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Ödsmål. Kville sn, Bohuslän

Hällristning
Fiskare från
bronsåldern

Rock carving
Bronze age
fishermen

INKOM TILL
FISKERIINTENDENTEN
I VÄSTERHAVETS DISTRIKT
30 SEP. 1971



**MEDDELANDE från
HAVSFISKELABORATORIET • LYSEKIL**

nr
103

Hydrografiska avdelningen, Göteborg

DATA OF MEASUREMENTS IN THE HANÖ BIGHT
AUGUST - SEPTEMBER 1970
(R/V EYSTRASALT)

by

Karl Erik Berntsson and Artur Svansson

August 1971

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The conclusion drawn in "Meddelande från Havsfiskelaboratoriet no 103" (issued in February 1971 and composed by Billmark and Tegner) were unfortunately based on a wrong translation of the original program. It is accordingly withdrawn and in place of it a new "Meddelande" no 103 is hereby issued viz. DATA OF MEASUREMENTS IN THE HANÖ BIGHT AUGUST - SEPTEMBER 1970 (R/V EYSTRASALT) by Karl Erik Berntsson and Artur Svansson.

Please destroy the old no. 103!

DATA OF MEASUREMENTS IN THE HANÖ BIGHT AUGUST - SEPTEMBER 1970
(R/V EYSTRASALT)

by

Karl Erik Berntsson and Artur Svansson

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INTRODUCTION, METHODS.

During the late summer of 1969 hydrographical and biological measurements were carried out in the Hanö Bight in order to possibly shed some light on the problem of a decline in the eel fishing between the two arms of the Helgeå river outlet into the bight. The results were published in Meddelande från Havsfiskelaboratoriet no 97.

New observations were again made during the period August 30 - September 3, 1970, the results of which are published here. This time mostly surface measurements were carried out and thereby more stations could be visited.

The methods used for the parameters measured this time as well as in 1969 are not repeated here; reference is made to Medd. no 97. The following changes were made from 1969:

Temperature was read in a bucket with an ordinary thermometer of 0.1 °C accuracy.

Salinity. A salinometer, type NIO was not used during this expedition.

KMnO₄ - Consumption was also this time determined in an acid medium.

Attenuation measured by an in situ beam transmittance meter was this time used only at 12 occasions and only with RG1. After that the instrument failed to work due to a cable break.

A Secchi disk was not used nor were bottom animals identified.

Phytoplankton Species were also this time identified by Rut Hobro.

During this expedition was additionally determined

Absorption in the wavelengths 260, 280 and 375 mμ of filtered (through a 200 mμ millipore filter) but otherwise unprepared samples in a 10 cm cuvette. This was done many weeks afterwards. From the absorption in 375 mμ was computed

$$C_{375} = \frac{A_{375} \times 10}{10 \log e}$$

This unit is the same as that measured by Jerlov (1955).

Comments to the maps, Fig:s 2-7.

Awaiting the final conclusions when the work is completed only a few comments will be presented here.

The surface drifters show (Fig. 2) that the transport was towards NE, very probably due to the S - and SW-ly winds. There is a slight upwelling of colder water along the coast (Fig. 3). Salinity (Fig. 4), however is lower in the low temperature region, possibly due to the river outlets in the area. The high values of the attenuation C_{375} (Fig. 5) might originate from the Nymölla Sulphite Pulp Industry (outlet at station 0) while the Mörrum Sulphate Pulp Industry does not seem to have such consequences.

Phytoplankton biomass (Fig. 7) has nearly the same maximum areas as total phosphorus (Fig. 6). The proximity of the Helgeå river outlet to the highest maximum is striking. Table 7 shows that the total phosphorus of the river measured during August, September and October were rather high (meanvalue 1.75 $\mu\text{gat/l}$ corresponding to an annual outlet of 25 tons of phosphorus, if the river discharge during this time of the year can be put equal to 15 m^3/s (Melin 1955)).

References.

- Jerlov, N.G., 1955: Factors influencing the transparency of the Baltic waters. Medd. fr. Oceanogr. institutet i Göteborg no 25.
- Berntsson, K.E. and Svansson A., 1971: Data of measurements in the Hanö bight August-September 1969 (R/V Eysstrasalt). Medd. fr. Havsfiskelab. no 97.
- Melin, R., 1955: Vattenförningen i Sveriges floder. SMHI Medd. Serie D nr 6.

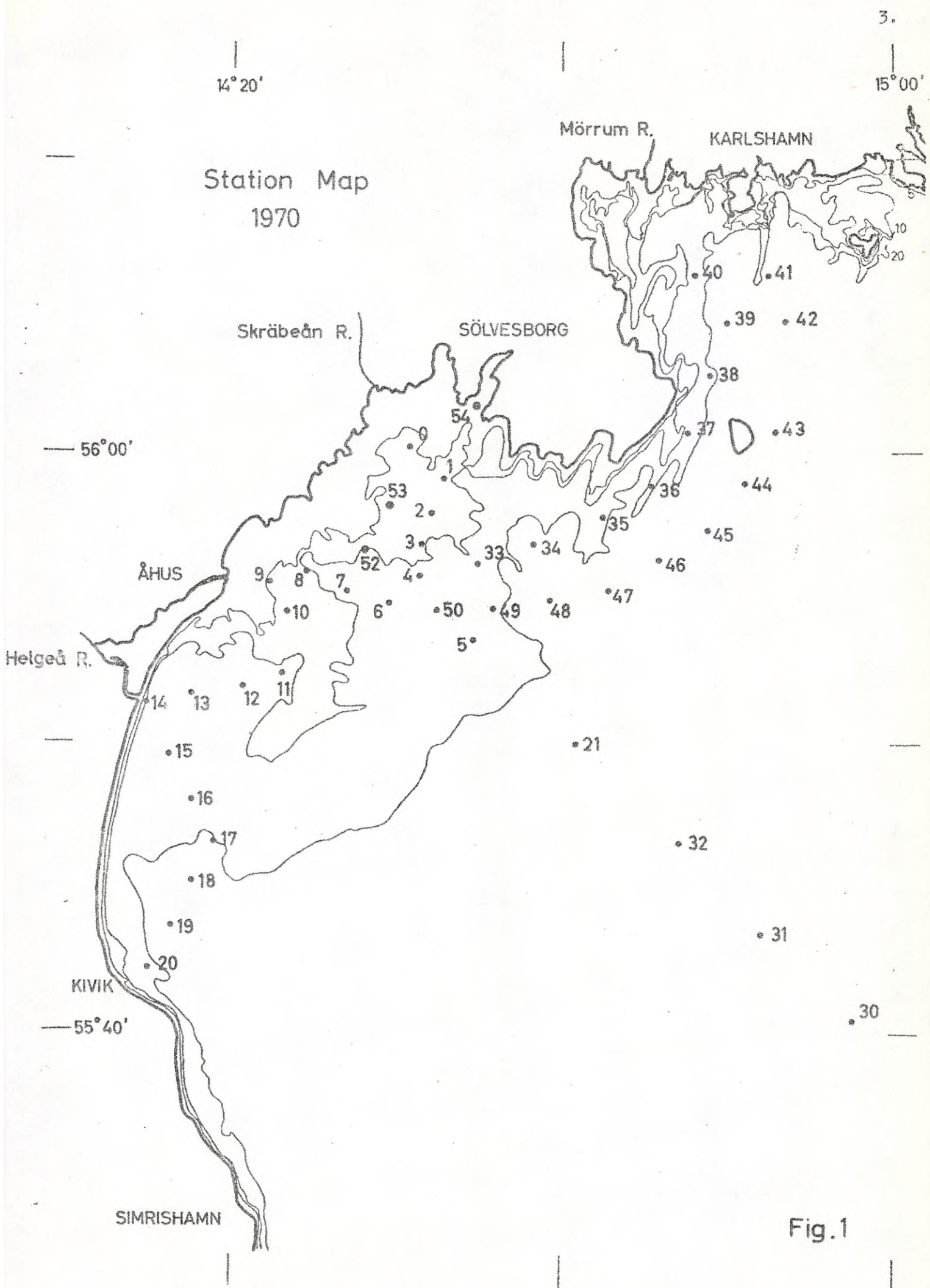


Fig. 1

Surface Drifters Released

Stn: s 0-3, 5, 10-17, 19 August 31 1970
5-9, 21, 30 September 1 1970
4, 33-50 " 2 1970
0, 14, 52-54 3 1970

Recoveries
stn no / days

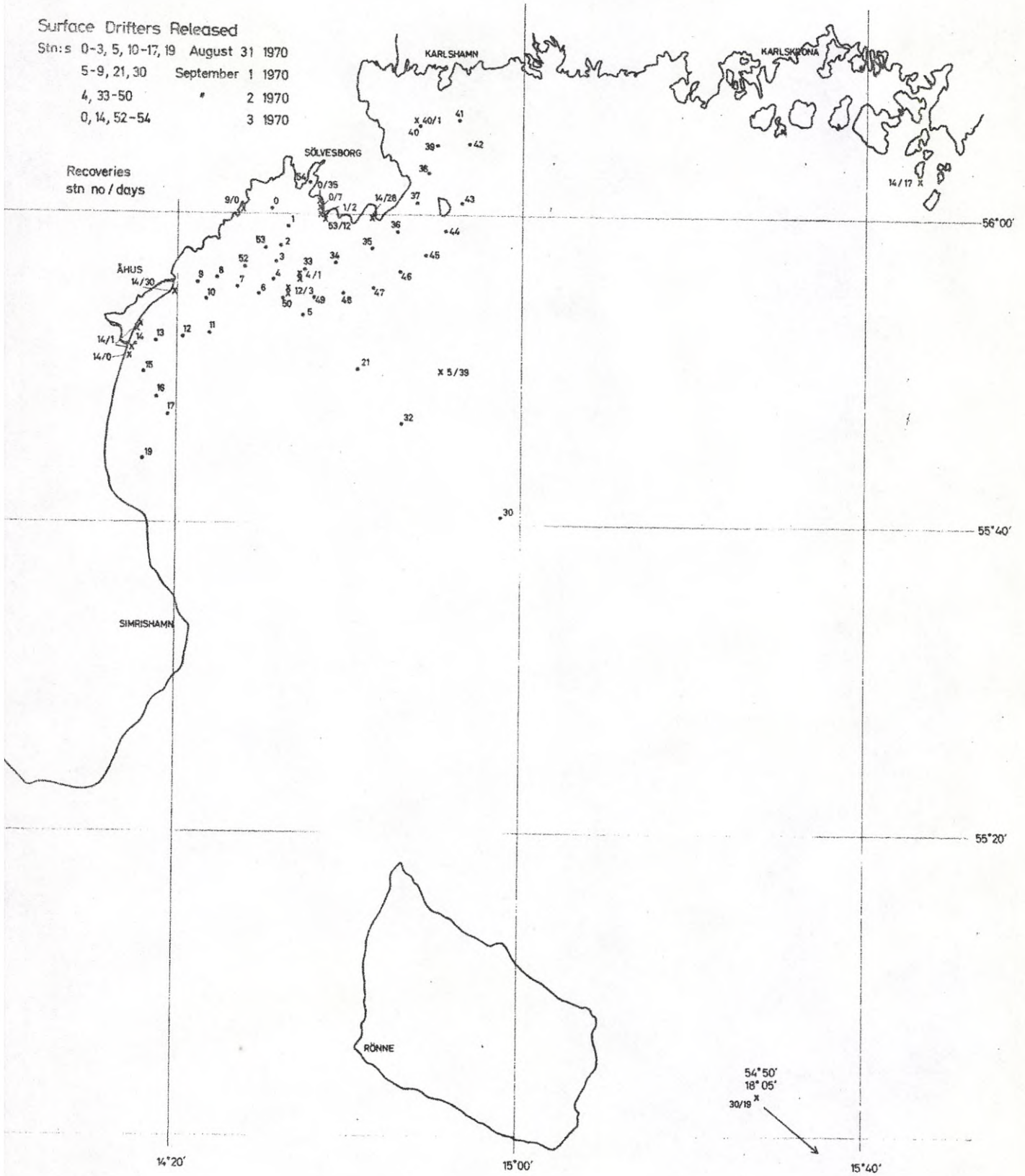


Fig. 2

14° 20'

15° 00'

Aug 31 – Sep 3 1970

t°C

at 8 m depth

KARLSHAMN

SÖLVESBORG

ÅHUS

15°

17°

KIVIK

55° 40'

SIMRISHAMN

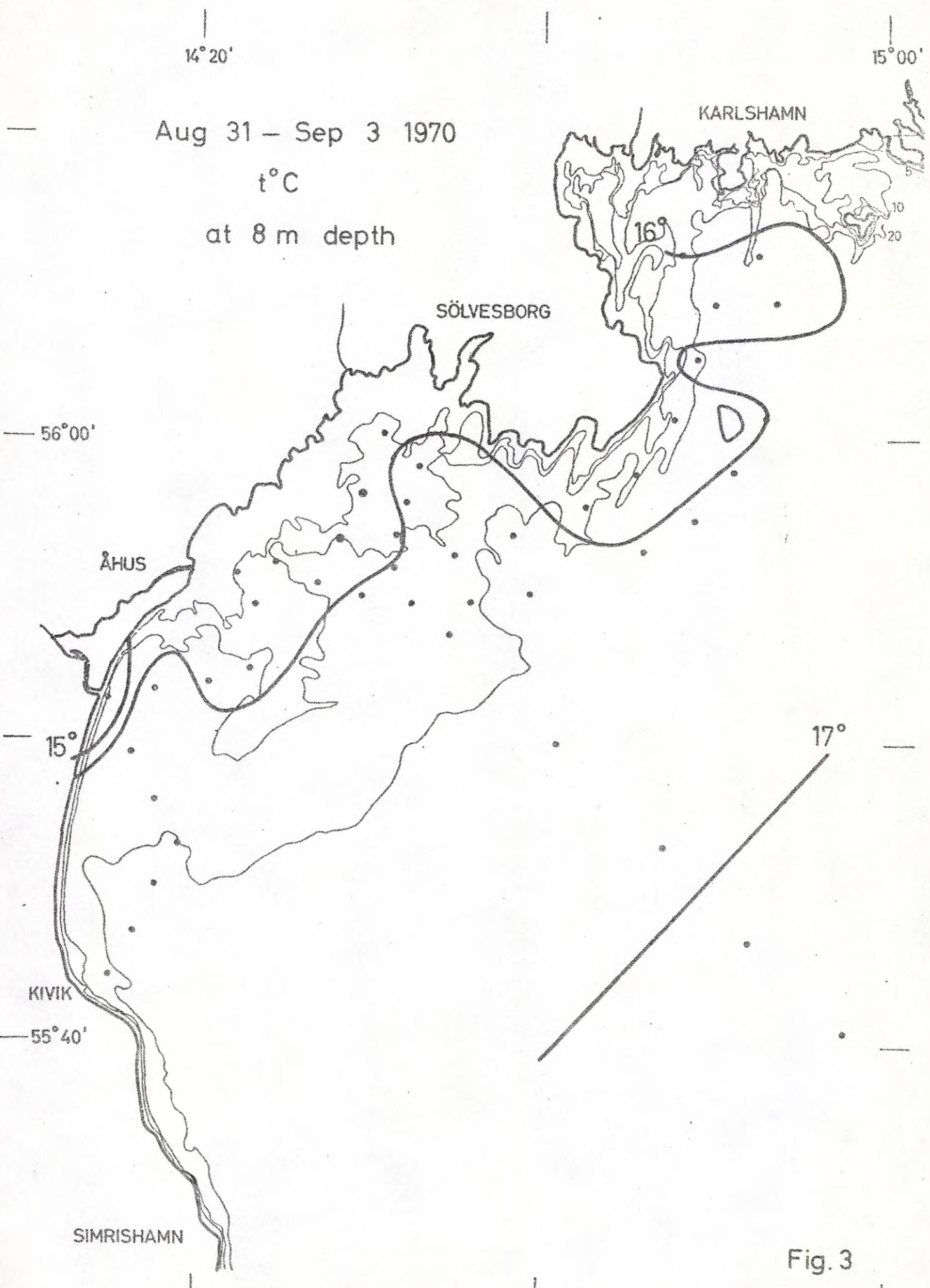


Fig. 3

14° 20'

15° 00'

Aug. 31 - Sep. 3 1970

Surface Data

S ‰

KARLSHAMN

SÖLVESBORG

ÅHUS

KIVIK

SIMRISHAMN

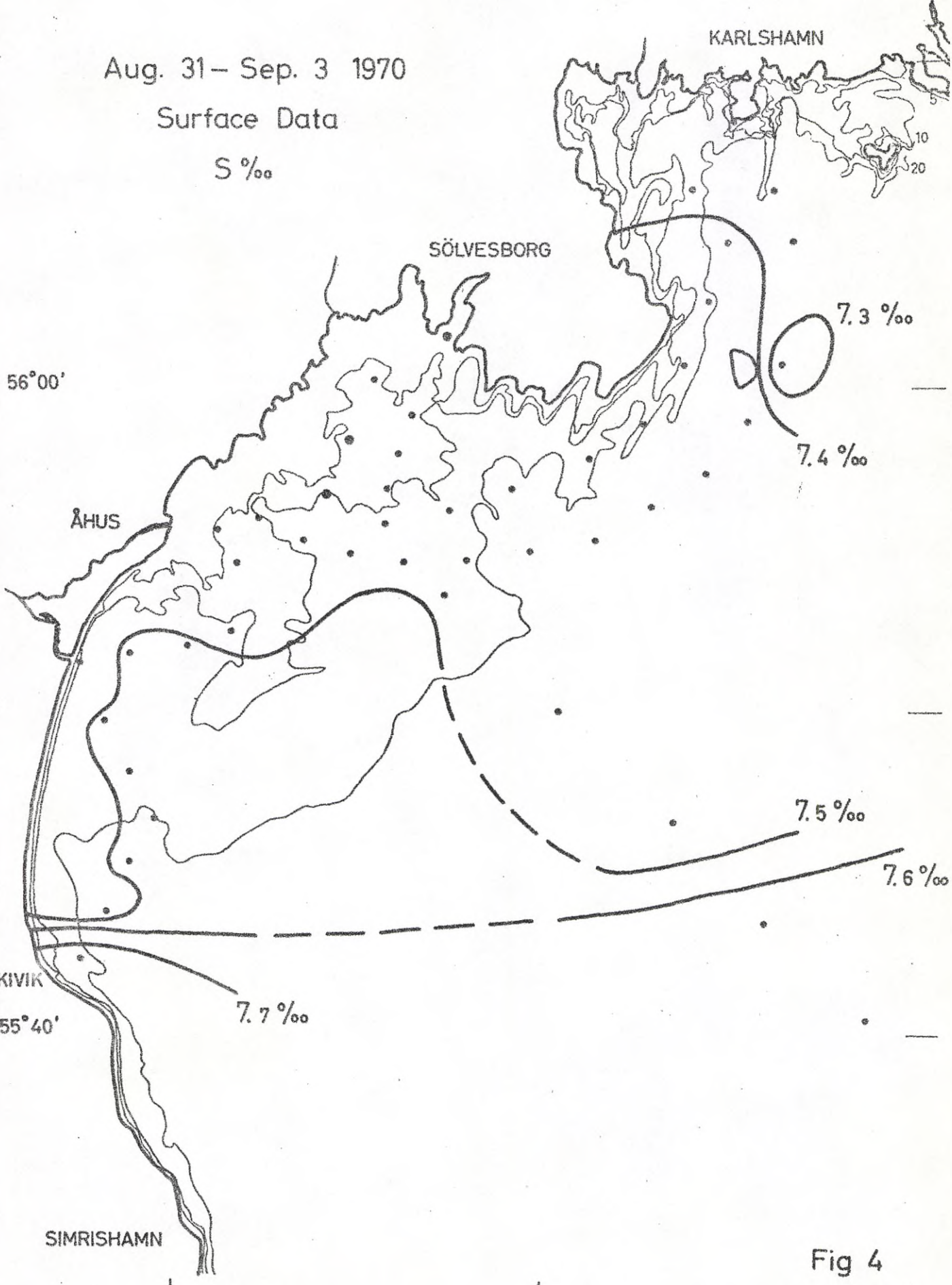


Fig 4



Fig. 5

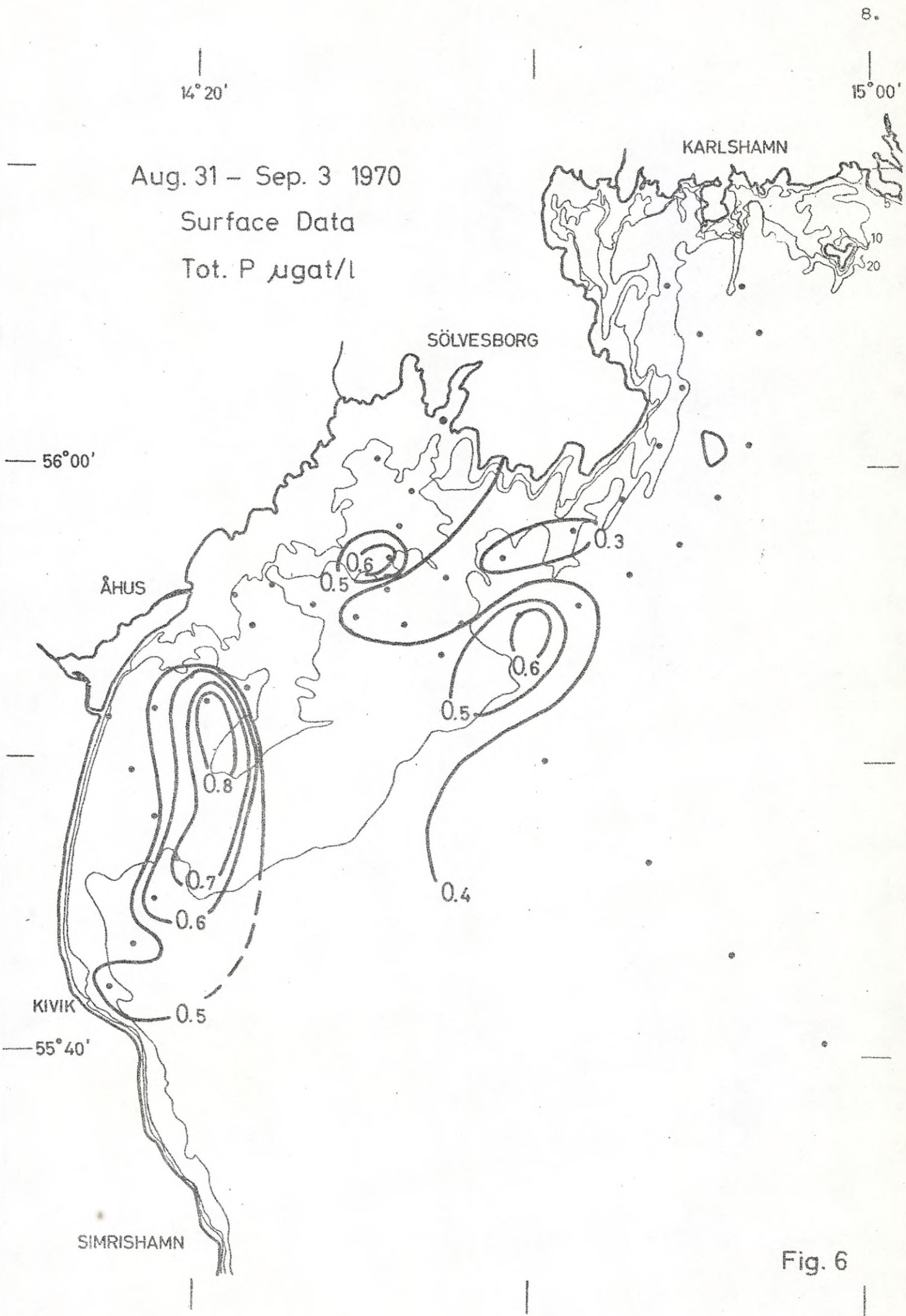


Fig. 6

14° 20'

15° 00'

Aug 31 Sep 3 1970

Surface Data

Phytoplankton Biomass $\mu^3 \times 10^6 / l$

KARLSHAMN

SÖLVESBORG

56° 00'

ÅHUS

<1000

<500

1000

500

500

1000

1000

500

>5000

KIVIK

<500

55° 40'

SIMRISHAMN

Fig. 7

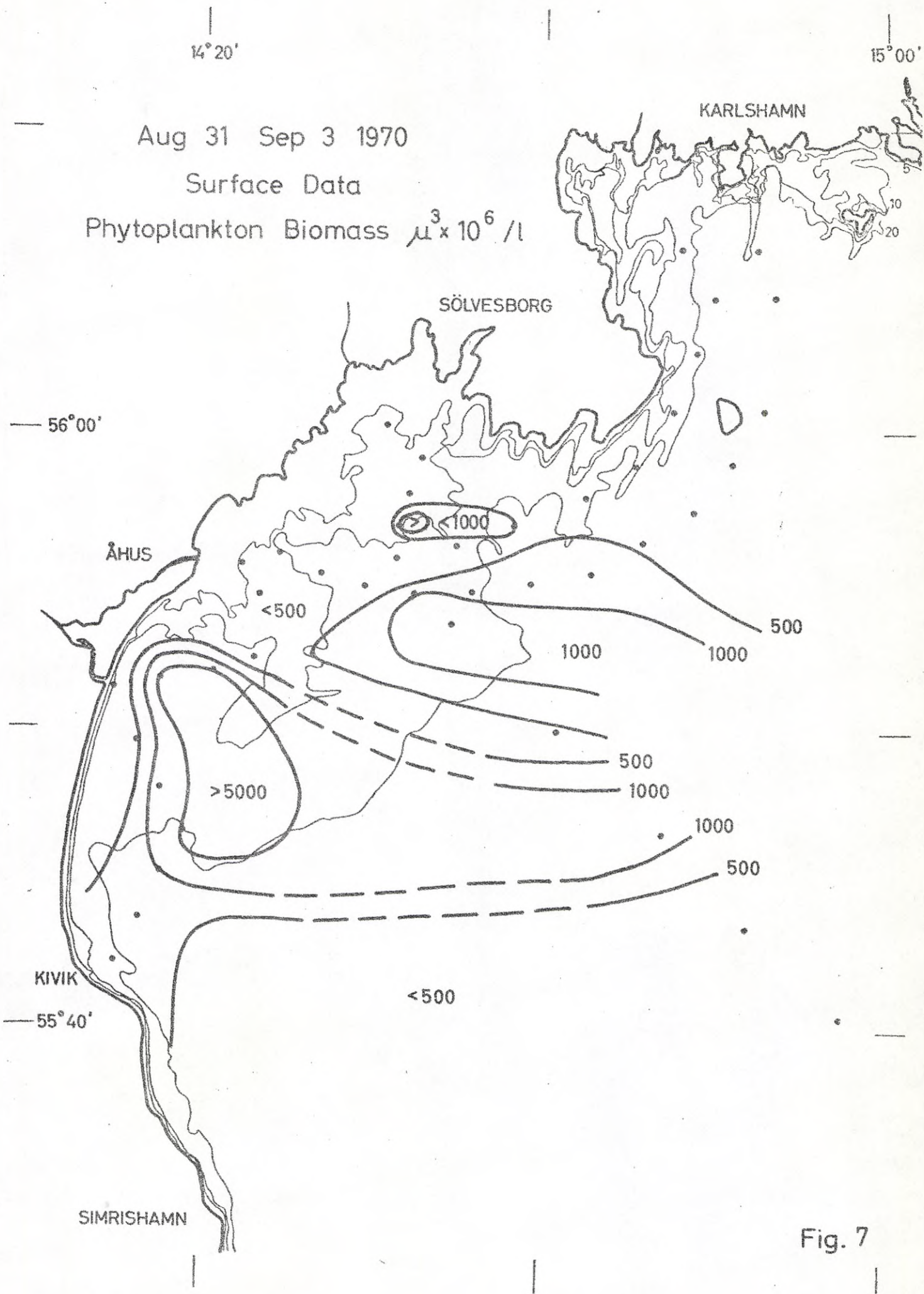


Table 1a.

Surface Data

Eysterasalt 31/8 1970

GMT	Station	Lat.	Long.	Temp. °C	Sal. ‰	O ₂ ml/l	BS7	PO ₄ -P µgat/l	Tot.P µgat/l	KMnO ₄ mg/l	Färg
08 ⁴⁵	Handö	55° 42.2'	14° 15.0'	16.9	7.705	7.09	0.76		0.53	32	
09 ⁰⁰		55° 43.7'	14° 16.4'	16.9	7.489	7.08	0.80	0.16	0.43	36	
09 ³⁵		55° 45.2'	14° 17.7'	16.8	7.514	7.16	0.93	0.32	0.63	40	
09 ⁵⁵		55° 46.6'	14° 19.1'	17.3	7.527	7.03	1.13	0.11	0.71	43	
10 ¹⁰		55° 48.1'	14° 17.7'	17.0	7.542	7.04	0.86	0.07	0.41	45	
10 ³⁰		55° 49.7'	14° 16.2'	17.0	7.532	7.22	0.80	0.19	0.41	45	
10 ⁵⁰		55° 51.4'	14° 15.0'	16.1	7.457	6.89	0.70	0.21	0.49	36	
11 ¹⁰		55° 51.7'	14° 17.7'	17.1	7.534	7.10	1.29	0	0.52	52	
11 ³⁰		55° 51.9'	14° 20.7'	17.2	7.502	7.27	1.69	0	0.80	41	
11 ⁴⁰		55° 52.3'	14° 23.0'	15.8	7.408	7.04	0.71		0.35	31	
12 ¹⁰		55° 54.5'	14° 23.4'	16.1	7.474	6.91	0.40	0.24	0.46	40	
12 ⁵⁵		55° 53.5'	14° 34.7'	17.0	7.495	7.13	0.99	0.16	0.47	39	
13 ³⁰		55° 56.9'	14° 31.5'	16.9	7.475	7.01	0.65	0.11	0.67	47	
13 ⁵⁵		55° 58.0'	14° 32.0'	16.7	7.460	6.86	0.49	0.21	0.42	46	
14 ⁰⁰		55° 59.2'	14° 32.8'	16.8	7.457	6.87	0.51	0.16	0.39	38	
14 ³⁰		56° 00.3'	14° 30.8'	16.6	7.420	7.02	0.63	0.18	0.43	44	
15 ²⁰		55° 56.0'	14° 24.6'	16.6	7.464	7.03	0.58	0.21	0.45	45	
15 ³⁰		55° 55.5'	14° 22.3'	16.3	7.462	6.84	0.75	0.21	0.42	39	

Table 1b.

Surface Data

Eystresalt 1/9 1970

GMT	Station	Lat.	Long.	Temp. °C	Sal. ‰	O ₂ ml/l	BS7	PO ₄ -P µgat/l	Tot.P µgat/l	KMnO ₄ mg/l	Färg
07 ²⁰	Hanö 9	55° 55.5'	14° 22.3'	16.0	7.399	6.90	0.58	0.11	0.46	30	5
07 ³⁵	8	55° 56.0'	14° 24.6'	16.0	7.463	6.84	0.42	0.11	0.49	36	4
07 ⁴⁵	7	55° 55.3'	14° 27.0'	16.1	7.472	6.87	0.51	0.13	0.46	36	4
08 ¹⁰	6	55° 54.8'	14° 29.5'	16.5	7.496	6.98	0.54	0.07	0.36	40	4
08 ³⁰	5	55° 53.5'	14° 34.7'	16.6	7.495	7.08		0.06	0.46	48	4
10 ⁰⁰	21	55° 46.5'	14° 47.2'	16.8	7.468	7.00	0.68	0	0.37	48	4
11 ¹⁵	30	55° 40.5'	14° 57.5'	17.2	7.614	6.96	0.78	0	0.31	36	4
11 ⁵⁵	31	55° 43.5'	14° 52.0'	17.3	7.633	6.98	0.77	0	0.31	48	4
13 ⁰⁰	32	55° 50.0'	14° 41.0'	16.7	7.409	7.06	0.77	0	0.36	44	4

Table 1c.

Surface Data

Eysterasalt 2/9 1970

GMT	Station	Lat.	Long.	Temp. °C	Sal. ‰	O ₂ ml/l	BS7	PO ₄ -P µgat/l	Tot.P µgat/l	KMnO ₄ mg/l	Färg
07 ³⁵	Hanö 4	55° 55.8'	14° 31.3'	16.0	7.482	6.90	0.90	0.09	0.39	42	4
07 ⁵⁰	33	55° 56.3'	14° 34.8'	16.4	7.485	6.98	0.71	0.06	0.33	44	4
08 ¹⁵	34	55° 56.8'	14° 38.3'	16.4	7.476	6.94	0.81	0.11	0.27	46	4
08 ³⁵	35	55° 57.8'	14° 42.5'	16.0	7.468	6.82	0.56	0.08	0.26	45	4
08 ⁵⁵	36	55° 58.8'	14° 45.4'	15.5	7.464	6.70	0.60		0.36	39	4
09 ²⁵	37	56° 00.6'	14° 47.7'	15.7	7.459	6.77	0.65	0.16	0.33	37	4
09 ⁴⁵	38	56° 02.5'	14° 49.1'	16.1	7.428	6.92	0.57	0.07	0.30	43	4
10 ⁰⁰	39	56° 04.4'	14° 50.0'	16.0	7.425	7.01	0.57	0.07	0.33	60	5
10 ¹⁵	40	56° 06.0'	14° 48.0'	16.2	7.382	6.86	0.48	0.11	0.36	39	4
10 ³⁰	41	56° 06.0'	14° 50.5'	16.4	7.387	7.01	0.64	0.09	0.35	54	4
10 ⁵⁰	42	56° 04.5'	14° 53.6'	16.0	7.353	6.98	0.53	0.05	0.32	35	4
11 ²⁰	43	56° 00.7'	14° 53.0'	16.3	7.241	6.98	0.58	0.01		32	4
11 ⁴⁰	44	55° 59.0'	14° 51.1'	16.2	7.460	6.87	0.44	0.09	0.35	42	4
12 ⁰⁰	45	55° 57.3'	14° 48.9'	16.3	7.469	7.00	0.54	0.05	0.35	41	4
12 ²⁰	46	55° 56.3'	14° 45.9'	16.4	7.483	6.92	0.51	0.06	0.35	40	4
12 ⁴⁰	47	55° 55.2'	14° 42.8'	16.6	7.482	6.97	0.86	0.02	0.41	44	4
13 ⁰⁰	48	55° 54.9'	14° 39.3'	16.6	7.494	6.96	0.88	0.03	0.60	43	4
13 ²⁰	49	55° 54.7'	14° 35.8'	16.5	7.487	6.99	0.62	0.04	0.36	44	4
13 ⁴⁵	50	55° 54.6'	14° 32.3'	16.3	7.474	6.90	0.49	0.09	0.34	41	4
14 ⁰⁰	6	55° 54.8'	14° 29.5'	15.9	7.478	6.82	0.41	0.16	0.40	44	4
14 ¹⁰	7	55° 55.3'	14° 27.0'	16.0	7.470	6.76		0.12	0.39	30	4
14 ³⁰	9	55° 55.5'	14° 22.3'	15.2	7.499	6.76		0.18	0.40	37	4
1440	51	Åhus hamnynning		15.7	7.420	6.81		0.40	1.50	44	4

Table 1d.

 Surface Data
 Eystrasalt 3/9 1970

GMT	Station	Lat.	Long.	Temp. °C	Sal. ‰	O ₂ ml/l	BS7	PO ₄ -P µgat/l	Tot.P µgat/l	KMnO ₄ mg/l	Färg
07 ³⁰	Hanö 52	55° 56.6'	14° 27.9'	15.8	7.475	6.63	0.61	0.17	0.42	39	5
07 ⁴⁵	53	55° 58.1'	14° 30.2'	15.7	7.474	6.69	0.41	0.16	0.41	38	6
08 ¹⁵	0	56° 00.3'	14° 30.8'	15.9	7.542	6.68	0.98	0.22	0.55	44	9
08 ³⁵	1	55° 59.2'	14° 32.8'	16.0	7.472	6.71	0.51	0.17	0.52	42	5
09 ¹⁰	54	Sölvesborgs hamn		17.1	7.430	6.33	0.84	0.74	1.42	41	9
15 ⁰⁰	Gropahålet	Helgeå mynning		15.7	7.429	6.73	1.22		0.83	40	9
15 ¹⁰	300 m N om Helgeåmynning			15.7	7.436				0.88	36	7

Table 2a.

Eysterasalt August 31, 1970

Bathythermograph Temperature °C

Station	Depth	20	19	18	17	16	15	14	13	12	11	10	5	3	2	1	0
	0 m	16.9	16.9	16.8	17.3	17.0	17.0	16.1	17.1	17.2	15.8	16.1	17.0		16.7	16.8	16.6
	1	16.9	16.9	16.8	17.3	17.0	16.9	16.1	17.1	17.0	15.7	16.1	17.0		16.7	16.8	16.6
	2	16.9	16.6	16.7	17.3	17.0	16.8	16.1	17.1	16.9	15.6	16.1	16.9		16.7	16.8	16.6
	3	16.9	16.5	16.5	17.3	17.0	16.7	16.1	17.1	16.8	15.8	16.1	16.8		16.7	16.8	16.6
	4	16.8	16.5	16.4	17.1	16.8	16.6	15.9	17.0	16.6	16.0	16.0	16.8		16.6	16.7	16.6
	5	16.8	16.5	16.3	17.1	16.7	16.5	15.7	16.9	16.5	15.8	15.5	16.6		16.5	16.6	16.6
	6	16.7	16.4	16.3	17.0	16.6	16.5	15.0	16.8	15.9	15.7	15.3	16.4		16.4	16.5	16.3
	7	16.6	16.4	16.3	16.9	16.6	16.5	14.9	16.6	15.6	15.4	15.3	16.3		16.4	16.1	15.7
	8	16.6	16.4	16.3	16.8	16.6	16.5	14.9	16.4	15.4	15.3	15.3	16.2		16.3	15.9	15.5
	9	16.6	16.1	16.3	16.8	16.5	16.5	14.9	16.0	15.3	15.2	15.2	16.2		16.1	15.8	15.5
	10	16.5	15.5	16.3	16.8	16.5	16.5	14.8	15.7	15.2			16.1		15.7	15.6	
	11	16.2	15.1	16.3	16.8	16.5	16.5	14.8	15.5	15.2			15.9		15.5	15.4	
	12	15.3	15.0	16.3	16.8	16.5	16.1	14.8	15.4	15.2			15.3		15.3	15.0	
	13	15.0	14.9	15.9	16.8	16.5	15.7		15.3	15.1			15.1		15.3	15.0	
	14	14.3	14.6	15.4	16.6	16.5	15.2		15.3	15.1			15.0		15.5	15.4	
	15		14.0	15.3	16.3	16.4			15.3	15.1			15.0		15.3	15.0	
	16		13.9	15.1	16.0								15.0		15.7	15.6	
	17		13.5	15.0	15.7								15.9		15.5	15.4	
	18		11.7	14.9									15.3		15.3	15.0	
	19		11.1	14.8									15.0		15.3	15.0	
	20			14.6									15.0		15.3	15.0	

Table 2b.

Eysterasalt September 1-2, 1970

Station	Depth	21	30	31	32	4	33	34	35	36	37	38
	0 m	16.8	17.2	17.3	16.7	16.0	16.4	16.4	16.0	15.5	15.7	16.1
	1	16.8	17.2	17.3	16.7	16.0	16.4	16.4	16.0	15.5	15.7	16.1
	2	16.8	17.1	17.3	16.7	16.0	16.4	16.4	16.0	15.5	15.7	16.1
	3	16.8	17.1	17.3	16.7	16.0	16.4	16.4	16.0	15.5	15.7	16.1
	4	16.8	17.1	17.3	16.7	16.0	16.4	16.4	16.0	15.5	15.7	16.1
	5	16.8	17.1	17.3	16.7	16.0	16.4	16.4	16.0	15.5	15.7	16.1
	6	16.8	17.1	17.3	16.7	16.0	16.4	16.4	16.0	15.5	15.7	16.1
	7	16.8	17.1	17.3	16.7	16.0	16.4	16.4	16.0	15.5	15.7	16.1
	8	16.8	17.1	17.3	16.7	16.0	16.4	16.4	16.0	15.5	15.7	16.1
	9	16.8	17.0	17.3	16.6	16.0	16.4	16.4	15.9	15.4	15.3	16.0
	10	16.8	17.0	17.3	16.6	15.8	16.3	16.3	15.5	15.2	14.8	15.7
	11	16.8	17.0	17.2	16.6	15.1	16.2	16.3	15.1	14.2	14.3	15.3
	12	16.7	17.0	17.2	16.5	15.0	15.9	16.2	15.0	13.0	13.8	14.9
	13	16.7	16.9	17.2	16.5	15.0	15.6	15.7	14.8	12.3	13.3	14.6
	14	16.6	16.8	17.1	16.5	15.0	15.4	15.2	14.3	12.2	12.8	14.0
	15	16.6	16.7	17.1	16.3	15.0	15.3	15.0	13.8	12.0	12.0	13.3
	16	16.3	16.5	17.0	16.1	14.9	15.0	14.9	11.5	10.0	10.0	11.5
	17	16.0	16.3	16.6	15.9	14.9	14.9	14.9	10.4	13.0	13.8	14.9
	18	15.7	15.7	15.8	15.5	14.5	14.8	14.8	8.0	12.3	13.3	14.6
	19	15.4	14.2	15.6	14.9	14.9	14.8	14.8	7.3	12.2	12.8	14.0
	20	15.4	13.7	14.0	13.5	13.5	14.0	14.0	7.1	14.2	14.3	15.3
	21	10.0	7.0	9.5	6.3	6.3	6.3	6.3	7.0	13.0	13.8	14.9
	25	8.1	4.7	6.5	5.3	5.3	5.3	5.3	14.8	12.3	13.3	14.6
	30	5.8	4.0	5.5	8.7	8.7	8.7	8.7	14.3	12.2	12.8	14.0
	35	5.0	3.2	4.0	5.0	5.0	5.0	5.0	15.1	14.2	14.3	15.3
	40	6.5	3.3	5.0	5.0	5.0	5.0	5.0	15.7	13.8	13.8	14.9
	45	7.7	7.7	7.7	7.7	7.7	7.7	7.7	15.0	13.0	13.0	14.9
	50	8.9	8.9	8.9	8.9	8.9	8.9	8.9	15.0	13.0	13.0	14.9
	54	5.0	5.0	5.0	5.0	5.0	5.0	5.0	14.9	12.3	12.3	14.6
	60	5.0	5.0	5.0	5.0	5.0	5.0	5.0	14.8	12.2	12.2	14.0

Table 2c.

Eysterasalt September 2-3, 1970

Station Depth	Hanö 0 m	Bathythermograph Temperature °C																			
		39	40	41	42	43	44	45	46	48	49	50	6	7	9	52	53	0	1	54	
		16.0	16.2	16.4	16.0	16.3	16.2	16.3	16.4	16.6	16.5	16.3	15.9	16.0	16.0	15.8	15.7	15.9	16.0	16.0	17.1
	1	16.0	16.2	16.4	16.0	16.3	16.2	16.3	16.4	16.6	16.5	16.3	15.9	16.0	16.0	15.8	15.7	15.9	16.0	16.0	17.1
	2	16.0	16.2	16.4	16.0	16.3	16.2	16.3	16.4	16.6	16.5	16.3	15.9	16.0	16.0	15.8	15.7	15.9	16.0	16.0	17.1
	3	15.9	16.2	16.4	16.0	16.3	16.2	16.3	16.4	16.6	16.5	16.3	15.9	16.0	16.0	15.8	15.7	15.9	16.0	16.0	17.1
	4	15.9	16.2	16.3	15.9	16.3	16.2	16.3	16.4	16.6	16.5	16.3	15.9	16.0	16.0	15.8	15.7	15.9	16.0	16.0	17.1
	5	15.8	16.2	16.3	15.9	16.3	16.2	16.3	16.4	16.6	16.5	16.3	15.9	16.0	16.0	15.8	15.7	15.9	16.0	16.0	17.1
	6	15.8	16.2	16.3	15.8	16.3	16.2	16.3	16.4	16.6	16.5	16.3	15.9	16.0	16.0	15.8	15.7	15.9	16.0	16.0	17.1
	7	15.7	16.1	16.2	15.7	16.2	16.2	16.3	16.4	16.6	16.4	16.2	15.7	15.8	15.8	15.7	15.9	16.0	16.0	16.0	17.1
	8	15.7	16.0	15.8	15.7	16.0	16.1	16.2	16.3	16.5	16.4	16.2	15.7	15.8	15.8	15.7	15.9	16.0	16.0	16.0	17.1
	9	15.6	15.5	15.7	15.7	15.8	16.1	16.1	16.3	16.5	16.3	16.1	15.6	15.7	15.8	15.7	15.9	16.0	16.0	16.0	17.1
	10	15.3	15.2	15.2	15.7	15.7	16.1	16.1	16.3	16.4	16.3	15.9	15.5	15.5	15.8	15.7	15.9	16.0	16.0	16.0	17.1
	11	15.0	14.3	14.0	15.6	15.5	15.9	15.8	16.2	16.3	16.2	15.4	15.3	15.4	15.7	15.7	15.9	16.0	16.0	16.0	17.1
	12	14.5	13.8	12.0	15.4	14.8	14.7	15.5	15.7	16.3	15.9	14.9	14.7	14.7	15.4	15.4	15.9	16.0	16.0	16.0	17.1
	13	13.9	12.3	11.3	15.2	14.7	14.7	14.7	15.2	16.2	15.8	14.9	14.7	14.7	15.4	15.4	15.9	16.0	16.0	16.0	17.1
	14	12.3	10.9	10.5	14.0	14.5	14.6	14.3	14.7	15.5	15.2	14.5	14.5	14.7	15.4	15.4	15.9	16.0	16.0	16.0	17.1
	15	11.3	9.5	9.5	12.0	14.0	14.4	14.2	14.3	14.7	15.2	14.5	14.7	14.7	15.4	15.4	15.9	16.0	16.0	16.0	17.1
	16	9.8	8.5	8.5	11.0	13.3	14.1	14.0	13.5	14.3	14.7	14.3	14.3	14.3	15.4	15.4	15.9	16.0	16.0	16.0	17.1
	17	8.8	8.2	8.2	10.7	12.7	13.7	13.8	14.1	14.3	14.7	14.3	14.3	14.3	15.4	15.4	15.9	16.0	16.0	16.0	17.1
	18	8.2	7.9	7.9	10.2	11.0	13.3	13.7	11.0	13.8	13.8	13.8	13.8	13.8	15.4	15.4	15.9	16.0	16.0	16.0	17.1
	19	7.7	9.6	7.9	9.6	10.3	12.5	13.0	9.5	13.5	13.5	13.5	13.5	13.5	15.4	15.4	15.9	16.0	16.0	16.0	17.1
	20	7.6	9.0	7.7	9.0	9.3	10.5	9.9	10.5	13.0	13.0	13.0	13.0	13.0	15.4	15.4	15.9	16.0	16.0	16.0	17.1
	21	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
	22	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	23	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	24	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	25	6.7	6.5	6.6	6.5	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
	30	6.0	6.3	6.0	6.3	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0

Absorption in 10 cm cell.

Date	Station Hanö	A ₂₆₀	A ₂₈₀	C ₃₇₅ m ⁻¹	
31.8.70	20	0.611	0.423	0.967	
	19	0.672	0.485	1.082	
	18	0.575	0.398	0.921	
	16	0.568	0.391	0.852	
	15	0.594	0.414	1.059	
	14	0.587	0.408	0.898	
	13	0.696	0.515	1.243	
	12	0.629	0.444	1.013	
	11	0.623	0.443	1.266	
	10	0.606	0.427	0.944	
	5	0.571	0.391	0.829	
	3	0.592	0.414	0.990	
	2	0.646	0.466	1.405	
	1	0.691	0.501	1.474	
	0	0.660	0.480	1.335	
	8	0.644	0.460	1.312	
	9	0.637	0.460	1.082	
	1.9.70	9	0.601	0.419	1.036
		8	0.589	0.413	0.967
7		0.598	0.422	1.105	
6		0.596	0.417	1.059	
5		0.649	0.475	1.151	
21: 0 m		0.564	0.385	0.783	
5 m		0.581	0.399	0.875	
10 m		0.620	0.440	1.151	
15 m		0.556	0.382	0.783	
20 m		0.548	0.375	0.783	
40 m		0.572	0.403	0.990	
30		0.572	0.396	0.921	
31		0.582	0.405	0.967	
32		0.574	0.399	0.898	
2.9.70		4	0.576	0.396	0.898
	33	0.577	0.396	0.898	
	34	0.605	0.426	1.128	

Table 4b.

Absorption in 10 cm cell.

Date	Station Hanö	A_{260}	A_{280}	$C_{375} \text{ m}^{-1}$
2.9.70	35	0.614	0.437	1.128
	36	0.662	0.483	1.266
	37	0.588	0.407	0.967
	38	0.602	0.426	1.036
	39	0.602	0.425	1.220
	40	0.650	0.458	1.220
	41	0.633	0.446	1.197
	42	0.577	0.401	0.944
	43	0.576	0.398	0.967
	44	0.617	0.438	1.036
	45	0.603	0.424	0.967
	46	0.585	0.407	0.967
	47	0.736	0.557	1.497
	48	0.660	0.478	1.289
49	0.592	0.416	1.036	
3.9.70	0	0.853	0.653	2.095
	Sölvesborg	0.718	0.525	1.658

Table 5a.

Dominating phytoplankton species/l

Station	Henö	20	19	18	17	16	15	14	13	12	11	10
CYANOPHYTA												
Anabaena (straight)	Unit	1.0	+	+	+	+	+		+	+		+
Anabaena (trailed)	m	12	8	8	4							+
Aphanizomenon flos-aquae	cell	8.2	5.7	12.1	15.8	10.5	8.0	+	20.8	22.8	+	+
Gomphosphaeria lacustris	m	3.1	1.8	3.8	10.1	6.9	1.3	+	12.3	9.8	+	+
Nodularia spumigena	kol											
Narrow bluegreen threads	m											
EUGLENOPHYTA												
Euglenid	cell	1	+					+	+	+	+	+
PYRROPHYTA												
Amphidinium sp.	"	1		+	+	+					+	
Ebria tripartita	"	+										
Dinophysis spp.	"	1	1	1	5	2	1	1	+	4	4	+
Gymnodinium sp.	"	1	1	1			+					
Phalacroma rotundatum	"	+										
Peridinium sp.	"				+			21	2	4	8	2
CHRYSOPHYTA												
Chaetoceros danicus	"											
Licmophora sp.	"											
Rhicosphenia curvata	"	+										
Synedra spp.	"									+		
Thalassiosira baltica	"											+
CHLOROPHYTA												
Ankistrodesmus sp.	"	11	4	178	29030	14008	252	1	28218	24023	1	+
Cocystis spp.	kol	1	2	1	1	3	2	+	1	2	1	+
Scenedesmus quadricauda	cell										+	
Monads, small	"	79	46	40	32	47	49	48	45	32	78	25

Table 5b.

Dominating phytoplankton species/l

Station	Hanó	5	3	2	1	8	9	9	8	7	6	5
CYANOPHYTA												
Anabaena (straight)	Unit	+	+	+	+					+	+	+
Anabaena (trailed)	m	8	4		12	+			8	8	+	+
Aphanizomenon flos-aquae	cell	8.2	8.0	2.0	+	+			+	+	2.4	13.3
Gomphosphaeria lacustris	m	8.3	8.2	1.4	1.0	+	+		+	+	+	5.5
Nodularia spumigena	kol											
Narrow bluegreen threades	m											
EUGLENOPHYTA												
Euglenid	cell	1		+	+	2	+		+	+		
PYRROPHYTA												
Amphidinium sp.	"											
Ebria tripartita	"	+	+	+								+
Dinophysis spp.	"											+
Gymnodinium sp.	"			1	1	+	+		+		+	1
Phalacroma rotundatum	"											
Peridinium sp.	"	1	+	1	1	3	3	5	1	+		
CHRYTSOPHYTA												
Chaetoceros danicus	"											
Licmophora sp.	"											
Rhoicosphenia curvata	"											
Synedra spp.	"											
Thalassiosira baltica	"					+	+	+	+	+		
CHLOROPHYTA												
Ankistrodesmus sp.	"	221	4	+	+				+	+	1	1
Oocystis spp.	kol	1	2	+	+	+			+	+	1	1
Scenedesmus quadricauda	cell											
Monads, small	"	145	59	57	25	47	22	21	15	31	17	54

Table 5c.

Dominating phytoplankton species/l

Station	21	21	21	21	21	21	21	21	21	21	30	31	32	4
Depth	0	5	10	15	20	30	40	0	0	0	0	0	0	0
CYANOPHYTA														
Anabaena (straight)	1	+											+	
Anabaena (trailed)	+												16	
Aphanizomenon flos-aquae	9.9	4.9	6.9	+	+			1.0	+		1.0	+	11.4	+
Gomphosphaeria lacustris	kol													
Nodularia spumigena	1.5	2.4	1.0	+	+	+						+	4.1	+
Narrow bluegreen threads	+	+												
EUGLENOPHYTA														
Euglenid									+			+		+
PYRROPHYTA														
Amphidinium sp.	+													
Ebria tripartita	+	+							+				1	
Dinophysis spp.													+	
Gymnodinium sp.	1	+										+	2	+
Phalacroma rotundatum	+	+										+		
Peridinium sp.														1
CHRYSOPHYTA														
Chaetoceros danicus		+												+
Licmophora sp.														
Rhoicosphenia curvata														
Synedra spp.														
Thalassiosira baltica										1				
CHLOROPHYTA														
Ankistrodesmus sp.	56	65	3	1	+						5	1	132	38
Oocystis spp.	kol	2	1	2	1	+					1	3		+
Scenedesmus quadricauda	cell													
Monads, small	99	78	69	18	17	21	4	53	72	81	35			

Table 5d.

Dominating phytoplankton species/l

Station	Hanö	33	34	35	36	37	38	39	40	41	42	43
		Unit										
CYANOPHYTA												
		m	+	+	+	+	+	+	+	+	+	+
	Anabaena (straight)											
	cell	28	4.1	28				1	14	32		112
	Anabaena (trailed)							1.8	1.0	3.3	2.6	9.0
	Aphanizomenon flos-aquae	m		+	+	+	+				+	+
	Gomphosphaeria lacustris	kol						+	+	+	+	+
	Nodularia spumigena	m	1.5	1.6	+	+	1.0	+	+	+	+	+
	Narrow bluegreen threads	m			+	+	+	+	+	+	+	1.9
EUGLENOPHYTA												
	Euglenid	cell	+	1	+	+	1	+		1		+
PYRROPHYTA												
	Amphidinium sp.	"		+					+	+		
	Ebria tripartita	"	+				+	+	+	+	+	1
	Dinophysis spp.	"		+		+	+					
	Gymnodinium sp.	"	1	1	+	+	+	+	+	+	1	+
	Phalacroma rotundatum	"								+		
	Peridinium sp.	"	1	1	3	+	1	2	1	2	+	1
CHRYSTOPHYTA												
	Chaetoceros danicus	"		+								
	Licmophora sp.	"			+	+			+			
	Rhoicosphenia curvata	"								+		
	Synedra spp.	"					+		+			
	Thalassiosira baltica	"			+	+	+					
CHLOROPHYTA												
	Ankistrodesmus sp.	"	1	13		1	1	2	1	11	10	49
	Oocystis spp.	kol	+	2	+	+	1	+	+	+	1	+
	Scenedesmus quadricauda	cell										
	Monads, small	"	24	48	29	42	74	67	44	69	53	146

Table 5e.

Dominating phytoplankton species/l

Station	Hanö	44	45	46	47	48	49	50	6	7	9	E Åhus
CYANOPHYTA												
Anabaena (straight)	m	+	+	+	1	+	+	+	+	+	+	
Anabaena (trailed)	cell			8	16	8	40		32	16		
Aphanizomenon flos-aquae	m	1.0	1.0	1.9	6.5	4.8	12.6	4.2	+	+	+	
Gomphosphaeria lacustris	kol	+	+	+				+	+	+		
Nodularia spumigena	m	+	1.6	2.0	4.2	4.4	2.8	1.0		+		
Narrow bluegreen threads	m	+	+	+	+							
EUGLENOPHYTA												
Euglenid	cell											
PYRROPHYTA												
Amphidinium sp.	"											
Ebria tripartita	"					+	+					
Dinophysis spp.	"			+		+		+	+			
Gymnodinium sp.	"	1		1		2	1	1	+	+		7
Phalacroma rotundatum	"			+		+						
Peridinium sp.	"		+		+	+			1	1	4	985
CHRYSOPHYTA												
Chaetoceros danicus	"			+	+	+		+				
Licmophora sp.	"			+								
Rhoicosphenia curvata	"										+	
Synedra spp.	"											
Thalassiosira baltica	"				+						+	
CHLOROPHYTA												
Ankistrodesmus sp.	"	1	1	1	114	252	6	1	+		+	
Cocystis spp.	kol	+	+	+	+	1	1	1	+		+	
Scenedesmus quadricauda	cell											
Monads, small	"	72	102	119	137	138	81	64	38	33	67	12

* Table 5f.

Dominating phytoplankton species/l

Station	Hanö	52	53	0	1	54	S14	N14
CYANOPHYTA								
Anabaena	(straight)	+				+	+	+
Anabaena	(trailed)	+	4				4	
Aphanizomenon	flos-aquae	+			1.0		2.4	4.5
Gomphosphaeria	lacustris			+			+	+
Nodularia	spumigena	+					+	+
Narrow	bluegreen				1.0	+	+	+
EUGLENOPHYTA								
Euglenid		+						
PYRROPHYTA								
Amphidinium	sp.						+	
Ebria	tripartita		+					
Dinophysis	spp.		+				+	
Gymnodinium	sp.		+			+	1	+
Phalacroma	rotundatum							
Peridinium	sp.		+	2	+	4	79	200
CHRYCOPHYTA								
Chaetoceros	danicus							+
Licmophora	sp.						+	+
Rhoicosphenia	curvata			+			+	1
Synedra	spp.					+	140	55
Thalassiosira	baltica						+	
CHLOROPHYTA								
Ankistrodesmus	sp.	+				11	+	3
Oocystis	spp.		+				1	+
Scenedesmus	quadricauda						1	+
Monads,	small						7	16

Table 6a.

() = biomass not counted

Phytoplankton biomass $\mu^3 \times 10^6/l$

Station	Hanö	20	19	18	17	16	15	14	13	12	11	10
CYANOPHYTA												
Anabaena (straight)	Unit m	1	+	1	+	2	1		6	2		+
Anabaena (trailed)	cell	1	1	1	+							+
Apphanizomenon flos-aquae	m	229	160	339	442	294	96	9	581	637	3	+
Gomphosphaeria lacustris	kol							()				
Nodularia spumigena	m	471	280	585	1555	1060	206		1891	1512	25	
Narrow bluegreen threades m												
EUGLENOPHYTA												
Euglenid	cell	+	+					+	+	+	+	+
PYRROPHYTA												
Amphidinium sp.	"											
Ebria tripartita	"	()	()	()	()	()					()	
Dinophysis spp.	"	()										
Gymnodinium sp.	"	39	39	26	149	71	26	13	136	142	13	
Phalacroma rotundatum	"		1				1					
Peridinium sp.	"				+			6	1	1	2	1
CHRYSOPHYTA												
Chaetoceros danicus	"											
Licmophora sp.	"											
Rhoicosphenia curvata	"	()										
Synedra spp.	"					()				()		()
Thalassiosira baltica	"											
CHLOROPHYTA												
Ankistrodesmus sp.	"	2	1	26	4238	2045	37	+	4120	3507	+	+
Oocystis spp.	kol	15	19	17	10	32	24	5	15	22	10	5
Scenedesmus quadricauda	cell										()	
Monads, small	"	20	12	10	8	12	13	12	12	8	20	7
		778	513	1005	6402	3516	404	45	6762	5831	73	13

Table 6b.

Phytoplankton biomass $\mu^3 \times 10^6/l$

Station	Hand	5	3	2	1	8	9	8	7	6	5
CYANOPHYTA											
Anabaena (straight)	m	2	2	+	+		+		+	+	2
Anabaena (trailed)	cell	1	+	1	+		1		1	+	+
Aphanizomenon flos-aquae	m	230	224	57	+	12	+		3	66	366
Gomphosphaeria lacustris	kol										
Nodularia spumigena	m	1278	1263	222	157	26	80	+	15	12	844
Narrow bluegreen threads m											
EUGLENOPHYTA											
Euglenid	cell	+		+	+	1	+	+	+		
PYRROPHYTA											
Amphidinium sp.	"										
Ebria tripartita	"	()	()	()							()
Dinophysis spp.	"										()
Gymnodinium sp.	"	13	45	26	13	7		7	7	13	19
Phalacroma rotundatum	"										1
Peridinium sp.	"	+	+	+	+	1	1	2	+		
CHRYSOPHYTA											
Chaetoceros danicus	"						()				
Licmophora sp.	"										()
Rhodicosphenia curvata	"										()
Synedra spp.	"										()
Thalassiosira baltica	"					()	()	()			
CHLOROPHYTA											
Ankistrodesmus sp.	"	32	1	+	+				+	+	28
Oocystis spp.	kol	7	19		2	2		1	2	7	10
Scenedesmus quadricauda	cell										
Monads, small	"	37	15	15	7	12	6	4	8	4	14
		1600	1569	320	180	61	87	15	36	102	1283

Table 6d.

Phytoplankton biomass $\mu^3 \times 10^6/l$

Station	Henö	33	34	35	36	37	38	39	40	41	42	43
CYANOPHYTA												
Anabaena (straight)	m	+	2			+		+	+	+		1
Anabaena (trailed)	cell		2	2				+	1	2		7
Aphanizomenon flos-aquae	m	34	114	8		5	5	50	22	93	74	253
Gomphosphaeria lacustris	kol										()	()
Nodularia spumigena	m	223	246	59		46	99	71	42	+	31	77
Narrow bluegreen threads	m					+	+	+	+	+	()	()
EUGLENOPHYTA												
Euglenid	cell	+	+			+	1	+			+	+
PYRROPHYTA												
Amphidinium sp.	"			()					()	()		
Ebria tripartita	"		()			()	()	()	()	()	()	()
Dinophysis spp.	"			()		()	()					
Gymnodinium sp.	"		19	19		7	7	13	2		19	13
Phalacroma rotundatum	"									1		
Peridinium sp.	"		+	+	1	+	+	1	+	1	+	+
CHRYSOPHYTA												
Chaetoceros danicus	"			()								
Licmophora sp.	"				()	()			()	()		
Rhoicosphenia curvata	"									()		
Synedra spp.	"						+		()			
Thalassiosira baltica	"				()	()	()					
CHLOROPHYTA												
Ankistrodesmus sp.	"	+	2	+		+	+	+	+	2	2	7
Oocystis spp.	kol	2	24	2	2	2	12	1	1	2	7	5
Scenedesmus quadricauda	cell											
Monads, small	"	6	12	7	6	11	19	17	11	18	14	37
		265	421	97	7	71	142	153	79	119	147	400

Table 6e.

Phytoplankton biomass $\mu^3 \times 10^6/l$ Åhus
Harbor

Station	Hanö	44	45	46	47	48	49	50	6	7	9	Åhus Harbor
CYANOPHYTA												
Anabaena (straight)	+	1	1	1	9	1	+		1	1	+	
Anabaena (trailed)				1	1	1	3		2	1		
Aphanizomenon flos-aquae	24	15	54	183	134	354	117	117	16	12	+	
Gomphosphaeria lacustris	()		()				()	()	()	()		
Nodularia spumigena	31	246	314	653	681	431	117	117	65			
Narrow bluegreen threads	+	+	+	+								
EUGLENOPHYTA												
Euglenid												
PYRROPHYTA												
Amphidinium sp.												
Ebria tripartita	()				()			()				
Dinophysis spp.			()				()	()				
Gymnodinium sp.	19		19	52	32		26	26	7	7		233
Phalacrocoma rotundatum				1	1							
Peridinium sp.		+		+	+				+	+	1	276
CHRYSOPHYTA												
Chaetoceros danicus			()	()	()			()				
Licmophora sp.			()									
Rhoicosphenia curvata											()	
Synedra spp.												
Thalassiosira baltica				()							()	
CHLOROPHYTA												
Ankistrodesmus sp.	+	+	+	17	37	1	+	+	+		+	
Oocystis spp.	2	2	5	2	10	17	10	10	2	7	5	
Scenedesmus quadricauda												
Monads, small	19	26	30	35	35	21	17	17	10	9	17	3
	95	290	425	952	932	827	287	287	37	95	23	512

Table 6f.

Phytoplankton biomass $\mu^3 \times 10^6/l$

Station Hanó	52	53	0	1	54	Near 14 (in the river)	Near 14 Beach
CYANOPHYTA							
Anabaena (straight)	1				+	+	+
Anabaena (trailed)	+	+				+	
Aphanizomenon flos-aquae	3			21		67	127
Gomphosphaeria lacustris	kol		()			()	()
Nodularia spumigena	m	15				+	+
Narrow bluegreen threades	m						
EUGLENOPHYTA							
Euglenid	+		+				
PYRROPHYTA							
Amphidinium sp.						()	
Ebria tripartita		()				()	
Dinophysis spp.		()	()		()	()	
Gymnodinium sp.		7	13		7	19	7
Phalacroma rotundatum							
Peridinium sp.		+	1	+	1	22	56
CHRYSOPHYTA							
Chaetoceros danicus						()	()
Licmophora sp.						()	()
Rhociosphenia curvata			()			()	()
Synedra spp.					()	()	()
Thalassiosira baltica						()	
CHLOROPHYTA							
Ankistrodesmus sp.	+	+			2	+	+
Oocystis spp.	kol	2				7	5
Scenedesmus quadricauda	cell						
Monads, small	"	6	3	4	3	2	4
	25	17	17	25	13	117	199

Table 7.

Total phosphorus along the beach, Aug. 26 - Oct. 12

 $\mu\text{gat/l}$

Date	N of Stn 14	In the Helgeå R. inside Stn 14	300 m south of the northern mouth of the Helgeå R.
Aug. 26	2.10		
Sep. 2	0.99		0.33
7			1.46
8	0.54	0.61	
10	0.64		0.39
13	0.89	1.55	0.39
15	0.57	3.59	
16			0.84
17	0.46	1.42	
20			0.48
21	2.78	1.41	
23			0.50
24	0.88	1.51	
27			0.38
28	0.76	1.97	
30			0.44
Okt. 1	0.69	1.65	
4			0.48
6	0.55	1.78	
7			0.47
8	0.81	1.97	
11			0.55
12	0.58		

Table 9.

Dominating Zooplankton

Station no.	0	1	21	52	53	54
Date 1970	31/8 ?	31/8 ?	1/9	3/9	3/9	3/9
<i>Bosmina coregoni</i> <i>maritima</i>	2	2	3	2	2	1
<i>Podon</i> spp.	1	1	2	2	1	1
<i>Evadne nordmanni</i>	2	3	1	2	2	1
<i>Acartia</i> spp.	3	3	3	3	3	4
<i>Centropages</i> <i>hamatus</i>	1	1	1	1	1	1
<i>Tempora</i> <i>longicornis</i>	2	2	2	2	2	2
Nauplius larvae	0	0	0	0	1	1
Balanidnauplius	0	0	0	0	0	1
<i>Mytilus edulis</i>	1	0	1	1	1	0

Additional: Station no. 1 : Detritus

Species occurrence

0 = no specimens in the sample

1 = few specimens in the sample, about 1-5 % of the total number of specimens

2 = less abundant, about 6-25 % of the total number of specimens

3 = abundant, about 26-50 % of the total number of specimens

4 = very abundant, more than 50 % of the total number of specimens

Note: In samples where the total sum of individuals was low, the species most abundant was not given figure 4 but instead figure 3, even if comprising more than 50 % of the sample. This way a more accurate comparison between the different samples was obtained.

