

02643-1

D1: 77028-2

ME7

P L A N K T O N - H A U L S

" P i e r "      S c h e v e n i n g e n

1 9 7 7

17th January      -      9th December 1977

by dr. Joh.a. Muller

DATA SAMPLING JANUARY 1977

Haul I "Pier" A, Scheveningen, one hour before high tide

Date: 17th January 1977

Haul	I "Pier" A, Scheveningen
1. Place of hauling	"Pier" Scheveningen
2. Situation	± 300 meter from the beach
3. Weather forecast	Most times sky heavily overcast and showers with rain and sleet Wind veering from South to South-West or West. Maximum temperature about 3 grades.
4. Weather, while hauling	Sky for a great deal overcast with black and white clouds. Occasionally some sunshine. Misty. The horizon was hardly visible. At the distance the sea was light green, nearly brown-green and some what transparent. Sea-calm.
5. Distance of hauling	± 144 meter from the beach
6. Time of hauling	11.48 - 12.-
7. Temperature	Air 6°C. Water 5½°C.
8. Lighthours a day	8.13
9. Wind indications	Data Semaphore Direction N.N.W. Velocity 2m/sec
10. Water Levels	a. during hauling b. H.W. before hauling c. L.W. after hauling
11. Tides	2nd High Tide 13.08
12. Direction of streams	± one hour before High Tide
13. Chemical analysis	

$NH_4-N$  - 0,5  
 $NH_3-N$  - 1,0  
Si - 1,0  
Cl - 16500

Ortho-P  
0,05

The Fishermen caught some dab.

DATA SAMPLING JANUARY 1977.

Haul I "Pier" A, Scheveningen, one hour before High Tide.

Date: 17th January 1977.

Haul I "Pier" A, Scheveningen	Total numbers of organisms in haul
1. B a c i l l a r i o p h y c e a e	
Biddulphia sp.	500
"    alternans	250
"    regia	500
"    sinensis	3000
Coscinodiscus concinnus	6000
"    excentricus	3000
"    granii	32000
2. P r o t o z o a	
Foraminifera sp	200
3. C o e l e n t e r a t a	
Phialidium hemisphericum	100
4. P o l y c h a e t a	
Polychaeta sp	100
5. C r u s t a c e a	
C i r r i p e d i a	
Nauplius Larva Cir.sp	100
Cypris Larva Cir.sp	150
C o p e p o d a	
Acartia sp	850
Anomalocera patersonu	200
Centropages sp.	1200
"    "    with eggs	200
"    "    "    parasites	100
Nauplius larva Cop.sp	50
Temora longicornis	50
H a r p a c t i c o i d a	
Harpacticoida sp.	500
A m p h i p o d a	
Amphipoda sp	100
6. M o l l u s c a	
L a m e l l i b r a n c h i a t a	
Cardium sp. (0.25 mm)	550
Modiolus modiolus (0.20 - 0.25 mm)	250
Young Mytilus edules (0.4 mm)	200
7. E g g s	
Fish egg	50
Evertebrata egg	250

~~Ever~~ Sediment  $\frac{1}{2}$  contents. A terrible mass pf black mud and plant rests.

The R.I. S.A. sampled on the 18th January.

along the coast Hoek v. Holland-Helder and found the same muddy sediment.

SAMPLING DATA FEBRUARY and MARCH 1977

I. Hauls "Pier" Scheveningen during February and March 1977

II. Haul A, "Pier" Scheveningen, one hour before High Tide.

Date: 1st February 1977.

- 
- |  |   |
|--|---|
| 1. Place of hauling                      | "Pier" A Scheveningen   |
| 2. Situation                             | $\pm$ 300 meter from the beach  |
| 3. Weather forecast                      | Predominantly dry with sunny periods; but also locally some mist<br>Wind light to moderate Southern.<br>Minimum temperature from zero quite near the sea to <del>six</del> degrees local inland. Maximum some degrees above zero.   |
| 4. Weather while hauling                 | Blue sky with light white clouds. Sunshine. A winter day with not much wind; though more wind was coming, and it was quite cold. Hazy, the horizon could not quite be seen. Colour sea grey-blue, near hauling light-brown and transparent. Sea slight.   |
| 5. Distance of walking                   | $\pm$ 144 meter from the beach  |
| 6. Time of hauling                       | 12.43 - 12.55   |
| 7. Temperature                           | Air $1^{\circ}\text{C}$ . Water $2\frac{1}{2}^{\circ}\text{C}$ .  |
| 8. Lighthours a day                      | 9.08  |
| 9. Wind indications                      | Data semaphore:<br>Direction: S. Velocity $4\frac{1}{2}$ m/sec.   |
| 10. Water Levels                         | a. During hauling + 81 cm <sub>6</sub><br>b. L.W. before Hauling <del>+ 29</del> cm<br>c. H.W. after hauling + 39 cm  |
| 11. Tides                                | 2nd H. Tide 13.34   |
| 12. Direction of streams                 | $\pm$ one hour before high tide.  |
| 13. Direction of streams at Scheveningen |   |
| 14. Chemical analysis                    | Ammoniumum $\text{NH}_4^+$ - <u>N 1,1 mgr/l.</u><br>Nitraat <del>in</del> $\text{NH}_3$ - <u>N 1,9 mgr/l</u><br>Silicaat <del>in</del> $\text{Si}$ <u>1,8 mgr/l</u><br>Chloride <del>in</del> $\text{Cl}$ <u>2400 mgr/l</u><br>Orthophosphaat <del>in</del> $\text{P}$ <u>1,9 mgr/l</u><br>Orth. $\text{P}$ <u>0,16 mgr/l</u><br>Totaal phosphaat <del>5,9</del> <u>0,80 mgr/l</u><br>$\text{K}_2\text{-N}$ <u>69 mgr/l</u> |

DATA SAMPLING FEBRUARY AND MARCH 1977.

II Haul A "Pier" Scheveningen, one hour before high water

Date: 1st February 1977.

	Total numbers in Haul
<b>1. Bacillariophyceae</b>	
Bellerocha malleus	500
Biddulphia sp.	500
" <del>axzeatriks</del> sinensis	250
Coscinodiscus excentricus	350
" granii	2600
Fragilaria sp.	250
Rhizosolenia sp.	350
<b>2. Protozoa</b>	
Foraminifera sp.	50
Noctiluca miliaris	850
<b>3. Polychaeta</b>	
Polychaeta larva	150
Terebella "	50
<b>4. Crustacea</b>	
Cirripedia	
Cypris larva Cir.sp.	300
Copepoda	
Acartia sp.	50
Centropages sp.	100
Nauplius larva Cir.sp.	200
Harpacticoida	
Harpacticoida sp.	150
<b>5. Mollusca</b>	
Cardium sp. (0.2 - 0.25 mm)	250
Modiolus modiolus (0.2 mm.)	150
<b>6. Chaetognatha</b>	
Sagitta sp.	50
<b>7. Eggs</b>	
Invertebrata eggs	250
Fish eggs	100

Sediment  $\pm \frac{1}{10}$  contents

(mainly vegetable rests further detritus,  
some mud and sand.

Fishermen caught some dab.

DATA SAMPLING FEBRUARY AND MARCH 1977.

III Haul A "Pier" Scheveningen two hours before High Tide  
Data: 16th February 1977.

1. Place of hauling "Pier" A, Scheveningen
2. Situation ± 300 meter from the beach
3. Weather forecast In the afternoon and during the night clearings of the sky and dry wind light to moderate, Northern to West North-Eastern. Maximum temperature from 5°C near the Frisian islands up to 8°C in the middle of the country.
4. Weather, while hauling Sky fully overcast. Hazy, the horizon was hardly visible. Not much wind, coming from various directions. More wind, however, was coming. The sea was slight. Colour sea grey; near place of hauling greyish green-brown.
5. Distance of walking ± 144 meter from the beach
6. Time of hauling 12.25 - 12.35.
7. Temperature Air 6°C Water 4°C
8. Lighthours a day 10.02
9. Wind indications Data semaphore  
Direction: N.E.E. Velocity 2½ m/sec.
10. Water Levels a. During hauling + 46 cm  
b. L.E. before hauling ± - 9 cm  
c. H.E. after hauling + 106 cm
11. Tides 2nd High Tide 14.05
12. Direction of streams ± two hours before High Tide
13. Direction of streams at Scheveningen
14. Chemical analysis  
Ammonium  $\frac{4M}{4}^{+}$  - N 0.2 mgr/l  
Nitrat  $\frac{4}{3} NH_3$  -N 0.8 mgr/l  
Silicaat  $\frac{4}{3} Si$  0.6 mgr/l  
Chloride  $\frac{4}{3} Cl^{-}$  1.4750 mgr/l  
Orthophosphaat  $\frac{4}{3}$  Ortho 0.05 mgr/l  
Total phosphate  $\frac{4}{3}$  0.26 mgr/l  
kg 4N 0.9 mgr/l

DATA SAMPLING FEBRUARY AND MARCH 1977.

III Haul A "Pier" Scheveningen, two hours before high water

Date: 16th February 1977.

	Total numbers of organisms in haul
1. B a c i l l a r i o p h y c e a e	
Bellarochea malleus	39900
Biddulphia sp.	42750
"    aurita	600
"    mobiliensis	300
"    sinensis	4800
Coscinodiscus excentricus	750
"    granii	2700
Fragilaria sp.	150
Lauderia borealis	750
Rhizosolenia sp.	300
2. P r o t o z o a	
Noctiluca miliaris	37200
Fragilaria sp.	100
3. C o e l e n t e r a t a	
Sarsia sp.	100
4. P o l y c h a e t a	
Polychaeta larva	100
Terebella larva	50
5. C r u s t a c e a	
C o p e p o d a	
Acartia sp.	500
Centropages sp.	100
"    "    with egg	150
Microcalanus pusillus	150
Nauplius larva Cop.sp.	250
C i r r i p e d i a	
Cypris larva Cir.sp.	100
Nauplius " " "	150
H a r p a c t i c o i d a	
Harpacticoida sp.	650
6. M o l l u s c a	
L a m e l l i b r a n c h i a t a	
Cardium sp.	150
7. C h a e t o g n a t h a	
Sagitta sp.	100
8. E g g s	
Evertebrata eggs	150

Sediment  $\pm \frac{1}{10}$  contents

(mainly vegetable rests and further detritus and some mud and sand)

Fishermen caught rather much mainly dabs and flounders.



SAMPLING DATA FEBRUARY AND MARCH 1977.

IV. Haul A "Pier" Scheveningen, one hour before High Tide

Date: 6th March 1977

---

1. Place of hauling	"Pier" Scheveningen
2. Situation	+ 300 meter from the beach
3. Weather forecast	Weather forecast until the night of the 5th March. Sunny periods at most places dry weather. Wind mostly moderate veering from West to South-West. Forecast for 6th and 7th March. Sunny periods, locally shower and afternoon temperature 12°C.
4. Weather, while hauling	Sky fully overcast, misty. Later on a glimpse of sunshine was coming though. Sea rather calm, after the day before being rough. (I tried to do hauling on that day, but it was impossible) Visibility poor. Colour sea at the distance greyish nearly dark-greenbrown transparent.
5. Distance of walking	+ 144 meter from the beach
6. Time of hauling	<del>14.26</del> 14.26 - 14.38
7. Temperature	Air 8°C Water 6°C
8. Lighthouse a day	11.13
9. Wind indications	Data semaphore Direction S.S.E. Velocity 3½m/sec
10. Water Levels	a. During hauling + 50 cm b. L.W. before hauling - 63 cm c. H.W. after hauling + 127 cm
11. Tides	2nd H. tide 15.48
12. Direction of streams	+ one hour before High Tide
13. Direction of streams at Scheveningen	
14. Chemical analysis	Ammonium $\text{NH}_4^+$ - N 0.25 mg/l Nitrat $\text{NH}_3^-$ - N 1.47 mg/l Silicaat $\text{Si}$ 1.2 mgr/l Chloride $\text{Cl}^-$ 14500 mg/l Orthophosphaat Ortho P 0.08 mgr/l Total phosphate 1.32 <del>1.50</del> mgr/l <del>kg</del> kj - N 0.5 mgr/l

DATA SAMPLING FEBRUARY AND MARCH 1977

IV Haul A "Pier" Schoeveningen, 6th March 1977, one hour before  
Date: 6th March 1977 High Water

	Numbers of organisms in haul
<b>1. Bacillariophyceae</b>	
Bellerocha malleus	750
Biddulphia sp.	1400
"    alternans	150
"    sinensis	1000
Cerataulina bergonii	250
Chaetoceros sp.	250
Coscinodiscus excentricus	500
"    granii	1550
Fragilaria sp.	300
Rhisozolenia sp.	250
Skeletonema costatum	250
<b>2. Protozoa</b>	
Foraminifera sp.	100
Noctiluca miliaris	300
<b>3. Polychaeta</b>	
Polychaeta larva	150
<b>4. Ctenophora</b>	
Pleurobrachia pilous	50
<b>5. Coelenterata</b>	
Archnactis larva of a Cerianthus sp.	2950
<b>6. Nematoda</b>	
Nematoda sp	50
<b>7. Chaetognata</b>	
Sagitta larva sp.(1.25mm)	50
<b>8. Crustacea</b>	
Copepoda	
Acartia sp.	800
"    "    with eggs	100
Centropages sp.	500
"    "    with tube for sperms	100
Temozalongicornis	5650
Temora longicornis with egg	100
"    "    "    parasites	1050
Cirripedia	
Cypris larva Cir.sp.	100
Harpacticoida	
Harpacticoida sp.	50
Mysidacea	
Mesopodopsis slabberi	150
<b>9. Mollusca</b>	
Lamellibranchiata	
Mactra corallina (0.2mm - 0.25mm)	200
<b>10. Echinodermata</b>	
Bininnaria larva	100
<b>11. Eggs</b>	
Vertebrata	
Fish	150
Fish	100
<b>12. Fish</b>	
Young eel	50
Sediment + 1/11 contents (vegetable and animal rests, some sand and mud.	
Fishermen caught rather much fish(dab, flounder, whiting.	

SAMPLING DATA FEBRUARY AND MARCH 1977.

V. Haul A "Pier" Scheveningen two hours before High Tide.

Date: 20th March 1977.

- 
- |  |   |
|--|---|
| 1. Place of hauling                      | "Pier" A, Scheveningen  |
| 2. Situation                             | ± 300 meter from the beach  |
| 3. Weather forecast                      | Clearings from the sky. Maximum temperature 11°C. Wind predominantly moderate. Southern.  |
| 4. Weather while hauling                 | Sky with light and dark clouds. Sunny, but not very warm. & Visibility good. Colour sea grey-blue, at the place of hauling green-brown rather transparent.        |
| 5. Distance of walking                   | ± 144 meter from the beach  |
| 6. Time of hauling                       | 13.36 - 13.48   |
| 7. Temperature                           | Air 10°C Water 7°C  |
| 8. Light hours a day                     | 12.11   |
| 9. Wind indications                      | Data semaphore<br>Direction N.N.E. Velocity 6m/sec.   |
| 10. Water Levels                         | a. During hauling + 30cm<br>b. L.W. before hauling - 29cm<br>c. H.W. after hauling + 77cm   |
| 11. Tides                                | 2nd H. Tide 15.52   |
| 12. Direction of streams                 | ± Two hours before High Tide  |
| 13. Direction of streams at Scheveningen |   |
| 14. Chemical analysis                    | Ammonium 0.28 mgr/l<br>Nitrat 0.87 mgr/l<br>Silicaat 0.58 mg/l<br>Chloride 16800 mg/l<br>Orthophosphate 0.08 mg/l<br>Total phosphate 0.18 mg/l<br>kj - N 0.5 mg/l |

DATA SAMPLING FEBRUARY AND MARCH 1977.

V. Haul A "Pier" Scheveningen, two hours before high water

Date: 20th March 1977.

	Total numbers of organisms in Haul
1. B a c i l l a r i o p h y c e a e	
Bellarochea malleus	1250
Biddulphia sp.	3500
Chaetoceros sp.	500
Coscinodiscus excentricus	1250
"          granii	3000
Eucampia zodiacus	750
Lauderis borealis	250
Phaecocystis present rather abundantly	
2. P r o t o z o a	
Noctiluca miliaris	250
3. C o e l e n t e r a t a	
Archnactis larva of a Cerianthus sp. 1.5mm	550
"          "          "          "          2.5mm	100
4. P o l y c h a e t a	
Polychaeta sp.	100
"          larva	1350
Terebella larva	150
5. C r u s t a c e a	
C i r r i p e d i a	
Cypris larva Cir.sp.	550
C o p e p o d a	
Acartia sp.	1650
Anomalocera patersoni	2550
"          "          with parasites	300
Centropages sp.	2350
"          "          with parasites	150
C o p o p o d i t e	100
Microcalanus pusillus	250
Temora longicornis	2200
"          "          with egg	100
"          "          "          parasites	50
H a r p a c t i c o i d a	
Harpacticoida sp.	250
M y s i d a c e a	
Mesopodopsis slabberi	150
6. C h a e t o g n a t h a	
Sagitta sp.	50
7. S a l p i d a	
Oikopleura dioica	150
8. M o l l u s c a	
Mactra corallina (0.2mm)	50
9. E g g s	
Evertebrata	
Evertebrata sp.	1100
Fish	
Clupea spratlus	100
10. F i s h	
Young Limanda limanda (7 mm)	50

Sediment + 1/10 contents (Mainly vegetable rests + animal rests; not much mud and sand)  
 Fishermen caught rather mud, dab, flounder, plaice and a small shark (30cm). much

DATA SAMPLING APRIL - MAY 1977 at the Pier Scheveningen

Haul VI# "Pier"A, one hour before high tide.

Date: 3rd April 1977.

Hauls	VI "Pier"A, Scheveningen																					
1. Place of hauling	"Pier" Scheveningen																					
2. Situation	± 300 meter from the beach																					
3. Weather forecast	Sunny periods, alternating during the course of the day with showers. Wind rather strong to stormy, veering from West to North-West; during the day later on decreasing.																					
4. Weather, while hauling	Sky overcast. At one o'clock there was a pouring rain; going home there again was sunshine. During the days before there was a strong wind and it still was very windy. The sea was choppy to rough. Colour of the sea grey at the distance; nearly green-brown not very transparent. Visibility not too bad.																					
5. Distance of hauling	± 144 meter from the beach																					
6. Time of hauling	14.37 - 14.49																					
7. Temperature	Air 7°C Water 6°C																					
8. Lighthouse a day	13.07																					
9. Wind indications	Data semaphore Direction N.W. Velocity 2m/sec.																					
10. Water-levels	a. during hauling + 105 cm b. L.W. before hauling - 91 cm c. H.W. after hauling + 121 cm.																					
11. Tides	2nd H.T. 15.46 (summer time)																					
12. Direction of streams	± one hour before <del>hauling</del> <i>high tide</i>																					
13. Direction of streams at Scheveningen																						
14. Chemical analysis	<table border="0"> <tr> <td>Ammonium NH<sub>4</sub><sup>+</sup> - N</td> <td>mg/l</td> <td>0.5</td> </tr> <tr> <td>Nitrat NH<sub>3</sub> - N</td> <td>" "</td> <td>1.1</td> </tr> <tr> <td>Silicaat Si</td> <td>" "</td> <td>0.7</td> </tr> <tr> <td>Chloride Cl-</td> <td>" "</td> <td>19400</td> </tr> <tr> <td>Orthophosphate</td> <td>" "</td> <td>0.17</td> </tr> <tr> <td>Total phosphate</td> <td>" "</td> <td>0.34</td> </tr> <tr> <td>Kj - N</td> <td>" "</td> <td>1.1</td> </tr> </table>	Ammonium NH <sub>4</sub> <sup>+</sup> - N	mg/l	0.5	Nitrat NH <sub>3</sub> - N	" "	1.1	Silicaat Si	" "	0.7	Chloride Cl-	" "	19400	Orthophosphate	" "	0.17	Total phosphate	" "	0.34	Kj - N	" "	1.1
Ammonium NH <sub>4</sub> <sup>+</sup> - N	mg/l	0.5																				
Nitrat NH <sub>3</sub> - N	" "	1.1																				
Silicaat Si	" "	0.7																				
Chloride Cl-	" "	19400																				
Orthophosphate	" "	0.17																				
Total phosphate	" "	0.34																				
Kj - N	" "	1.1																				

DATA SAMPLING APRIL - MAY 1977 at the Pier Scheveningen

Haul VII "Pier" A, one hour before high tide.  
Date: 3rd April 1977.

Hauls	VI "Pier" A, Scheveningen																												
1. Place of hauling	"Pier" Scheveningen																												
2. Situation	± 300 meter from the beach																												
3. Weather forecast	Sunny periods, alternating during the course of the day with showers. Wind rather strong to stormy, veering from West to North-West; during the day later on decreasing.																												
4. Weather, while hauling	Sky overcast. At one o'clock there was a pouring rain; going home there again was sunshine. During the days before there was a strong wind and it still was very windy. The sea was choppy to rough. Colour of the sea grey at the distance; nearly green-brown not very transparent. Visibility not too bad.																												
5. Distance of hauling	± 144 meter from the beach																												
6. Time of hauling	14.37 - 14.49																												
7. Temperature	Air 7 <sup>0</sup> C    Water 6 <sup>0</sup> C																												
8. Lighthouse a day	13.07																												
9. Wind indications	Data sonaphore Direction N.W.    Velocity 9m/sec.																												
10. Water-Levels	a. during hauling    + 105 cm b. H.S. before Hauling    - 91 cm c. H.S. after hauling    + 121 cm.																												
11. Tides	2nd H.F. 15.46 (summer time)																												
12. Direction of streams	± one hour before <del>hauling</del> <i>high tide</i>																												
13. Direction of streams at Scheveningen																													
14. Chemical analysis	<table border="0"> <tr> <td>Ammonium</td> <td>NO<sub>3</sub><sup>+</sup> - N</td> <td>mgr/l</td> <td>0.5</td> </tr> <tr> <td>Nitrate</td> <td>NO<sub>3</sub><sup>-</sup> - N</td> <td>" "</td> <td>1.1</td> </tr> <tr> <td>Silicate</td> <td>Si</td> <td>" "</td> <td>0.7</td> </tr> <tr> <td>Chloride</td> <td>Cl-</td> <td>" "</td> <td>19400</td> </tr> <tr> <td>Orthophosphate</td> <td></td> <td>" "</td> <td>0.17</td> </tr> <tr> <td>Total phosphate</td> <td></td> <td>" "</td> <td>0.34</td> </tr> <tr> <td>Kj - N</td> <td></td> <td>" "</td> <td>1.1</td> </tr> </table>	Ammonium	NO <sub>3</sub> <sup>+</sup> - N	mgr/l	0.5	Nitrate	NO <sub>3</sub> <sup>-</sup> - N	" "	1.1	Silicate	Si	" "	0.7	Chloride	Cl-	" "	19400	Orthophosphate		" "	0.17	Total phosphate		" "	0.34	Kj - N		" "	1.1
Ammonium	NO <sub>3</sub> <sup>+</sup> - N	mgr/l	0.5																										
Nitrate	NO <sub>3</sub> <sup>-</sup> - N	" "	1.1																										
Silicate	Si	" "	0.7																										
Chloride	Cl-	" "	19400																										
Orthophosphate		" "	0.17																										
Total phosphate		" "	0.34																										
Kj - N		" "	1.1																										

Qualitative numbers hauls "Pier" Scheveningen April-May 1977

Haul VI "Pier" A,  $\pm$  <sup>one</sup>two hours before high water.

Date: 3th April 1977.

---

VI Haul A, Scheveningen Total numbers of organisms  
in haul

---

1. B a c i l l a r i o p h y c e a e	
Bellerochea malleus	2350
Biddulphia sp.	6750
"    sinensis	450
Cerataulina sp.	150
Coscinodiscus excentricus	750
"    granii	2650
Fucampia zoodiacus	300
2. P r o t o z o a	
Foraminifera sp.	200
Halosphaera	abundant
Noctiluca milliaris	300
Phaeocystis	abundant
3. P o l y c h a e t a	
Polychaeta larva	500
4. C r u s t a c e a e	
C o p e p o d a	
Acartia sp.	200
Centropages sp.	300
Centropages sp. with parasites	100
Copepodites	250
Nauplius larva Copop-	50
Temora longicornis	800
"    "    with eggs	100
"    "    "    parasites	150
C i r r i p e d i a	
Cyprus larva	100
Nauplius larva	50
H a r p a c t i c o i d a	
Harpacticoida sp.	100
5. M o l l u s c a	
L a m e l l i b r a n c h i a t a	
Mactra corallina	100
Spisula sp.	100

Fishermen caught some flounders, haddock, plaice (some of them in good quantities)

Sediment  $\pm$   $\frac{1}{13}$  contents.

Phaeocystis, however, remained suspended in the water,

The sediment mainly consisted of sand; debris both vegetable and animal.

The slimy mass of Phaeocystis made identification very difficult.

The weather had been very rough and still was rather bad.

DATA SAMPLING APRIL - MAY 1977 at the "Pier" Scheveningen.

Haul VII "Pier" A,  $\pm$  three hours before high tide.

Date: 17th April 1977.

Hauls	VII "Pier" A, Scheveningen
1. Place of hauling	"Pier" Scheveningen
2. Situation	$\pm$ 300 meter from the beach
3. Weather forecast	Forecast to midnight, sunny periods, but later on the day more clouds, coming from North-Western direction. Until the evening dry at most places. Wind light, moderate Western.
4. Weather while hauling	Blue sky with light white clouds by which the sunshine was dim. Hazy near the horizon and the visibility was not very good. Sea calm, at the distance greyish; nearby green transparent. The days before were very windy and fine weather was at last coming, the sea however, was not to be trusted.
5. Distance of hauling	$\pm$ 144 meter from the beach
6. Time of hauling	12.28 - 12.40
7. Temperature	Air $11\frac{1}{2}^{\circ}\text{C}$ Water $8^{\circ}\text{C}$ .
8. Lighthouse a day	14.02
9. Wind indications	Data semaphore Direction W. Velocity $3\frac{1}{2}\text{m/sec}$ .
10. Water-Levels	a. during hauling - $0.5\text{cm/sec}$ . b. L.S. before hauling - 79 cm c. H.S. after hauling + 100 cm
11. Tides	2nd H.S. 12.58 (summer time)
12. Direction of streams	three hours before <del>hauling</del> high tide
13. Direction of streams at Scheveningen	
14. Chemical analysis	Ammonium $\text{NH}_4^+$ - N mgr/l 0.3 Nitrat $\text{NO}_3^-$ - N " " 1.7 Silicaat Si " " 0.8 Chloride Cl- " " 12400 Orthophosphate " " 0.11 Total phosphate " " 0.22 Ej - A " " 0.8



Qualitative numbers hauls "Pier" Scheveningen April-May 1977

Haul VII "Pier" A, Scheveningen,  $\pm$  three hours before high tide.

Date: 17th April 1977.

VII Haul A, Scheveningen

Total numbers of organisms in haul.

	Total numbers of organisms in haul.
<b>1. Bacillariophyceae</b>	
Bellerochea malleus	2500
Biddulphia sp	4750
Coscinodiscus excentricus	1250
" granii	3500
Eucampia zodiacus	17250
Melosira sp.	500
Rhizosolenia sp.	500
" alata	500
<b>2. Protozoa</b>	
Halosphaera viridus	abundant
Noctiluca miliaris	7500
Phaeocystis	present
<b>3. Polychaeta</b>	
Polychaeta sp.	50
<b>4. Crustacea</b>	
<b>Copepoda</b>	
Acartia sp.	100
" " with eggs	50
Centropages sp.	1000
Copepodites	550
Nauplius larva Cop. sp.	200
Temora longicornis	100
<b>Cirripedia</b>	
Cypris larva Cir. sp.	100
Nauplius Larva Cir. sp.	150
<b>5. Mollusca</b>	
<b>Lamellibranchiata</b>	
Mactra corallini (0.19mm)	50
Spisala sp (0.15 mm)	50
<b>6. Salpida</b>	
Oikopleura dioica	50
<b>7. Vertebrata</b>	
Vertebrate eggs	100

Fishermen got flounder<sup>s</sup> not too many.

Sediment  $\pm \frac{1}{12}$  contents (mud, vegetable roots and a great number of clay roots, which I couldn't identify further floating material and detritus.

DATA SAMPLING APRIL - MAY 1977 at the "Pier" Scheveningen  
Haul VIII "Pier" A,  $\pm$  three hours before high tide.

Date: 7th May 1977

Hauls	VIII "Pier" A, Scheveningen
1. Place of hauling	"Pier" Scheveningen
2. Situation	$\pm$ 300 meter from the beach
3. Weather forecast	Rather sunny, but also a shower locally. Wind mostly moderate, South - Western. Minimum temperature about $5^{\circ}\text{C}$ , maximum from $10^{\circ}\text{C}$ near the coast to $16^{\circ}\text{C}$ locally inland.
4. Weather, while hauling	Blue sky with light white clouds, but also partly overcast. Sunny but later on not. Visibility good. Sea choppy. Colour sea at the distance blue-grey and nearly dark green, rather transparent.
5. Distance of hauling	$\pm$ 144 meter from the beach
6. Time of hauling	16.01 - 16.13
7. Temperature	Air $13^{\circ}\text{C}$ Water $11^{\circ}\text{C}$ .
8. Light hours a day	15.14
9. Wind indications	Data semaphore Direction W-S.W. Velocity $6\frac{1}{2}\text{m/sec}$ .
10. Water-Levels	a. during hauling + 128 cm b. L.W. before hauling - 87 cm c. H.W. after hauling + 100 cm
11. Tides	2nd H.T. <del>at</del> 19.01 (summertime)
12. Direction of streams	$\pm$ three hours before <del>hauling</del> <i>high tide</i>
13. Direction of streams at Scheveningen	
14. Chemical analysis	Ammoniak $\text{H}_4\text{-N}$ mg/l 0.3 $\text{NO}_3^-$ -N nitraat " " 1.1 Silicaat Si " " 5.4 Kj - N " " 0.9 Chloride $\text{Cl}^-$ mgr/l <del>13</del> 500 Orthophosphate " " 0.11 Total fosphaat " " 0.21

Qualitative numbers hauls "Pier" Scheveningen, April-May 1977

Haul VIII "Pier" A,  $\pm$  three hours before high tide.

Date: 7th May 1977.

VIII haul "A" Scheveningen	Total numbers of organisms in haul
1. B a c i l l a r i o p h y c e a e	
Bellarochea malleus	500
Cerataulina sp.	7000
Coscinodiscus concinnus	750
"          excentricus	250
"          granii	1500
Eucampia zoodiacus	11750
Fragilaria sp.	250
Leptocylindricus danicus	256500
Rhizosolenia sp.	500
"          alata	85250
Skeletonema costatum	8750
2. P r o t o z o a	
Noctiluca miliaris	6250
3. C t e n o p h o r a	
Pleurobrachia pilous	50
4. C o e l e n t e r a t a	
Hybocodon prolifer	200
Phialidium hemisphericum	100
5. N e m a t o d a	
Nematoda sp.	50
6. C r u s t a c e a	
C o p e p o d a	
Centropages sp.	50
Copepodites	100
Nauplius larva Cop.sp.	350
C i r r i p e d i a	
Cypris larva Cir.sp.	50
Nauplius larva Cir.sp.	250
7. M o l l u s c a	
L a m e l l i b r a n c h i a t a	
Mytilus edulis (0.2mm)	50
8. E c h i n o d e r m a t a	
Echinopluteus larva	1450
9. S a l p i d a	
Oikoploura dioca	100
10. E g g s	
Evertebrata eggs	350

Fishermen caught some flounders, dabs and also a few eels.

Sediment  $\pm \frac{1}{6}$  contents.

(vegetable rests, detritus fine mud.

The mud made identification very difficult,

Many balts covered with mud were present,

which may have been Noctiluca sp.

DATA SAMPLING APRIL- MAY 1977 at the "Pier" Scheveningen

Haul IX "Pier" A,  $\pm$  two hours before high tide.

Date: 22nd May 1977.

---

Hauls	IX "Pier" Scheveningen
1. Place of hauling	"Pier" Scheveningen
2. Situation	$\pm$ 300 meter from the beach
3. Weather forecast	Generally much cloudier locally rain. Wind moderate to fresh near the Frisian islands and also at the "IJsselmeer" where the wind will be strong to high North-Eastern
4. Weather while hauling	Blue sky, sunshine. Wind sharp and not springlike. Visibility good. Colour Sea grey-green; near by dark-green not very transparent. Sea choppy.
5. Distance of hauling	$\pm$ 144 meter from the beach
6. Time of hauling	16.50 - 17.02
7. Temperature	Air $12\frac{1}{2}^{\circ}\text{C}$ Sea $11^{\circ}\text{C}$ .
8. Lighthouse a day	16.02
9. Wind indications	Data semaphore Direction N. <del>W.</del> N.      Velocity 9 m/sec.
10. Water-Levels	a. during hauling    + 30 cm b. L.W. before hauling - 88 cm c. H.W. after hauling + 70 cm
11. Tides	2nd H.T. 18.48 (summer time)
12. Direction of streams	$\pm$ two hours before hauling
13. Direction of streams at Scheveningen	
14. Chemical analysis	Ammonia $\text{NH}_4^+$ - N      mgr/l    0.85 Nitrate $\text{NO}_3^-$ - N      "    "    0.4 Silicaat Si              "    "    0.2 Chloride $\text{Cl}^-$ "    "    17200 Orthophosphate        "    "    0.11 Total phosphate        "    "    0.32 Kj - N                    "    "    2.0

Qualitative numbers hauls "Pier" Scheveningen, April - May 1977

Haul IX "Pier" A,  $\pm$  two hours before high tide.

Date: 22nd May 1977.

IX Haul A, Scheveningen	Total numbers of organisms in haul
1. Bacillariophyceae	
Biddulphia sp.	500
Coscinodiscus concinnus	250
"          granii	250
2. Protozoa	
Noctiluca miliaris	154250
3. Ctenophora	
Combe of Pleurobrachia pileus	1650
Pleurobrachia pileus	1100
Beroe sp.	200
4. Polychaeta	
Polychaeta larva	300
Terebella larva	200
5. Crustacea	
Cirripedia	
Cypris larva	100
Copepoda	
Acartia sp.	50
6. Mollusca	300
Mytilus edulis	
7. Echinodermata	
Bipinnaria larva	2600
Echinopluteus "	2850
8. Eggs	
Fish	
Clupea sprattus	550

Fishermen caught some dab and flounders, and quite a few eels.

Sediment  $\pm$  <sup>3</sup>/<sub>7</sub> contents.

A slimy sediment and some suspended matter; mainly Noctiluca miliaris and Pleurobrachia pileus.

There also was fine mud and vegetable material and altogether identification was not easy.

DATA SAMPLING JUNE - JULY 1977 at the "Pier" Scheveningen

Haul X "Pier" A, Scheveningen,  $\pm$  2 hours before high tide.

Date: 1st of June 1977.

Hauls	X "Pier" A, Scheveningen
1. Place of hauling	"Pier" Scheveningen
2. Situation	$\pm$ 300 meter from the beach
3. Weather forecast	Dry and sunny. Wind light to moderate, during the afternoon temporarily strong, between Northern and North-Western. Maximum temperature from $14^{\circ}\text{C}$ near the sea to $18^{\circ}\text{C}$ more inland. Minimum temperature from $8^{\circ}\text{C}$ near the coast to $3^{\circ}\text{C}$ locally inland. Locally nightfrost.
4. Weather, while hauling	Blue sky, sunshine. Wind strong to fresh. Sea choppy visibility good. Colour sea at the distance grey-blue near by brown-green, somewhat transparent.
5. Distance of hauling	$\pm$ 144 meter from the beach.
6. Time of hauling	14.03 - 14.15
7. Temperature	Air (in the shade) $10^{\circ}\text{C}$ , Water $11^{\circ}\text{C}$ .
8. Lighthours a day	16.23
9. Wind indications	Data semaphore Direction N.E.N. Velocity 9 m/sec.
10. Water Levels	a. during hauling + 87 cm b. L.W. before hauling - 93 cm c. H.W. after hauling + 93 cm.
11. Tides	2nd High Tide 15.40 (summertime)
12. Direction of streams	$\pm$ 2 hours before high tide.
13. Direction of streams at Scheveningen	
14. Chemical analysis	Ammonia $\text{NH}_4^+$ - N mgr/l 0.5 Nitrat $\text{NH}_3^-$ - N mgr/l 0.2 Silicaat Si mgr/l 0.2 Chloride Cl mgr/l 17700 Orthophosphate mgr/l 0.05 Total Phosphate mgr/l 0.30 Kj- N mgr/l 1.9

Quantitative numbers of hauls "Pier" Scheveningen, June-July

Haul X "Pier" A, Scheveningen,  $\pm$  two hours before high tide

Date: 1st of June 1977.

X Haul "Pier" A, Scheveningen	Total numbers of organisms in haul
1. B a c i l l a r i o p h y c e a e	
Biddulphia sinensis	500
Coscinodiscus excentricus	750
"          granii	2750
2. P r o t o z o a	
Foraminifera sp.	50
Noctiluca miliaris	64750
Vase Tintinidae	500
3. C t o n o p h o r a	
Comb-plates of Pleurobrachia pileus	100
Beroe cucumis	800
Pleurobrachia pileus	1300
4. P o l y c h a e t a	
Macelonid larva	200
Polychaeta "	1550
Terebella "	150
5. C o e l e n t e r a t a	
Tubularia sp.	150
6. N e m a t o d a sp.	200
7. C r u s t a c e a	
Cirripedia	
Cypris larva Cir. sp	250
Copepoda	
Temora longicornis	100
8. M o l l u s c a	
Mactra corallina (0.2 mm)	400
Mytilus edulis (0.2mm)	600
9. E c h i n o d e r m a t a	
Bipinnaria larva	200
Echinopluteus Larva	1550
Young Echinodermata (0.5mm)	50
10. F i s h e g g e	100
Evertabrata eggs	150

Sediment  $\pm \frac{1}{3}$  contents (vegetable rests, debris,  
detritus, large numbers of Noctiluca miliaris  
and Pleurobrachia pileus.

A slippy mess again, with suspended material  
Few fishermen about, catching almost nothing,  
(one small dab).

DATA SAMPLING JUNE - JULY 1977. at the "Pier" Scheveningen.  
Haul XI "Pier" A, Scheveningen  $\pm$  2 hours before high tide.  
Date: 15th of June 1977.

Hauls	XI "Pier" A, Scheveningen	
1. Place of hauling	"Pier" Scheveningen	
2. Situation	$\pm$ 300 meter from the beach	
3. Weather forecast	Sunny periods, but also locally a shower. Wind mostly moderate. South-Western. Maximum temperature from 17° near the sea to 22°C in the Eastern part of the country.	
4. Weather while hauling	Sky fully overcast, misty and no sunshine. Sea calm, getting choppy. Colour sea at the distance grey, near by dark-green, somewhat transparent. Visibility poor. In the morning there had been a thunder storm and rain.	
5. Distance of hauling	<u>§</u> 144 meter from the beach	
6. Time of hauling	13.25 - 13.37	
7. Temperature	Air 17°C water 14°C.	
8. Lighthours a day	16.42	
9. Wind indications	Data semaphore Direction N.N.W. Velocity 2½m/sec.	
10. Water Levels	a. during hauling + 85 cm b. L.W. before hauling - 55 cm c. H.W. after hauling + 115 cm	
11. Tides	2nd High Tide 15.41 (summertime)	
12. Direction of streams	$\pm$ 2 hours before High Tide	
13. Direction of streams at Scheveningen		
14. Chemical analysis	Ammonia NH <sub>4</sub> <sup>+</sup> - N	mgr/1 0.35
	Nitrat NH <sub>3</sub> - N	" " 0.48
	Silicaat Si	" " 0.312
	Chloride Cl <sup>-</sup>	" " 15200
	Orthophosphate	" " 0.37
	Total phosphate	" " 0.38
	K <sub>j</sub> -N	" " 1.9



Quantitative numbers of hauls "Pier" Scheveningen, June-July 1977

Haul XI "Pier" A, Scheveningen,  $\pm$  two hours before high tide.

Date: 15th of June 1977.

XI Haul "Pier" A, Scheveningen	Total numbers of organisms in haul
1. B a c i l l a r i o p h y c e a e	
Biddulphia alternans	2400
"          excentricus	600
"          granii	2400
Skeletonema costatus	43800
2. P r o t o z o a	
Empty vase Tintinidae	50
Ceratium tripos	600
Noctiluca miliaris	45600
3. C o e l e n t e r a t a	
Sarsia sp.	150
4. P o l y c h a e t a	
Empty vase Terebella larva	50
Polychaeta larva	250
Terebella "	100
5. C r u s t a c e a	
C i r r i p e d i a	
Cypris larva Cir, sp	550
Nauplius "	3050
C o p e p o d a	
Acartia sp.	500
Centropages sp.	300
Copepodites	600
Nauplius larva Cop. sp	100
Temora longicornis	450
H a r p e t i c o i d a sp	150
Cladocera	
Podon sp.	400
6. M o l l u s c a	
L a m e l l y b r a n c h i a t a	
Cardium (0.3mm)	100
Mytilus edulis (0.2mm)	150
7. E g g s	
Evertabrata egg	450
Fish egg	150

Fishermen caught some eel.

Sediment  $\pm \frac{1}{16}$  contents.

DATA SAMPLING JUNE - JULY 1977 at the "Pier" Scheveningen  
Haul XII "Pier" A, Scheveningen,  $\pm$  2 hours before high tide  
Date: 13th of July 1977.

Hauls	XII "Pier" A, Scheveningen	
1. Place of hauling	"Pier" Scheveningen	
2. Situation	$\pm$ 300 meter from the beach	
3. Weather forecast	Mostly dry and sunny, but many clouds in the North and North-West. During the night wind light and minimum temperature $14^{\circ}\text{C}$ to $9^{\circ}\text{C}$ . On the 14th of July wind light to moderate out of Northern directions. Maximum temperature from $17^{\circ}\text{C}$ near the Frisian islands to $27^{\circ}\text{C}$ in the South Eastern part of the country.	
4. Weather while hauling	Not much sunshine, hazy. Colour sea at the distance grey-brown, near by green-brown, not very transparent. Sea somewhat choppy. Summer weather, many visitors.	
5. Distance of hauling	$\pm$ 144 meter from the beach.	
6. Time of hauling	12.20 - 12.32	
7. Temperature	Air $21^{\circ}\text{C}$ water $16\frac{1}{2}^{\circ}\text{C}$	
8. Lighthours a day	16.21	
9. Wind indications	Data semaphore Direction N - NNE Velocity 4m/sec.	
10. Water Levels	a. during hauling - <del>60</del> <sup>32</sup> cm b. L.W. before hauling - 60 cm. c. H.W. after hauling + 95 cm	
11. Tides	2nd high tide 14.32 (summer time)	
12. Direction of streams	$\pm$ 2 hours before High Tide	
13. Direction of streams at Scheveningen		
14. Chemical analysis	Ammonia $\text{NH}_4^+$ - N	mg/l 3,4
	Nitrat $\text{NH}_3$ N	mg/l 0,05
	Silicaat Si	mg/l 0,3
	Chloride Cl	mg/l 17100
	Orthophosphate	mg/l 0,57
	Total phosphate	mg/l 1,41
	Kj - N	mg/l 12,4

Quantitative numbers of hauls "Pier" Scheveningen, June-July.  
Haul XII "Pier" A, Scheveningen ± two hours before high tide.  
Date: 13th of July 1977.

XII Haul "Pier" A, Scheveningen	Total numbers of organisms in haul
1. B a c i l l a r i o p h y c e a e	
Coscinodiscus granii	34000
Skeletonema costatum	500
2. P r o t o z o a	
Noctiluca miliaris	17000
3. C t e n o p h o r a	
Pleurobrachia pileus	50
4. N e m a t o d e	
Nematoda sp.	50
5. P o l y c h a e t a	
Empty vase Terebella larva	100
Polychaeta larva	750
6. C r u s t a c e a	
A m p h i p o d a	
Amphipoda sp	50
C i r r i p e d a	
Cypris larva Cir.sp.	200
C o p o p o d a	
Acartia sp.	2200
Acartia sp with parasites	750
Anomalocera patersoni	150
Centropages sp.	5700
" sp. with parasites	2950
Copepodites	100
Temora longicornis	1050
" " with parasites	850
" " with eggs	50
D e c a p o d a	
Megalopa larva of Decapoda sp.	350
M y s i d a c e a	
Mesopodopsis slabberij	50
7. M o l l u s c a	
L a m e l l i b r a n c h i a t a	
Cardium sp. (2.25 mm)	50
Mytilus edulis (0.2mm)	50
8. C h a e t o g n a t h a	
Sagitta sp.	50

Sediment ±  $\frac{2}{13}$  contents  
(mainly vegetable rests, some mud and  
partly decayed Copepoda).

DATA SAMPLING JUNE - JULY 1977 at the "Pier" Scheveningen  
~~Waddenzak~~ Haul XIII "Pier" A, Scheveningen, + 2 hours before high tide.  
Date: 30th of July 1977.

Hauls	Haul XIII "Pier" A, Scheveningen		
1. Place of hauling	"Pier" Scheveningen		
2. Situation	<u>+ 300</u> meter from the beach		
3. Weather forecast	Very cloudy, especially in the West and South. At first still rain, later on also clearings up of the sky. Wind moderate to strong and of North-easterly direction. Maximum temperature from 17°C to 20°C.		
4. Weather, while hauling	Sunshine, blue sky and somewhat hazy, especially near the horizon. Colour sea at the distance blue-grey, near place of hauling brown-darkish green, Sea choppy.		
5. Distance of hauling	<u>+ 144</u> meter from the beach		
6. Time of hauling	13.23 - 13.35		
7. Temperature	Air 20°C Water 16½°C.		
8. Lighthours a day	15.3½		
9. Wind indications	Data semaphore Direction NNE Velocity 9 m/sec.		
10. Water Levels	a. during hauling	+ 5 cm	
	b. L.W. before hauling	-65 cm	
	c. H.W. after hauling	+ 99 cm	
11. Tides	2nd H. Tide 16.03 (summer time)		
12. Direction of streams	<u>§</u> 2 hours before High Tide.		
13. Direction of streams at Scheveningen			
14. Chemical analysis	Ammonia NH <sub>4</sub> <sup>+</sup> N	mgr/l	8,3
	Nitrat NH <sub>3</sub> <sup>-</sup> -N	" "	0,01
	Silicaat Si	" "	0,3
	*Chloride Cl-	" "	17000
	Orthophosphate	" "	0,58
	Total phosphate	" "	1,62
	Kj - N	" "	12,3

Quantitative numbers of hauls "Pier" Scheveningen, June-July.

Haul XIII "Pier" A, Scheveningen  $\pm$  two hours before high tide.

Date: 30th of July 1977.

XIII Haul "Pier" A, Scheveningen	Numbers of organisms in haul
1. B a c i l l a r i o p h y c e a e	
Biddulphia sinensis	500
Coscinodiscus concinnus	1000
"          granii	10000
2. P r o t o z o a	
Noctiluca miliaris	194000
3. C o e l e n t e r a t a	
Sarsia sp	150
4. P o l y c h a e t a	
Polychaeta larva <del>larva</del>	550
Terebella larva	100
4a. Nematoda <del>Nematoda</del> sp	100
5. C r u s t a c e a	
C i r r i p e d i a	
Cypris larva	750
C o p e p o d a	
Acartia sp.	250
"          " with parasites	100
Centropages sp.	200
"          " with parasites	400
Copepodites	100
Temora longicornis	200
H a r p a c t i c o i d a	
Harpacticoida sp.	300
Mesopodopsis slabberi	50
6. M o l l u s c a	
L a m e l l i b r a n c h i a t a	
Cardium sp. (0.25mm)	150
Mytilus edulis (0.2mm)	150
7. E c h i n o d e r m a t a	
Bipinnaria larva	150
8. E g g s	
Evertebrata egg	2300

Sediment  $\pm$   $\frac{1}{14}$  contents  
(mainly vegetable rests, detritus, fine  
mud and some sand)

Fishermen didn't catch anything.

The sea was poor.

~~DATA SAMPLING~~ AUGUST - SEPTEMBER 1977  
~~DATA SAMPLING~~ AUGUST

HAUL XIV, "Pier" A, Scheveningen  $\pm$  2 hours before high tide.

Date: 13th of August 1977.

1. Hauls	XIV "Pier" Scheveningen
2. Place of hauling	"Pier" Scheveningen
3. Situation	$\pm$ 300 meter from the beach
4. Weather forecast	Mostly very clouded and locally showers. Wind light to moderate, coming from North to North-East. Minimum temperature about 15°C, maximum on the 13th of August during the day-time from 13°C to 23°C.
5. Weather while hauling	Sky overcast, misty. While hauling the sun came through. Not much wind and variable. Sea somewhat choppy. Visibility not too good. Colour sea at the distance grey; near by dark-green and transparent.
6. Distance of hauling	$\pm$ 144 meter by walking
7. Time of hauling	13.00 . 13.12 (summertime)
8. Temperature	Air 21°C      Water 14½°C.
9. Lighthours a day	14.48
10. Wind during hauling	Data semaphore Direction N.N.W. Velocity 5½ m/sec.
11. Water-Levels	a. during hauling      + 37 cm b. L.W. before hauling - 60cm c. H.W. after hauling    + 90 cm
12. Tides	2nd High Tide 15.33 (summertime)
13. Direction of streams	$\pm$ 2 hours before high tide.
14. Direction of streams at Scheveningen	
15. Chemical analysis	Ammonium NH <sub>4</sub> <sup>+</sup> -N      mg/l    0.3 Nitrat NH <sub>3</sub> -N      "      0.10 Silicat Si      "      0.5 Chloride Cl-      " 10100 Orthophosphate      "      0.04 Total phosphate      "      0.48 Kj - N      "      1,4

QUANTITATIVE NUMBERS of hauls, "Pier" Scheveningen,  
August - September 1977

Haul XIV "Pier" A, Scheveningen  $\pm$  2 hours before high tide.

Date: 13th August 1977.

XIV "Pier" A, Scheveningen	Total numbers in hauls
1. B a c i l l a r i o p h y c e a e	
Biddulphia alternans	600
" sinensis	150
Coscinodiscus excentricus	200
" granii	3200
Eucampia zoodiacus	200
Rhizosolenia sp.	800
Skeletonema costatum	600
2. P r o t o z o a	
Geratium fucus	200
Noctiluca miliaris	3200
3. C o e l e n t e r a t a	
Sarsia sp. (2. mm)	150
Mialidium hemisphericum	100
4. P o l y c h a e t a	
Polychaeta larva	100
Terebella larva	50
(Larger than normally found. Colour larva orange).	
5. C r u s t a c e a	
Cirripedia	
Cypris larva Cir.sp.	450
Ciadorcera	
Podon sp.	50
Copepoda	
Acartia sp.	2500
Acartia sp. with eggs	150
Centropages sp.	8900
" " with parasites	900
Copepodites	350
Microcalanus pusillus	100
Nauplius larva Cop.sp.	100
Temora longicornis	1750
" " with parasites	650
Harpacticoida	
Harpacticoida sp. with eggs	1100
" " with eggs	400
Mysidacea	
Mesopodopsis slabberi	50
Decapoda	
Megalopa larva Carcinus sp.	150
6. M o l l u s c a	
Lamellobranchiata	
Cardium sp. (0.2mm)	50
7. E g g s	
Vertebrata eggs	1300
Sediment $\pm \frac{1}{20}$ contents (detritus, plant rests not much and sand)	
Fishermen caught some eel.	

DATA SAMPLING AUGUST - SEPTEMBER 1977.

Haul XV "Pier" A, Scheveningen + 2 à 3 hours before high tide

Date: 27th of August 1978.

---

1. Hauls	XV "Pier" A, Scheveningen
2. Place of hauling	"Pier" Scheveningen
3. Situation	+ 300 meter from the beach
4. Weather forecast	Half to heavily clouded with a few rain-of thundershowers. Wind moderate to strong, near the coast temporarily a high wind between South-East and South-West.
5. Weather while hauling	At first sunshine with white clouds hazy. Later on darker clouds and occasionally sunshine. Visibility reasonable. Sea calm. Colour blue-grey at the distance, near hauling dark-green and transparent.
6. Distance of hauling	+ 144 meter by walking
7. Time of hauling	12.18 - 12.30 (summertime)
8. Temperature	Air 21 <sup>o</sup> C      Water 17 <sup>o</sup> C.
9. Lighthours a day	13.56
10. Wind during hauling	Data semaphore Direction W. Velocity 1m/sec.
11. Water-Levels	a. during hauling      + 17 cm b. L.W.before hauling   - 53 cm c. H.W.after hauling    + 100 cm
12. Tides	2nd High Tide 15.03
13. Direction of streams	+ 2/3 hours before High Tide.
14. Direction of streams at Scheveningen	
15. Chemical analysis	Ammonium NH <sub>4</sub> <sup>+</sup> -N      mg/l 0.07 Nitrat NH <sub>3</sub> <sup>-</sup> -N      "      0.01 Silicaat Si      "      0.4 Chloride Cl <sup>-</sup> "      13500 Orthophosphate      "      0.08 Total phosphate      "      0.21 Kj -N      "      0.9



QUANTITATIVE NUMBERS OF HAULS, "Pier" Scheveningen,  
 August-September 1977.  
 Haul XV "Pier" A, Scheveningen,  $\pm 2$  &  $3$  hours before high tide  
 Date: 27th August 1977.

XV "Pier" A, Scheveningen	Total numbers of organisms
1. Bacillariophyceae	
Biddulphia alternans	1000
" mobilicassis	500
" sinensis	500
Ceratella sp.	1250
Coscinodiscus concinnus	250
" granii	9500
Halosphaera sp.	present
Imizosolenia sp.	27250
2. Coelenterata	
Obelia sp.	150
Phialidium hemisphericum	450
Sarsia sp.	450
3. Polychaeta	
Polychaeta larva	150
4. Crustacea	
Cirripedia	
Cypris larva Cir.sp.	100
Copepoda	
Acartia sp.	500
Centropages sp.	500
Copepodites	150
Nauplius larva Cop.sp.	50
Pemora longicornis	50
Cladocera	
Podosp.	50
Mysidacea	
Mesopodopsis slabberti	50
Harpacticoida	
Harpacticoida sp.	50
5. Eggs	
Invertebrata eggs	200

Fishermen caught some eel  
 (sediment  $\pm \frac{1}{20}$  contents, mainly  
 vegetable rests, detritus and some mud).

DATA SAMPLING AUGUST - SEPTEMBER 1977.

Haul XVI "Pier" A, Scheveningen,  $\pm$  2 hours before high tide.

Date: 3rd September 1977.

- 
- |  |   |
|--|---|
| 1. Hauls                                 | XVI "Pier" A, Scheveningen  |
| 2. Place of hauling                      | "Pier" Scheveningen   |
| 3. Situation                             | $\pm$ 300 meter from the beach.   |
| 4. Weather forecast                      | At first very cloudy and locally rain. But from the West clearing-up and dry at most places.  |
| 5. Weather while hauling                 | Sunshine, while hauling it became clouded. The weather was very unsettled. Rather much wind and the sea was choppy. Not so very warm. Visibility rather good. Colour sea grey-green at the distance near by dark-green and transparent. |
| 6. Distance of hauling                   | $\pm$ 144 meter by walking.   |
| 7. Time of hauling                       | 17.05 - 17.17 (summertime)  |
| 8. Temperature                           | Air $17^{\circ}\text{C}$ water $16\frac{1}{2}^{\circ}\text{C}$ .  |
| 9. Lighthours a day                      | 13.30   |
| 10. Wind during hauling                  | Data semaphore<br>Direction N.W. Velocity 6m/sec.   |
| 11. Water Levels                         | a. during hauling      + 45 cm.<br>b. L.W. before hauling      - 35 cm<br>c. H.W. after hauling      + 110 cm.  |
| 12. Tides                                | 2nd High Tide 19.31   |
| 13. Direction of streams                 | $\pm$ 2 hours before high tide.   |
| 14. Direction of streams at Scheveningen |   |
| 15. Chemical analysis                    | Ammonium $\text{NH}_4^+$ -N      mg/l. 0.42<br>Nitrat $\text{NH}_3$ -N      " 0.89<br>Silicaat Si      " 0.4<br>Chloride $\text{Cl}^-$ " 14200<br>Orthophosphate      " 0.09<br>Total phosphate      " 0.19<br>Kj - N      " 0.8        |

QUANTITATIVE NUMBERS OF HAULS AUGUST-SEPTEMBER 1977.

Haul XVI "Pier" A, Scheveningen,  $\pm$  two hours before high tide.

Date: 3rd September 1977.

XVI "Pier" A, Scheveningen	Total of numbers of organisms in haul
<b>1. B a c i l l a r i o p h y c e a e</b>	
Biddulphia alternans	600
Cerataulina sp.	300
Coscinodiscus granii	2100
Fragilaria sp	150
Halosphaera	present
Rhizosolenia sp.	450
<b>2. C o e l e n t e r a t a</b>	
Obelia sp.	50
Phialidium hemisphericum	100
Sarsia sp.	100
<b>3. P o l y c h a e t a</b>	
Polychaeta larva	200
<b>4. C r u s t a c e a</b>	
C i r r i p e d i a	
Cypris larva Cir.sp.	150
C o p e p o d a	
Acartia sp.	650
Centropages sp.	1050
"    " with parasites	50
Copepodites	650
Nauplius larva Cop.sp.	150
Temora longicornis	200
H a r p a c t i c o i d a	
Harpacticoida sp.	100
M y s i d a c e a	
Mesopodopsis slabberi	100
<b>5. E g g s</b>	
Vertebrata eggs	200

Fishermen caught some eel.

(Sediment  $\pm \frac{1}{20}$  contents

(Debris, plant rests, fine mud).

The haul was very poor, not with standing I was guarding the net very carefully.)

DATA SAMPLING AUGUST - SEPTEMBER 1977.

Haul XVII "Pier" A, Scheveningen,  $\pm$  2 hours before high tide.

Date: 18th September 1977.

---

1. Hauls	XVII "Pier" A, Scheveningen
2. Place of hauling	"Pier" Scheveningen
3. Situation	$\pm$ 300 meter from the beach
4. Weather forecast	Sunny periods with a shower of rain locally. Wind moderate to strong, Northern. Maximum temperature 15°C.
5. Weather while hauling	Sunny. Light clouds. The weather was cold for September. Rather much wind. Sea very choppy. On Saturday I tried hauling, but I had to return, because the sea was very rough. Visibility good - Colour sea at the distance grey-green, near by dark-green transparent.
6. Distance of hauling	$\pm$ 144 meter by walking.
7. Time of hauling	16.58 - 17.10 (summertime)
8. Temperature	Air 15°C. Water 11°C.
9. Lighthours a day	12.30
10. Wind during hauling	Data semaphore <del>at</del> Direction N.E. Velocity 5½ m/sec.
11. Water-Levels	a. during hauling + 32 cm b. L.W. before hauling - 60cm c. H.W. after hauling + 109 cm
12. Tides	2nd High Tide 19.16
13. Direction of streams	$\pm$ 2 hours before High Tide
14. Direction of streams at Scheveningen	
15. Chemical analysis	Ammonium NH <sub>4</sub> <sup>+</sup> -N mg/l 1.26 Nitrat NH <sub>3</sub> -N " 0.64 Silicaat Si " 0.3 Chloride Cl <sup>-</sup> " 15900 Orthophosphate " 0.14 Total phosphate " 0.52 Kj - N " 2.6

QUANTITATIVE NUMBERS OF HAULS, AUGUST-SEPTEMBER 1977.

Haul XVII "Pier" A, Scheveningen ± 2 hours before high tide.

Date: 18th September 1977.

XVII "Pier" A, Scheveningen	Total numbers of organisms in haul
1. B a c i l l a r i p h y c e a e	
Bellarochea malleus	600
Biddulphia alternans	400
"    aurita	600
"    mobiliensis	600
"    regia	200
"    sinensis	1800
Coscinodiscus concinnus	1000
"    excentricus	1200
"    granii	54200
Ditylum brightwelli	200
Rhizosolenia sp	2400
2. P r o t o z o a	
Feraminifera sp.	100
Noctiluca miliaris	1200
3. C o e l e n t e r a t a	
Phialidium hemisphericum	100
Sarsia sp	200
Steenstrupia mutans	50
4. P o l y c h a e t a	
Polychaeta larva	750
Terebella larva	150
5. C r u s t a c e a	
C o p e p o d a	
Acartia sp.	5650
Anomalocera patersoni	150
Centropages sp	450
Copepodites	150
Temora longicornis	300
H a r p a c t i c o i d a	
Harpacticoida sp	1650
"    "    with egg-sac	250
C i r r i p o d i a	
Cypris larva Cir sp.	650
M y s i d a c e a	
Mesopodopsis slabberi	300
6. M o l l u s c a	
L a m e l l i b r a n c h i a t a	
Cordium sp. (0.225mm)	600
Mactra corallina (0.175 mm)	100
Modiolus modiolus (0.125mm)	150
7. E c t o p r o c t a	
Membranipora membranaceus	150
8. E g g s	
Evertebrata eggs	2200
9. F i s h	
a young synognathus sp (6.5cm)	50

Fishermen caught some eel and whiting.

Sediment ±  $\frac{1}{14}$  contents (vegetable rests  
detrites + sand).

DATA SAMPLING OCTOBER-NOVEMBER 1977.

Haul XVIII "Pier" A, Scheveningen,  $\pm$  2 hours before high tide.

Date: 10th October 1977.

---

1. Hauls	XVIII "Pier" Scheveningen
2. Place of hauling	"Pier" Scheveningen
3. Situation	$\pm$ 300 meter from the beach
4. Weather forecast	Mostly very much overcast with locally rain. Wind moderate to strong at times, coming from South-Eastern directions. Maximum temperature to 16°C, in the Eastern and Northern parts of the country to 10°C.
5. Weather, while hauling	Sky for the greater part overcast. There was rain during hauling and going home sunshine. Sea choppy sometimes rough. As the wind, however, was changing, the sea was calmer for a short time. Colour sea at the distance grey-green, nearby dark-green and somewhat transparent. Visibility not too bad.
6. Distance of hauling	$\pm$ 144 by walking.
7. Time of hauling	11.35 - 11.47 (wintertime)
8. Temperature	Air 16°C. Water 13°C.
9. Lighthours a day	11.02
10. Wind during hauling	Data Semaphore Direction W.N.W. Velocity 8m/sec
11. Water Levels	a. during hauling + 41 cm b. L.W. before hauling - 50 cm c. H.W. after hauling + 108 cm
12. Tides	2nd High Tide 13.26 (wintertime)
13. Direction of streams	$\pm$ 2 hours before high tide.
14. Direction of streams at Scheveningen	
15. Chemical analysis	Ammonium $\text{NH}_3$ -N mg/l. 0.1 Nitrat $\text{NH}_3$ -N " 0.4 Silicaat $\text{Si}^+$ Si " afw. Chloride $\text{Cl}^-$ " 15800 Orthophosphate " 0.05 Total phosphate " 0.23 Kj - N " 0.7

QUANTITATIVE NUMBERS OF HAULS OCTOBER - NOVEMBER 1977.

Haul XVIII "Pier" AScheveningen  $\pm$  2 hours before high tide.

Date: 10th October 1977.

Haul XVIII "Pier" A, Scheveningen	Total numbers of organisms in haul
<b>1. B A C I L L A R I O P H Y C E A E</b>	
Bellarocha malleus	250
Biddulphia sp.	3000
"    alternans	250
"    mobiliensis	7250
"    regia	4250
"    sinensis	40300
Coscinodiscus granii	5000
"    excentricus	750
Ditylum brightwelli	1250
<b>2. P r o t o z o a</b>	
Foraminifera sp.	100
Noctiluca miliaris	3000
Vase Tintinnidae	50
<b>3. C o e l e n t e r a t a</b>	
Phialidium hemisphericum	2850
Rathkea octopunctata	250
Sarsia tubulosa	300
<b>4. P o l y c h a e t a</b>	
Terebella larva	50
<b>5. C r u s t a c e a</b>	
Cirripedia	
Cypris larva Cir.sp.	350
Copepoda	
Acartia sp.	500
Centropages sp.	250
Copepodites	150
Nauplius larva Cop.sp.	100
Temora longicornis	50
Harpacticoida	
Harpacticoida sp.	650
Mysidacea	
Mesopodopsis slabberi	50
Hyperidacea	
Hyperia galba	50
<b>6. M o l l u s c a</b>	
Lamellibranchiata	
Cardium sp. (0.2 mm)	600
Spisula sp. (0.25 mm)	150
<b>7. E g g s</b>	
Invertebrata sp.	100
Packots with 9 and 19 eggs	1400

Fishermen caught some whiting, dab and Turbot.

Sediment  $\pm \frac{1}{7}$  contents.

(vegetable rests, debris, detritus black pieces most probably mud).

DATA SAMPLING OCTOBER - NOVEMBER 1977.

Haul XIX "Pier" A, Scheveningen ± High Tide

Date: 22nd October 1977.

1. Hauls	XIX	MMIIIN "Pier" Scheveningen
2. Place of hauling		"Pier" Scheveningen
3. <del>Weather forecast</del> Situation		<u>±</u> 300 meter from the beach
4. Weather forecast		Periods with sun, but also locally a shower. Wind mostly moderate from South-Western to Southern directions. Minimum temperature 10°C, maximum 18°C.
5. Weather, while hauling		Sky fully overcast; a pouring rain and visibility very poor. Not much wind. Sea calm, getting choppy. Colour sea at the distance grey; nearly dark-green, transparent. (The days before the temperature was rather high for the time of the year.)
6. Distance of hauling		<u>±</u> 144 meter by walking.
7. Time of hauling		11.17 - 11.29
8. Temperature		Air 16°C. Water 13°C.
9. Lighthouse a day		10.15
10. Wind during hauling		Data Semaphore Direction S. Velocity 5½ m/sec .
11. Water Levels		a. During hauling + 74 cm b. L.W. before hauling -56 cm c. H.W. during hauling -74 cm.
12. Tides		High tide 11.27
13. Direction of streams		<u>±</u> High Tide.
14. Direction of streams at Scheveningen		
15. Chemical analysis		Ammonium NH <sub>4</sub> <sup>+</sup> - N      mgl. 0.4 Nitrat NH <sub>3</sub> - N      " 0.7 Silicaat Si      " 0.6 Chloride Cl <sup>-</sup> " 16000 Orthophosphate      " 0.11 Total phosphate      " 0.18 Kj-N      " 0.4



QUANTITATIVE NUMBERS OF HAULS OCTOBER - NOVEMBER 1977.

Haul XIX, "Pier" A, Scheveningen ± high tide

Date: 22nd October 1977.

Haul XIX, "Pier" A, Scheveningen	Total numbers of organisms in haul.
1. B a c i l l a r i o p h y c e a e	
Biddulphia sp.	1500
"    alternans	250
"    mobiliensis	750
"    regia	2350
"    sinensis	36000
Coscinodiscus granii	750
Ditylum brightwelli	100
2. P r o t o z o a	
Noctiluca miliaris	2500
3. C t e n o p h o r a	
Pleurobrachia pileus	100
4. C o e l e n t e r a t a	
Phialidium hemisphericum	350
5. P o l y c h a e t a	
Polychaeta larva	150
6. C r u s t a c e a	
C o p e p o d a	
Acartia sp	100
Centropages sp	100
Nauplius larva Cop.sp	50
Temora longicornis	50
C i r r i p e d i a	
Cypris larva Cir.sp.	100
Nauplius larva Cir.sp	50
H a r p a c t i c o i d a	
Harpacticoida sp	850
"    "    with eggs	350
A m p h i p o d a	
Amphipoda sp.	50
M y s i d a c e a	
Mesopodopsis slabberi	50
7. M o l l u s c a	
L a m o l l i b r a n c h i a t a	
Modiolus modiolus (0.25mm)	250
Mytilis edulis (0.2 mm)	250
8. S a l p i d a	
Oikopleura dioica	100
9. E g g s	
Evertebrata eggs	1050

Fishermen caught a few flounders.

Sediment ±  $\frac{1}{20}$  contents.

(mainly vegetable rests, detritus and  
some sand and s mud)

between the rests I found the spondozoum  
chafam

DATA SAMPLING OCTOBER-NOVEMBER 1977.

Haul XX "Pier" A, Scheveningen,  $\pm$  2 hours before high tide.

Date: 7th November 1977.

- 
- |  |  |
|--|--|
| 1. Hauls                                 | XX "Pier", Scheveningen  |
| 2. Place of hauling                      | "Pier" Scheveningen  |
| 3. Situation                             | $\pm$ 300 meter from the beach   |
| 4. Weather forecast                      | More clouds coming from South-Western direction followed by rain especially in the Southern part of the country.   |
| 5. Weather, while hauling                | Sky partly overcast. Sunshine with white and dark clouds. Visibility rather good. Wind sharp and sea chopping. Colour sea at the distance grey, nearly darkgreen and transparent.                        |
| 6. Distance of hauling                   | $\pm$ 144 meter by walking.  |
| 7. Time of hauling                       | 10.15 - 10.27  |
| 8. Temperature                           | Air 12°C. Water 10°C.  |
| 9. Lighthours a day                      | 9.15   |
| 10. Wind during hauling                  | Data somaphore<br>Direction S.W.S. Velocity 8 m/sec.   |
| 11. Water Levels                         | a. during hauling + 20 cm <del>60</del><br>b. L.W. before hauling + <del>55</del> cm<br>c. H.W. after hauling + 59 cm  |
| 12. Tides                                | 1st High tide 11.52  |
| 13. Direction of streams                 | $\pm$ two hours before high tide   |
| 14. Direction of streams at Scheveningen |  |
| 15. Chemical analysis                    | Ammonium $\text{NH}_4^+$ - N mg/l. 0.91<br>Nitrat $\text{NH}_3^-$ - N " 1.12<br>Silicaat Si " 0.6.<br>Chloride $\text{Cl}^-$ " 157/10<br>Orthophosphate " 0.13<br>Total phosphate " 0.30<br>Kj - N " 1.1 |

QUANTITATIVE NUMBERS OF HAULS OCTOBER - NOVEMBER 1977.

Haul XX, "Pier" A, Scheveningen,  $\pm$  2 hours before high tide.

Date: 7th November 1977.

Haul XX, "Pier" A, Scheveningen	Total numbers of organisms in haul
<b>1. B a c i l l a r i o p h y c e a e</b>	
Bellarochea malleus	500
Biddulphia sp	500
"    alternans	1000
"    regia	1000
"    sinensis	6500
Coscinodiscus excentricus	1250
"    granii	1750
Leptocylindrus danicus	250
Thalassiosira sp	250
<b>2. P r o t o z o a</b>	
Foraminifera sp.	200
Noctiluca miliaris	1750
<b>3. P o l y c h a e t a</b>	
Polychaeta larva	100
<b>4. C r u s t a c e a</b>	
C o p e p o d a	
Centropages sp.	100
Copepodites	50
Harpacticoida	
Harpacticoida sp.	100
M y s i d a c e a e	
Mesopodopsis slabberi	150
<b>5. M o l l u s c a</b>	
Gardium sp. (0, 32.5 mm)	250
Spisula sp. (0, 22.5 mm)	100
<b>6. E g g s</b>	
Invertebrata eggs	300

Sediment  $\pm$   $\frac{1}{7}$  contents  
(vegetable rests, detritus some mud)

Fishermen caught some whiting and  
flounder.

DATA SAMPLING OCTOBER - NOVEMBER 1977.

Haul XXI "Pier" A, Scheveningen + 2 hours before high tide

Date: 27th November 1977.

---

1. Hauls	XXI "Pier" Scheveningen
2. Place of hauling	"Pier" Scheveningen
3. Situation	+ 300 meter from the beach
4. Weather forecast	Clouds varying and especially in the provinces near the beach locally rain-showers on wet show. Wind moderate to rather fresh. North-Western. Maximum temperature about 6°C. For Sunday and Monday less showers and during the night light frost.
5. Weather while hauling	Blue sky with white and dark clouds Sunshine. Visibility good. Sea choppy Colour sea at the distance grey nearly dark-brown-green. Cold wind The days before it had been very stormy. Cold wind. Weather grim.
6. Distance of hauling	+ 144 meter by walking.
7. Time of hauling	14.05 - 14.17
8. Temperature	Air 2°C. Water 5°C.
9. Lighthours a day	8.15
10. <del>Bataxsemaphore</del> Wind during hauling	Data semaphore Direction N.E. Velocity 5½ m/sec.
11. Water Levels	a. during hauling + 23 cm b. L.W. before hauling - 99 cm c. H.W. after hauling + 110 cm.
12. Tides	2nd High Tide 16.10
13. Direction of streams	+ 2 hours before High Tide.
14. Direction of streams at Scheveningen	
15. Chemical analysis	Ammonium $\text{NH}_4^+$ - N mg/l. 0.16 Nitrat $\text{NH}_3^-$ -N " 0.78 Silicaat Si " 0.7 Chloride Cl " 17000 Orthophosphate " 0.08 Total phosphate " 0.45 Kj-N " 1.4 $\text{NO}_2$ -N " 6.04

QUANTITATIVE NUMBERS OF HAULS OCTOBER - NOVEMBER 1977.

Haul XXI "Pier"A, Scheveningen,  $\pm$  2 hours before high tide.

Date: 27th November 1977.

---

Haul XXI "Pier"A, Scheveningen	Total numbers of organisms in haul
1. B a c i l l a r i o p h y c e a e	
Bellarochea malleus	500
Biddulphia sp	1500
"    alternans	2000
"    mobiliensis	500
"    regia	1250
"    sinensis	4000
Coscinodiscus excentricus	3250
"    granii	7000
2. P r o t o z o a	
Noctiluca miliaris	100
3. P o l y c h a e t a	
Polychaeta larva	100
4. N e m a t o d a	
Nematoda sp.	150
5. C r u s t a c e a	
C i r r i p o d i a	
Cypris larva Cir.sp.	300
Nauplius larva Cir sp.	150
H a r p a c t i c o i d a	
Harpacticoida sp.	350
M y s i d a c e a	
Mesopidopsis slabberi	50
6. M o l l u s c a	
L a m e l l i b r a n c h i a t a	
Cardium sp. (0.3 mm)	250
Venus sp. (0.35mm)	650
7. E g g s	
Evertebrata eggs	850

Sediment  $\pm$   $\frac{3}{7}$  contents.

Mainly vegetabledebris, mud, and  
some detritus.

DATA SAMPLING DECEMBER 1977.

Haul XXII, "Pier" Scheveningen + 2 hours before high tide.

Date: 9th December 1977.

1. Place of hauling	"Pier" Scheveningen
2. Haul A, XXII,	"Pier" Scheveningen
3. Situation	<u>± 300</u> meter from the beach.
4. Weather forecast	Locally a rainshower, but also some clearings up of the sky. During the night and morning locally mist. Minimum temperature about 4°C. Wind mostly moderate and Southern. Maximum temperature about 8°C.
5. Weather, while hauling	Blue sky with light clouds. Sunshine and hazy. Colour sea at the distance grey-blue; nearly dark-green and brown and somewhat transparent. Wind cold, but not very strong. Sea rather calm. Visibility good.
5a. Distance of hauling	<u>± 144</u> meter by walking.
6. Time of hauling	11.40 - 11.52 (wintertime)
7. Distance of hauling	<u>± 144</u> meter
8. Temperature	Air 8°C water 5°C.
9. light hours a day	7.53
10. Wind during hauling	Data semaphore Direction S.S.W. Velocity 4m/sec.
11. Water Levels	a. during hauling + 10 cm b. L.W. before hauling - 85 cm c. H.W. after hauling + 113 cm.
12. Tides	2nd H.T. 13.43
13. Direction of streams	<u>± 2 hours</u> before high tide
14. Direction of streams at Scheveningen	
15. Chemical analysis	Ammonium NH <sub>4</sub> <sup>+</sup> - N      mg/l. 0.20 Nitrat NH <sub>3</sub> - N      "      0.90 Silicaat Si      "      1.0 Chloride Cl <sup>-</sup> " 16200 Orthophosphate      "      0.09 Total phosphate      "      0.02 K <sub>j</sub> -N      "      0.34 NO <sub>2</sub> -N      "      1.2

