	2	175	17200	26200	23800	67500	116000
Greenland halibut	0	0	657	1070	1830	3560	0	0	2650	8380	10200	21300	24800
Long rough dab	230	4030	2150	1250	294	7950	2590	24300	29100	8640	5710	70300	78200
Blue whiting	0	0	1	98	198	297	0	0	0	2410	4080	6480	6780
Catfish	187	1040	1460	360	7	3050	207	1750	672	8	0	2640	5690
Smaller catfish	80	1750	794	386	110	3120	1550	8450	2810	274	143	13200	16300
Shrimps	0	78	1770	1800	2970	6620	0	0	10200	24600	17800	52600	59200

Table 2B. Recalculated indices (weight) to compare pre-1989 equipment standard (80m sweeps and bobbins ground gear).  
Omregnede indekser (vekt) for sammenligning med data fra før 1989 (gammel standard).

Species	North of 76° N						South of 76° N						Total all areas
	0-100	100-200	200-300	300-400	>400	Total	0-100	100-200	200-300	300-400	>400	Total	
Cod	788	12900	5400	3120	1100	23300	107000	166000	80300	12600	7950	374000	397000
Haddock	843	174	216	17	0	1250	15400	4530	506	101	32	20600	21800

Table 3. Stratified trawl indices on numbers (millions) for different ages of cod in 1991.  
Stratifisert trål-indeks i antall (millioner) av torsk i 1991 fordelt på alder.

Depth	Age											
	0	1	2	3	4	5	6	7	8	9+	Total	
North of 76°N	0-100	0.9± 1.2	3.1± 2.9	1.7± 1.6	0.1± 0.1	+	+	+	+	+	+	5.8± 5.0
	100-200	0.4± 0.7	4.9± 3.9	1.1± 0.7	0.1± 0.1	0.1± 0.1	0.1± 0.1	0.2± 0.2	0.2± 0.2	1.0± 0.8	0.1± 0.1	8.2± 4.7
	200-300	0	1.8± 2.6	2.3± 3.3	0.1± 0.0	+	0.1± 0.0	0.1± 0.1	0.1± 0.1	0.4± 0.3	+	5.0± 5.9
	300-400	0	0.1± 0.1	0.1± 0.1	+	+	+	+	0.1± 0.0	0.2± 0.1	+	0.6± 0.2
	>400	+	0	+	+	+	+	+	+	0.1± 0.0	+	0.2± 0.1
Total	1.3± 1.4	9.9± 5.5	5.2± 3.7	0.2± 0.1	0.1± 0.0	0.2± 0.1	0.4± 0.2	0.4± 0.2	1.7± 0.9	0.2± 0.1	19.7± 9.0	
South of 76°N	0-100	4.8± 3.9	65.3±92.8	62.3±40.6	13.1±10.1	3.2± 2.8	4.6± 5.3	4.8± 6.4	3.3± 4.3	3.2± 3.6	0.1± 0.1	165.0± 106
	100-200	9.1± 5.0	23.7± 6.2	24.7±18.3	9.7± 6.6	4.0± 3.1	6.8± 5.2	7.1± 4.5	5.8± 2.9	7.8± 3.1	0.6± 0.3	99.4±41.3
	200-300	1.1± 1.1	14.7±13.6	6.4± 5.0	1.8± 1.6	0.9± 1.0	1.8± 1.7	3.0± 2.5	3.2± 2.3	4.9± 2.7	0.3± 0.2	38.1±23.1
	300-400	+	2.1± 1.0	1.1± 0.5	0.3± 0.1	0.1± 0.0	0.1± 0.0	0.4± 0.2	0.4± 0.2	1.0± 0.5	0.1± 0.0	5.5± 1.6
	>400	0.1± 0.2	0.4± 0.4	1.0± 0.7	0.3± 0.2	0.2± 0.1	0.3± 0.1	0.4± 0.1	0.4± 0.2	0.4± 0.2	+	3.5± 1.1
Total	15.1± 6.4	106 ±93.9	95.5±44.8	25.1±12.1	8.4± 4.3	13.6± 7.7	15.6± 8.2	13.1± 5.7	17.3± 5.5	1.2± 0.4	311 ± 115	
Total all areas	16.4± 6.6	116 ±94.2	101 ±45.2	25.3±12.1	8.5± 4.4	13.9± 7.7	16.0± 8.3	13.5± 5.7	19.0± 5.5	1.5± 0.6	331 ± 116	



Table 5. Stratified trawl indices on numbers (thousands) for different species in 1981 - 1991.  
Stratifiserte trål-indeksler i antall (tusen) for ulike arter i perioden 1981 - 1991.

Year	Number of hauls	Cod	Haddock	<u>S. marinus</u>	*) <u>S. mentella</u>	Greenland halibut	Long rough dab	Blue whiting	Catfish	Smaller Catfish		
North of 76°N	1981	66	1 467	327	3 415	45 680	13 600	48 720	1 821	621	1 209	
	1982	70	4 140	56	204	59 190	12 940	34 190	537	1 527	279	
	1983	70	3 251	362	36 330	58 360	14 360	32 560	128	690	975	
	1984	72	20 700	38 490	373	278 600	12 680	73 410	422	2 167	1 518	
	1985	77	82 810	30 090	695	198 430	13 970	85 100	322	3 376	2 481	
	1986	69	83 600	2 370	2 140	57 200	6 970	26 700	86	1 970	1 070	
	1987	59	66 400	80	9 300	46 070	5 520	30 700	126	2 430	1 040	
	1988	60	3 130	321	1 590	151 354	15 200	20 700	0	3 060	817	
	**)	1989	68	6 770	2 400	4 370	206 187	5 570	51 000	193	5 420	1 940
	**)	1990	69	13 600	8 400	6 580	372 000	4 260	67 100	315	8 930	1 350
**)	1991	78	19 700	25 700	11 900	1 240 000	5 260	118 000	1 310	10 800	1 960	
South of 76°N	1981	119	48 310	481	58 250	133 800	6 492	287 500	26 650	790	1 242	
	1982	121	41 460	928	11 790	218 500	13 070	336 100	27 230	1 082	1 452	
	1983	117	42 670	3 358	6 070	248 100	12 330	339 800	30 480	960	2 155	
	1984	122	90 810	30 160	33 100	273 500	23 960	592 400	67 110	1 358	4 190	
	1985	125	197 700	25 760	7 711	338 400	25 520	403 500	25 950	1 561	6 686	
	1986	122	201 000	22 200	7 570	296 000	12 500	152 000	4 910	2 340	2 640	
	1987	74	149 000	269	7 370	161 670	13 000	118 000	9 280	1 390	2 390	
	1988	111	87 800	612	4 860	76 982	24 100	161 000	2 180	1 660	2 410	
	**)	1989	113	67 400	2 590	5 780	714 451	26 300	414 000	14 200	2 850	3 520
	**)	1990	123	157 000	45 000	12 600	914 000	24 400	630 000	39 500	5 890	4 980
**)	1991	125	311 000	141 000	24 200	2 280 000	25 200	729 000	32 900	4 360	4 180	
T o t a l	1981	185	49 770	808	61 670	179 500	20 100	336 300	28 470	1 411	2 450	
	1982	192	45 600	984	11 990	277 600	26 000	370 300	27 760	2 609	1 730	
	1983	187	45 920	3 720	42 400	306 500	26 690	372 400	30 610	1 650	3 130	
	1984	194	111 500	68 640	33 470	552 100	36 630	665 800	67 530	3 525	5 709	
	1985	202	280 600	55 850	8 405	536 820	39 450	488 600	26 270	4 936	9 167	
	1986	191	284 600	24 570	9 710	353 000	19 470	178 700	4 996	4 310	3 710	
	1987	133	215 000	349	16 700	208 100	18 500	149 000	9 410	3 830	3 430	
	1988	171	90 900	933	6 450	228 736	39 300	181 000	2 180	4 720	3 230	
	**)	1989	181	74 200	5 000	10 100	920 639	31 900	465 000	14 400	8 270	5 460
	**)	1990	192	170 000	53 100	19 200	1 290 000	28 700	697 000	39 800	14 800	6 330
**)	1991	203	331 000	167 000	36 100	3 520 000	30 400	846 000	34 200	15 200	6 140	

\*) 1981 - 1989 includes small unidentified *Sebastes* specimens.  
\*\*) New standard (40 m. sweep length and rockhopper gear).

1981-1989 inkluderer små individ av begge arter.  
Ny standard (40 m. sweeper og rockhopper gear).

Table 6. Stratified trawl indices on weight (thousands kg) for different species in 1981 - 1991.  
Stratifiserte trål-indeksar i vekt (tusen kg) for ulike arter i perioden 1981 - 1991.

Year	Cod	Haddock	<u>S. marinus</u>	<u>S. mentella</u> *)	Greenland halibut	Long rough dab	Blue whiting	Catfish	Smaller Catfish	Shrimps	
North	1981	3 156	942	453	11 030	3 645	4 125	400	1 032	343	17 060
	1982	3 348	5	63	9 804	6 550	2 858	158	1 359	363	24 810
	1983	3 226	35	3 984	6 869	4 967	2 322	38	462	1 104	13 240
of	1984	5 704	5 136	127	19 250	6 840	5 132	83	1 238	1 376	6 901
	1985	32 980	4 068	295	15 130	7 880	7 082	79	1 638	3 055	3 830
76°N	1986	46 700	860	243	6 100	4 510	2 020	28	1 110	1 760	661
	1987	30 100	21	402	3 246	2 420	2 400	37	648	1 530	1 450
	1988	3 910	12	271	14 800	8 390	1 810	0	691	1 130	2 790
**)	1989	6 990	132	795	5 140	1 920	4 140	62	1 270	1 870	2 170
**)	1990	18 500	907	1 070	12 400	2 510	5 840	99	2 280	1 410	1 720
**)	1991	20 400	2 530	3 510	48 600	3 560	7 950	297	3 050	3 120	6 620
South	1981	73 270	988	10 230	31 510	5 794	40 770	4 968	1 054	3 764	50 650
	1982	61 180	469	4 325	49 830	15 660	45 510	7 741	1 849	6 425	68 780
	1983	54 350	474	1 252	35 350	18 170	46 610	9 349	2 335	6 309	60 090
of	1984	66 510	3 201	3 262	65 670	24 220	82 160	20 530	4 538	13 480	31 740
	1985	133 500	7 122	1 346	22 030	19 270	53 010	7 643	3 323	25 110	12 670
76°N	1986	167 000	10 600	1 640	24 700	11 700	20 100	1 390	1 190	7 740	2 550
	1987	122 000	189	1 430	14 489	8 320	15 500	2 460	2 900	3 130	11 000
	1988	110 000	469	871	8 780	15 700	21 200	567	735	9 920	8 880
**)	1989	88 000	1 750	1 540	22 230	15 100	35 300	4 170	1 210	9 500	21 900
**)	1990	193 000	5 820	2 510	43 900	19 600	51 600	8 840	3 060	10 800	18 100
**)	1991	340 000	24 000	6 780	67 500	21 300	70 300	6 480	2 640	13 200	52 600
T	1981	76 430	1 930	10 680	42 530	9 439	44 890	5 368	2 086	4 407	67 710
o	1982	64 530	502	4 388	59 640	22 221	48 370	7 899	3 209	6 788	93 590
	1983	57 580	509	5 236	42 350	23 130	48 930	9 387	2 797	7 412	74 330
t	1984	72 210	8 337	3 389	84 920	31 060	87 290	20 610	5 776	14 850	38 640
a	1985	166 400	11 119	1 641	37 160	27 160	60 090	7 721	4 961	28 170	16 500
l	1986	213 700	11 460	1 883	30 800	16 210	22 120	1 418	2 300	9 500	3 210
	1987	152 000	211	1 830	17 755	10 700	17 900	2 500	3 550	4 660	12 400
	1988	114 000	481	1 140	23 600	24 100	23 000	567	1 430	11 000	11 700
**)	1989	95 800	1 890	2 330	27 400	17 000	39 400	4 240	2 490	11 400	24 100
**)	1990	211 000	6 730	3 580	56 300	22 100	57 400	8 940	5 340	12 200	19 800
**)	1991	361 000	26 600	10 300	116 000	24 800	78 200	6 780	5 690	16 300	59 200

\*) 1981 - 1989 includes small unidentified *Sebastes* specimens.

\*\* ) New standard (40 m. sweep length and rockhopper gear).

1981-1989 inkluderer små individ av begge arter.  
Ny standard (40 m. sweeper og rockhopper gear).

Tabel 7. Age distribution (percent) of Cod.  
 A:0-100m, B:100-200m, C:200-300m, D:300-400m,  
 E:Deeper than 400m, F:Northern area, G:Southern  
 area, H:Total area.  
 Aldersfordeling (prosent) av torsk.

AGE	A	B	C	D	E	F	G	H
0	3.3	8.9	2.5	0.8	3.5	6.5	4.8	5.0
1	40.1	26.6	38.5	35.3	11.5	50.2	34.1	35.0
2	37.5	24.1	20.1	19.2	28.5	26.4	30.7	30.5
3	7.7	9.0	4.3	4.7	7.7	1.3	8.1	7.7
4	1.9	3.7	2.3	1.6	4.4	0.6	2.7	2.6
5	2.7	6.4	4.3	2.5	9.6	1.2	4.4	4.2
6	2.8	6.8	7.1	7.1	10.0	1.8	5.0	4.8
7	2.0	5.6	7.8	7.0	10.2	2.2	4.2	4.1
8	1.9	8.2	12.2	19.7	13.5	8.7	5.6	5.7
9 +	0.1	0.7	0.9	2.1	1.1	1.1	0.4	0.4

Tabel 8. Age distribution (percent) of Haddock.  
 A:0-100m, B:100-200m, C:200-300m, D:300-400m,  
 E:Deeper than 400m, F:Northern area, G:Southern  
 area, H:Total area.  
 Aldersfordeling (prosent) av hyse.

AGE	A	B	C	D	E	F	G	H
0	0.4	1.2	1.0	3.6	2.5	0.9	1.0	1.0
1	59.1	90.6	98.5	93.9	94.7	92.6	80.9	82.7
2	26.7	8.0	0.5	1.9	2.6	6.2	13.0	12.0
3	5.2	0.2	+	0	0.2	0.2	2.0	1.7
4	1.7	0	+	0.1	0	+	0.6	0.5
5	3.8	0	+	0.3	0	0.1	1.4	1.2
6	1.3	0	0	0.1	0	+	0.5	0.4
7+	1.8	0	+	0.1	0	+	0.6	0.5

Tabel 9. Age distribution (percent) of Greenland halibut.  
 A:0-100m, B:100-200m, C:200-300m, D:300-400m,  
 E:Deeper than 400m, F:Northern area, G:Southern  
 area, H:Total area.  
 Aldersfordeling (prosent) av blåkkeite.

AGE	A	B	C	D	E	F	G	H
1	0	0	0.6	0.3	0	0	0.3	0.2
2	0	0	4.4	3.9	1.1	2.2	3.0	2.9
3	0	0	13.3	12.3	6.4	12.5	9.6	10.1
4	0	0	19.7	25.5	19.0	27.6	20.9	22.1
5	0	0	30.0	34.8	25.6	32.4	30.1	30.4
6	0	0	18.0	15.8	20.2	16.6	18.1	17.9
7	0	0	8.3	4.8	14.6	5.5	10.0	9.2
8	0	0	4.7	2.1	9.7	2.3	6.1	5.5
9	0	0	1.0	0.5	3.1	0.8	1.8	1.6
10+	0	0	0	0	0.3	0.1	0.1	0.1





Tabel 12. Length distribution (percent) of Long rough dab.  
 A:0-100m, B:100-200m, C:200-300m, D:300-400m,  
 E:Deeper than 400m, F:Northern area, G:Southern  
 area, H:Total area.  
 Lengdefordeling (prosent) av gapeflyndre.

LENGTH	A	B	C	D	E	F	G	H
5- 9	8.5	8.5	7.4	6.8	0.6	9.1	7.2	7.4
10-14	30.3	33.6	47.6	18.9	4.5	39.5	37.1	37.5
15-19	18.0	20.8	15.9	21.1	6.2	23.4	16.8	17.7
20-24	12.0	14.8	12.5	24.3	32.0	16.9	15.2	15.4
25-29	10.0	9.9	9.1	17.4	38.6	5.4	12.6	11.6
30-34	10.9	7.2	4.2	7.7	14.4	4.9	6.4	6.2
35-39	9.4	4.6	3.0	3.5	3.3	0.7	4.2	3.7
40-44	1.0	0.6	0.4	0.3	0.3	0.1	0.5	0.5
45-49	0	0	0	0	0	0	0	0

Tabel 13. Length distribution (percent) of Blue whiting.  
 A:0-100m, B:100-200m, C:200-300m, D:300-400m,  
 E:Deeper than 400m, F:Northern area, G:Southern  
 area, H:Total area.  
 Lengdefordeling (prosent) av kolmule.

LENGTH	A	B	C	D	E	F	G	H
10-14	0	0	0	0.3	0	0	0.1	0.1
15-19	0	0	0	2.6	0.6	0.4	1.2	1.2
20-24	0	0	0	8.1	15.4	10.9	13.4	13.3
25-29	0	0	0	24.8	49.1	24.6	42.8	42.1
30-34	0	0	0	28.6	20.2	27.0	22.4	22.6
35-39	0	0	0	31.6	14.5	35.1	18.8	19.5
40-44	0	0	0	3.9	0.2	2.0	1.2	1.3

Tabel 14. Length distribution (percent) of Smaller catfish.  
 A:0-100m, B:100-200m, C:200-300m, D:300-400m,  
 E:Deeper than 400m, F:Northern area, G:Southern  
 area, H:Total area.  
 Lengdefordeling (prosent) av flekksteinbit.

LENGTH	A	B	C	D	E	F	G	H
5- 9	0	0	0	0	0	0	0	0
10-14	0	1.8	1.4	0.9	0	3.6	0.4	1.4
15-19	7.2	1.5	3.6	2.4	2.5	3.6	2.4	2.8
20-24	0	3.7	7.3	7.5	2.5	4.0	6.1	5.5
25-29	0	1.3	2.5	16.8	8.2	5.7	3.2	4.0
30-34	0	1.7	7.5	12.2	16.0	10.6	3.5	5.8
35-39	0	2.2	13.0	12.9	19.1	12.8	6.3	8.4
40-44	0	4.8	15.3	8.7	13.5	10.1	9.3	9.6
45-49	0	4.6	7.1	11.1	10.0	10.5	4.5	6.4
50-54	3.9	9.5	10.7	18.6	6.6	11.0	10.7	10.8
55-59	3.9	3.7	7.4	4.2	0	2.3	6.5	5.1
60-64	0	12.7	7.0	2.8	4.5	6.8	9.0	8.3
65-69	8.6	7.6	9.1	1.4	4.2	3.8	8.9	7.3
70-74	8.6	13.4	2.5	0	13.0	4.9	8.1	7.1
75-79	20.6	5.9	2.6	0	0	3.0	4.8	4.2
80-84	20.1	11.2	2.4	0	0	4.6	7.0	6.2
85-89	7.2	3.5	0.5	0	0	0	2.8	1.9
90-94	0.9	4.0	0	0	0	2.4	1.3	1.6
95-99	3.9	0.5	0	0.3	0	0.1	0.5	0.4
100-104	15.2	1.4	0	0	0	0.1	1.8	1.2
105-109	0	0	0	0.2	0	0.1	0	0
110-114	0	1.7	0	0	0	0	1.0	0.7
115-119	0	2.5	0	0	0	0	1.5	1.0
120-124	0	0.7	0	0	0	0	0.4	0.3

Tabel 15. Length distribution (percent) of Catfish.  
 A:0-100m, B:100-200m, C:200-300m, D:300-400m,  
 E:Deeper than 400m, F:Northern area, G:Southern  
 area, H:Total area.  
 Lengdefordeling (prosent) av gråsteinbit.

LENGTH	A	B	C	D	E	F	G	H
5- 9	0	0.2	0	0	0	0	0.3	0.1
10-14	4.1	8.5	3.3	0.4	0	3.4	10.4	5.4
15-19	2.1	21.1	19.5	1.1	0	18.9	17.6	18.5
20-24	18.8	18.6	29.7	17.7	0	29.1	10.4	23.7
25-29	17.8	13.7	15.9	27.7	20.9	19.2	6.9	15.7
30-34	10.8	7.1	10.9	17.4	58.2	10.9	6.7	9.7
35-39	9.2	8.1	8.4	19.8	20.9	6.7	14.7	9.0
40-44	10.8	8.0	4.3	6.6	0	4.6	10.4	6.3
45-49	12.0	5.0	4.4	4.7	0	3.6	8.4	5.0
50-54	4.3	5.3	1.5	2.1	0	1.6	7.5	3.3
55-59	4.1	2.4	0.7	1.0	0	0.9	3.3	1.6
60-64	3.6	0.8	0.5	0.6	0	0.8	0.7	0.8
65-69	2.0	0.5	0.5	0.6	0	0.2	1.4	0.6
70-74	0.5	0.3	0.3	0.2	0	0.1	0.8	0.3
75-79	0	0.4	0.1	0	0	0	0.7	0.2

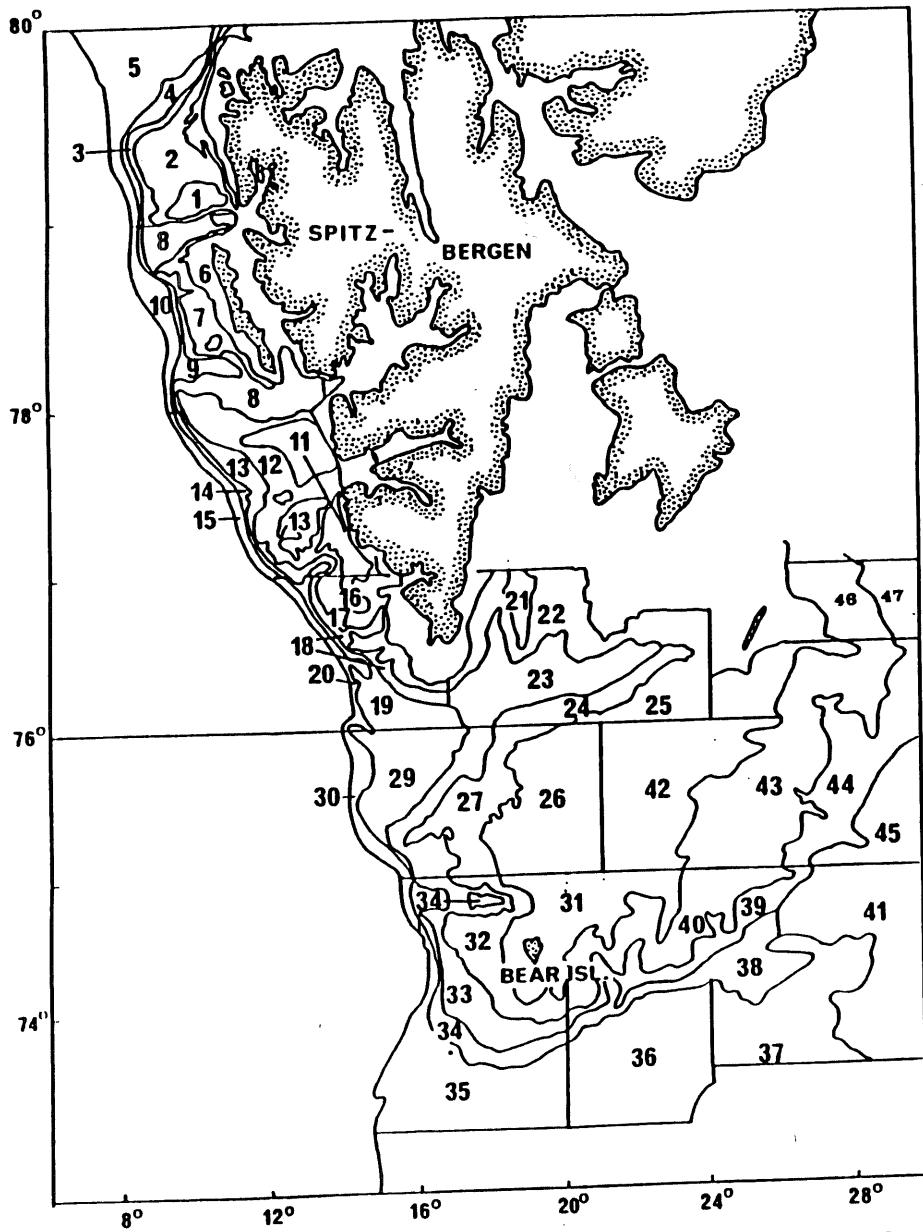


FIG. 1. THE AREA OF INVESTIGATION WITH THE DIFFERENT STRATA.

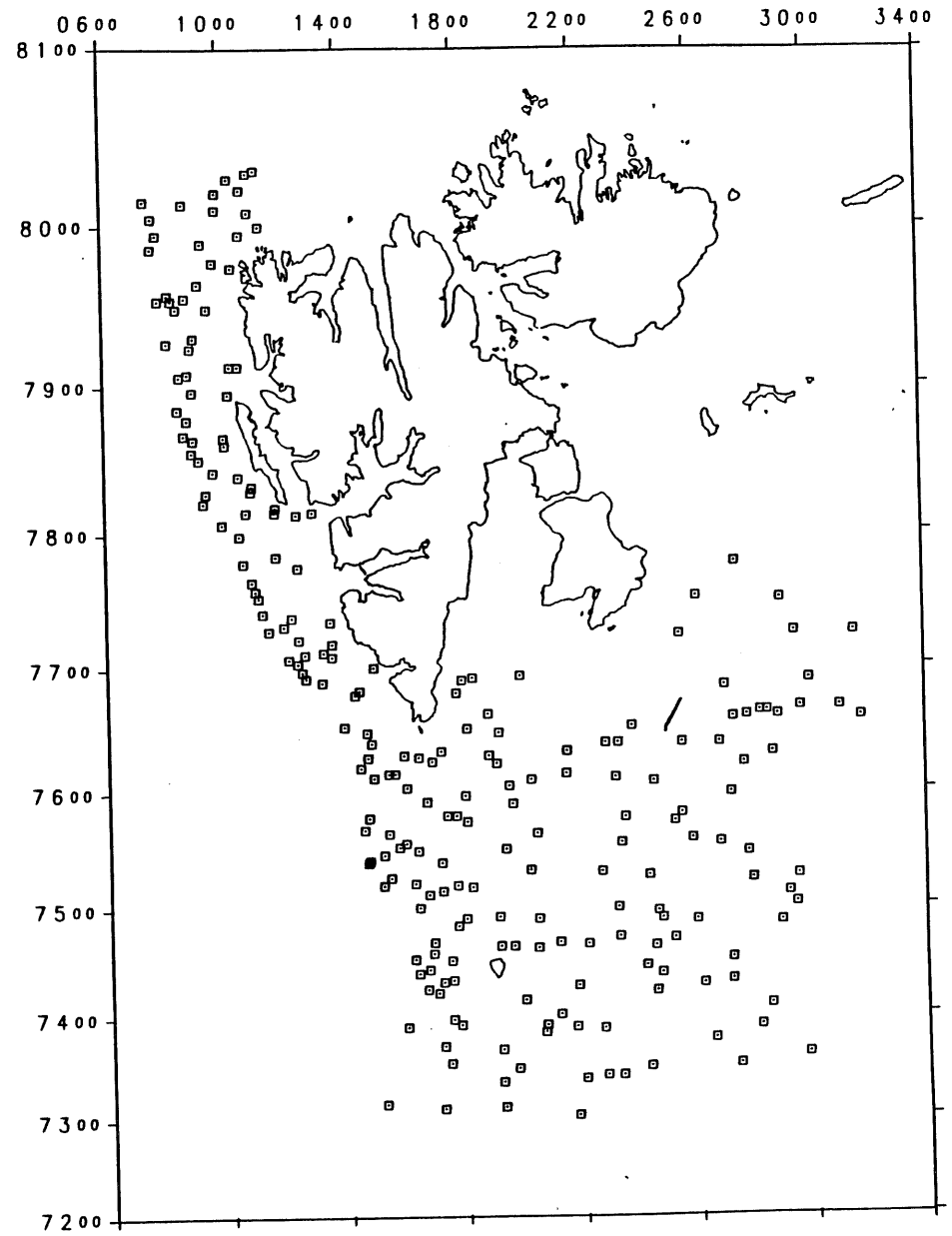


Fig. 2: Bottom trawl-stations (231) taken by F/T "Anny Kramer" 08.08 - 06.09 1991.

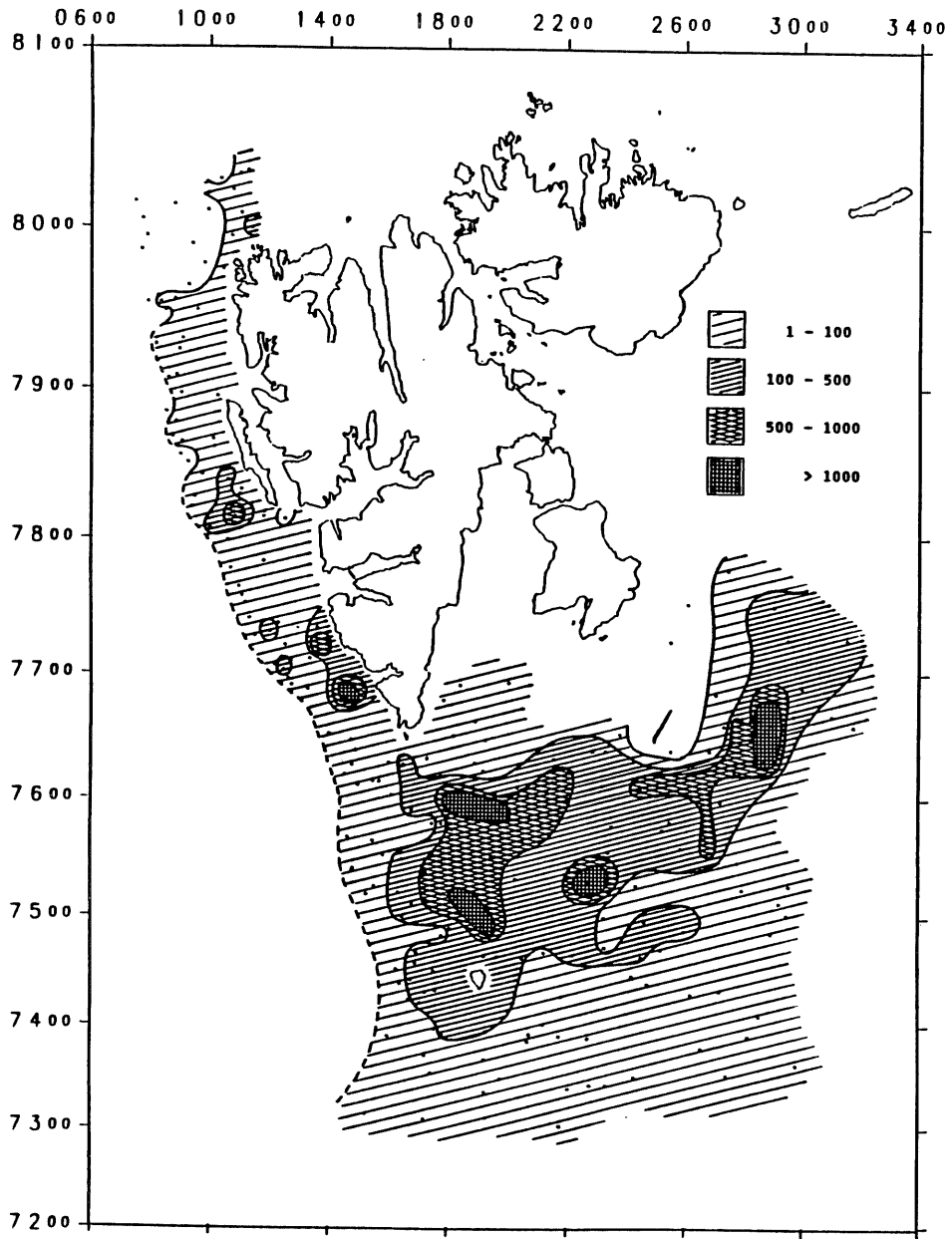


Fig. 3: Distribution of COD in the trawl catches.  
(Number per hour trawling).

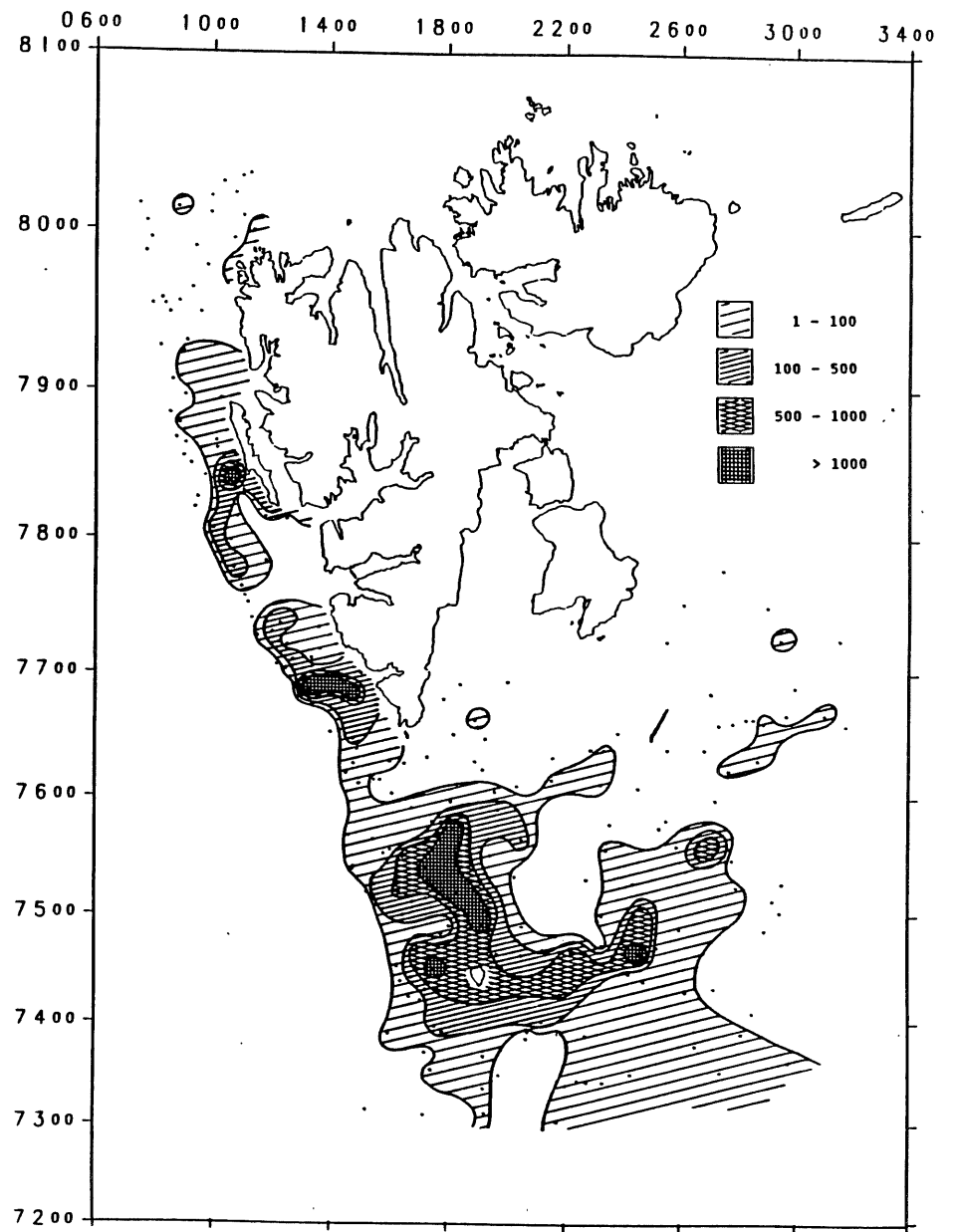


Fig. 4: Distribution of HADDOCK in the trawl catches.  
(Number per hour trawling).

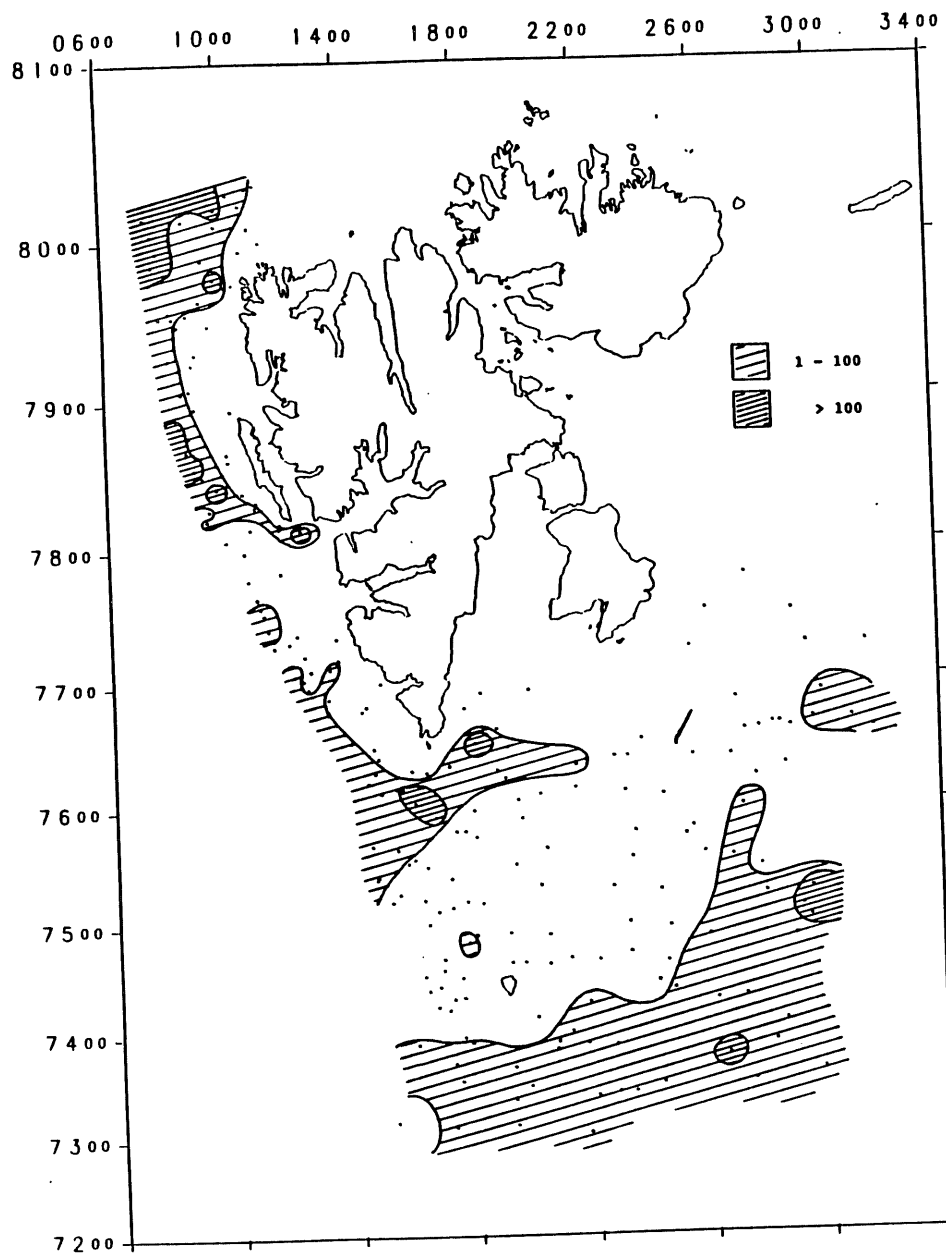


Fig. 5: Distribution of GREENLAND HALIBUT in the trawl catches.  
(Number per hour trawling).

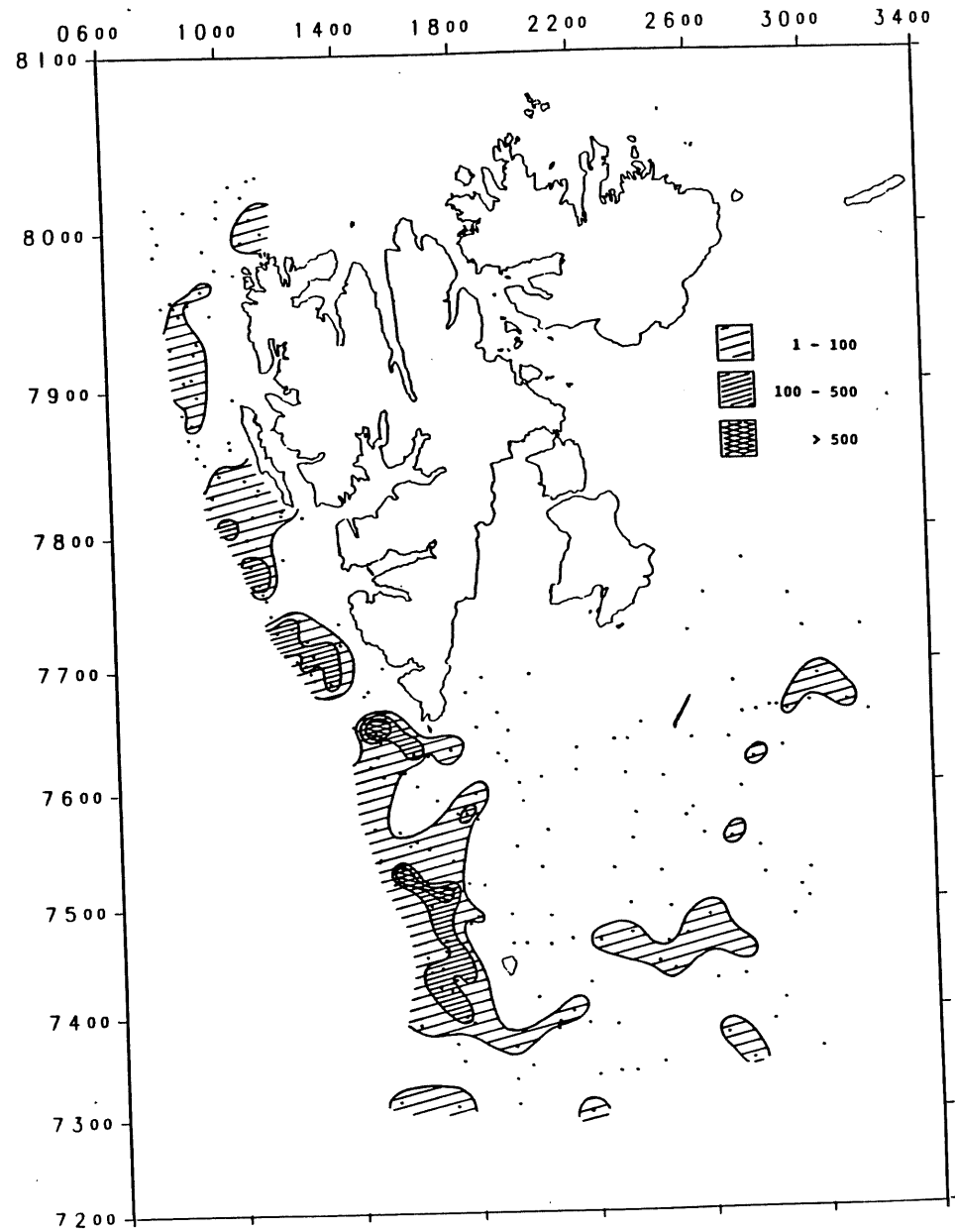


Fig. 6: Distribution of SEBASTES MARINUS in the trawl catches.  
(Number per hour trawling).

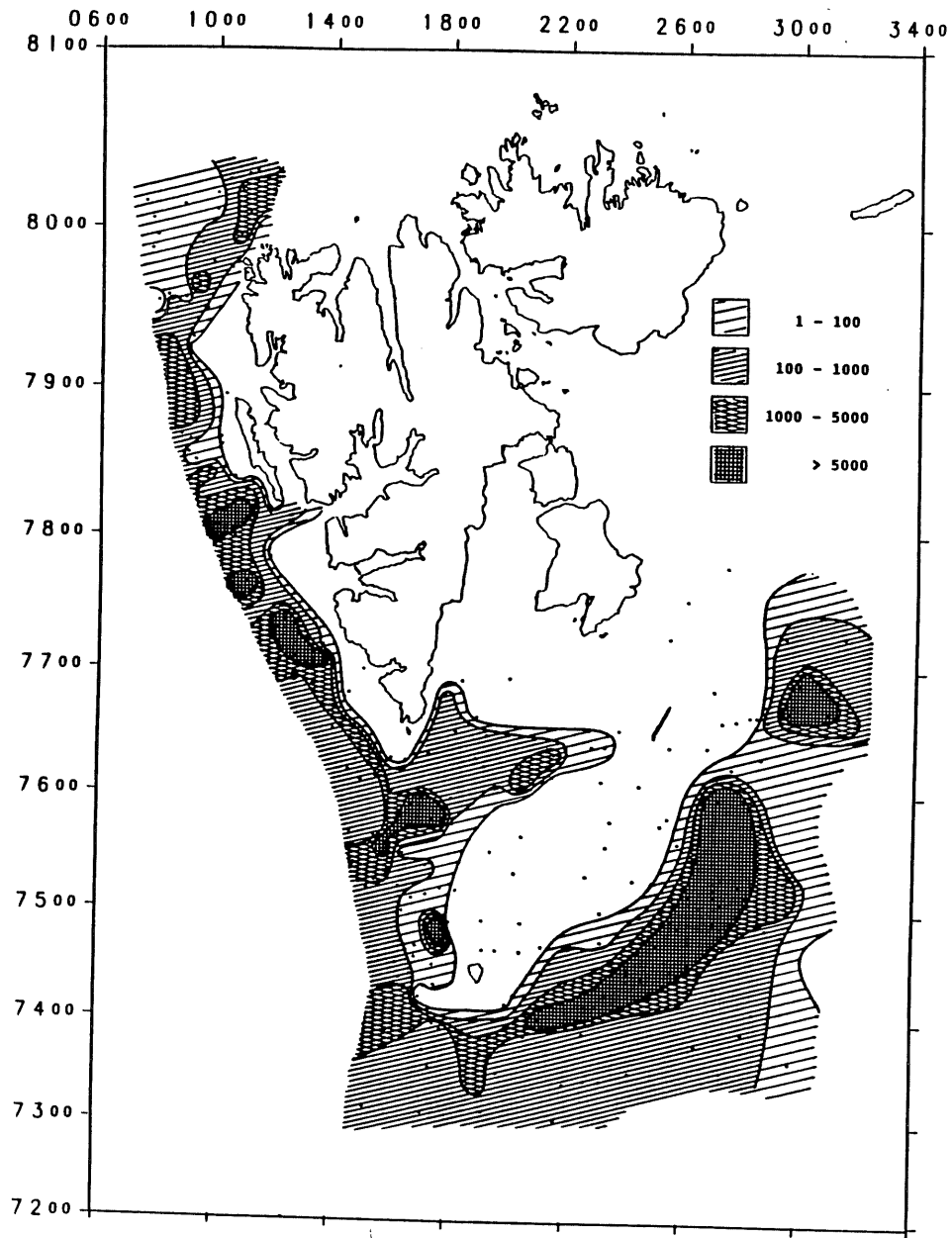


Fig. 7: Distribution of SEBASTES MENTELLA in the trawl catches.  
(Number per hour trawling).

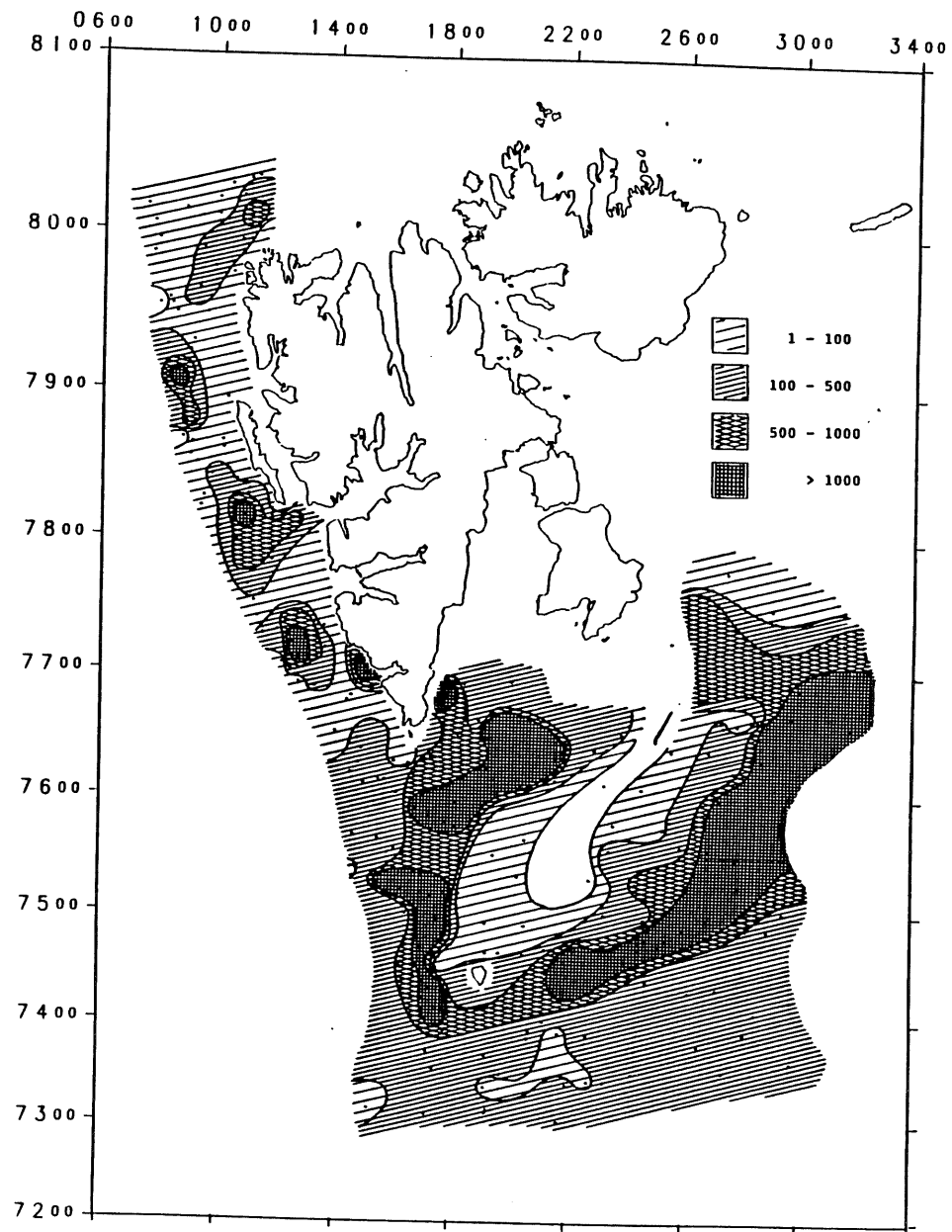


Fig. 8: Distribution of LONG ROUGH DAB in the trawl catches.  
(Number per hour trawling).

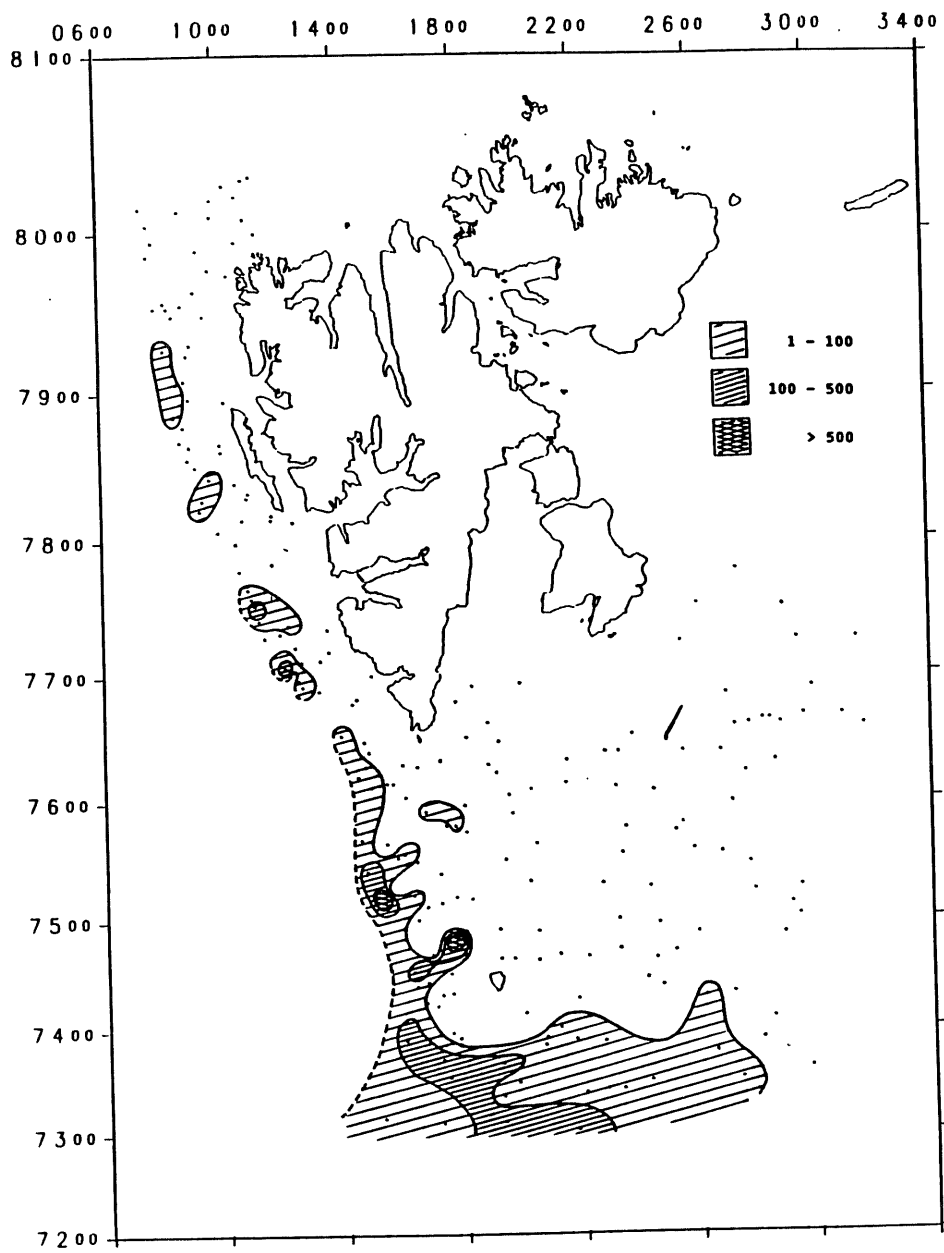


Fig. 9: Distribution of BLUE WHITING in the trawl catches.  
(Number per hour trawling).

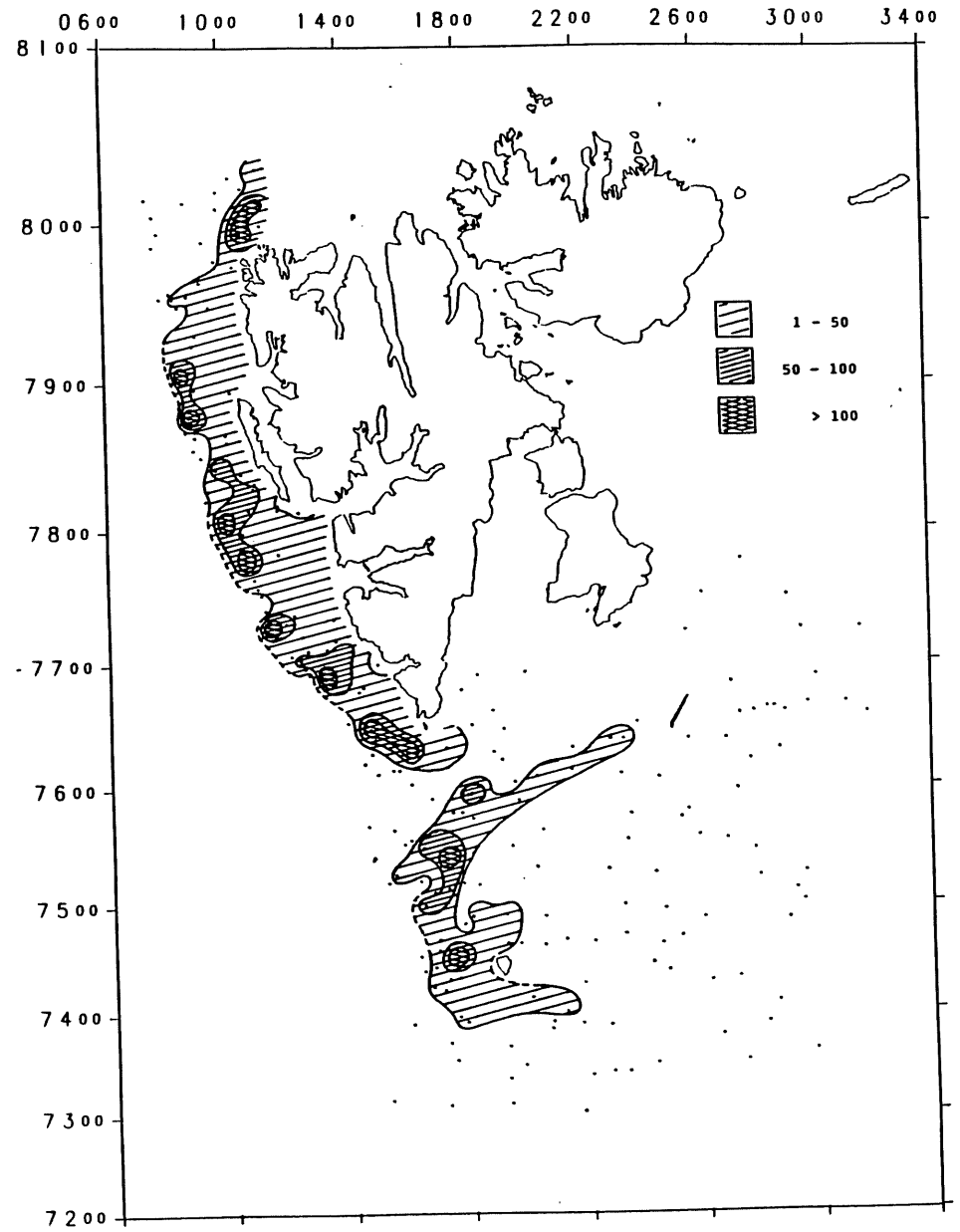


Fig. 10: Distribution of CATFISH in the trawl catches.  
(Number per hour trawling).



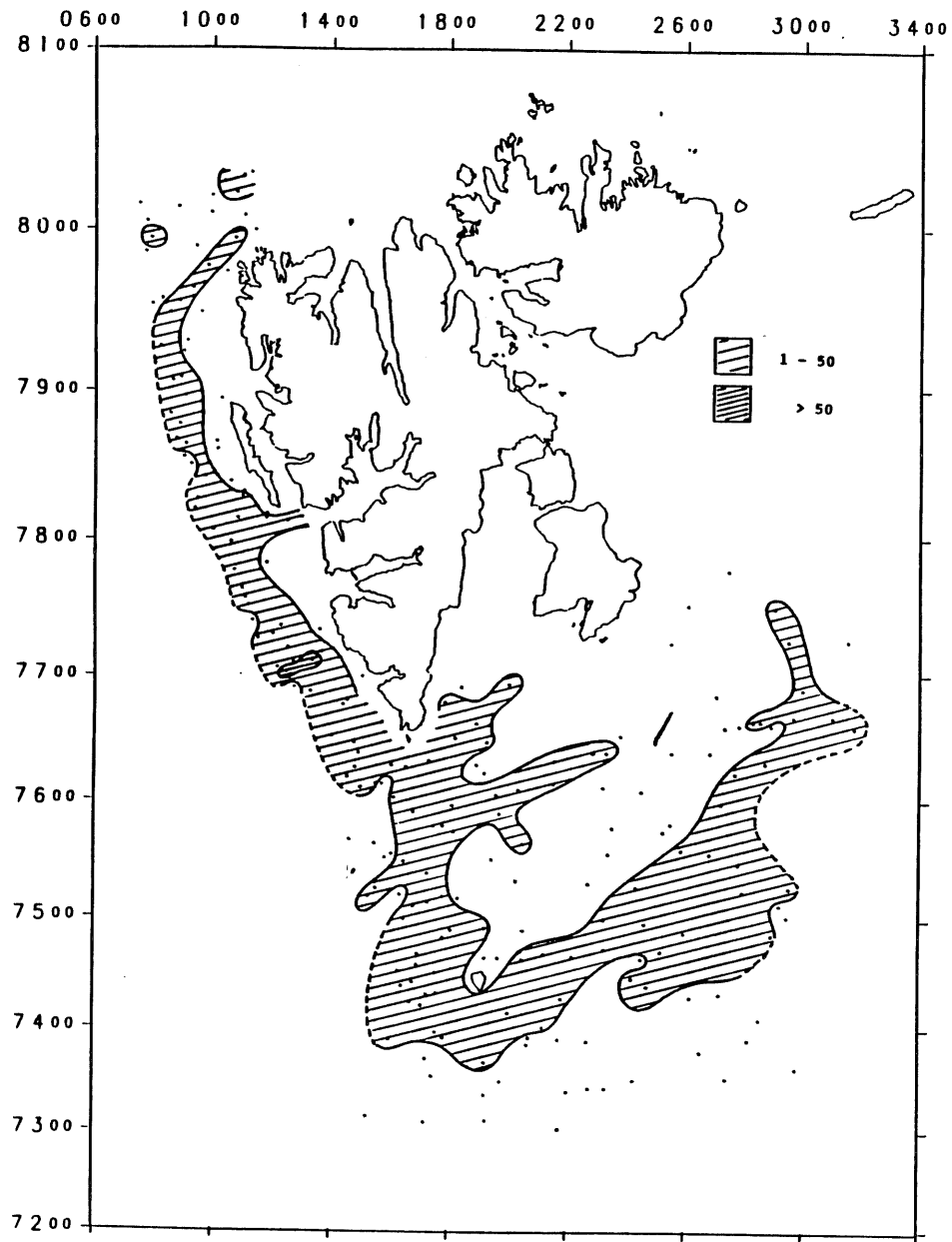


Fig.11: Distribution of SMALLER CATFISH in the trawl catches.  
(Number per hour trawling).

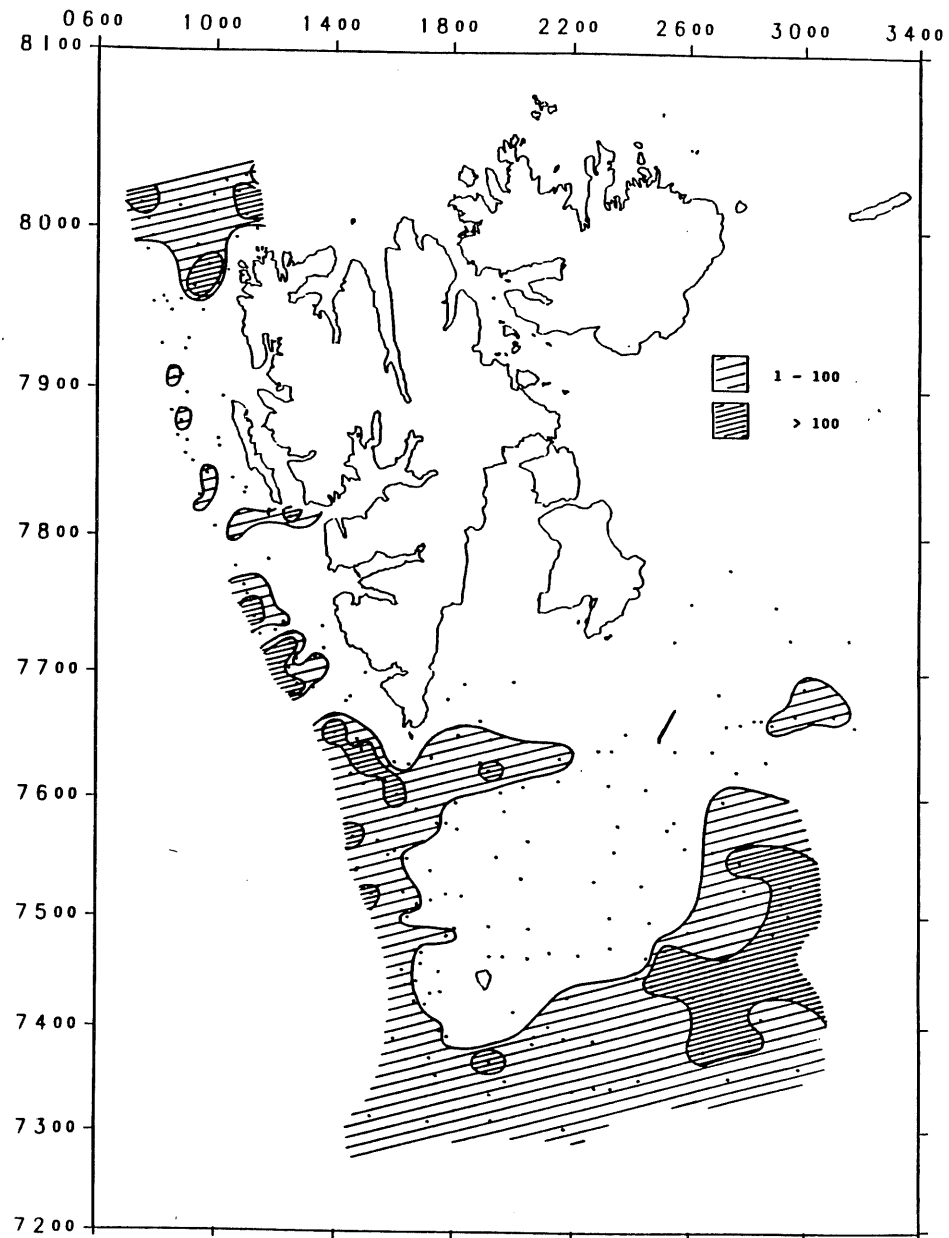


Fig.12: Distribution of SHRIMPS in the trawl catches.  
(Kilos per hour trawling).