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D1: 77028-12  
M3

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

4th September 1967 - 5th August 1968

by dr. Joh.a Muller

SAMPLING DATA

SEPTEMBER 1967

Station: "Pier" Scheveningen  
Date: 4th of September 1967

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1. Hauls "Pier" Scheveningen
  2. Situation  $\pm$  300 meter from the beach
  3. Weather forecast Sunny periods. Wind South-western, less strong. Locally rain. Maximum temperature about 18°C.
  4. Weather conditions while hauling Sea rough, dark clouds. Occasionally the sun came through, but every moment heavy rain could be expected.
  5. Time of hauling By walking: coarse net 12.35 - 12.44  
medium net 12.47 - 12.59  
fine net 13.07 - 13.24
  6. Distance, while hauling By walking:  $\pm$  144 meter
  7. Temperature In the air 17°C  
In the water 16°C
  8. Wind Direction: W.N.W - N.W.  
Force of wind: 9/10 meter/sec.
  9. Light On deck: 220 x 100 m.a.  
Above the water: 120 x 100 m.a.  
Under the water: 100 x 100 m.a.
  10. Lighthours a day Lighthours a day 14.30
  11. Tides Second high tide 15.15
  12. Direction of streams during hauling Two hours before high tide
- 
13. Chemical analyses of the seawater near the place of hauling
 

Chloride	17341	mg/l
Phosphate	0.45	"
Nitrate	4	"





SAMPLING DATA

OCTOBER 1967

STATION: "Pier" Scheveningen

Date: 3rd of October 1967

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- |   |   |
|---|---|
| 1. Hauls  | "Pier" Scheveningen   |
| 2. Situation  | + 300 meter from the beach  |
| 3. Weather forecast   | Sunny periods; locally rain. Wind moderate to strong, near the coast stormy. Little change in temperature.                          |
| 4. Weather conditions while hauling                         | Clouded sky; occasionally sunny periods. Sometimes slightly rainy but the strong wind kept the rain away. The sea was rather rough. |
| 5. Time of hauling  | By walking<br>coarse net 11.20 - 11.30<br>medium net 11.34 - 11.46<br>fine net 11.56 - 12.09  |
| 6. Distance, while hauling                                  | By walking: + 144 meter   |
| 7. Temperature  | In the air 15 <sup>o</sup> C<br>In the water 13 <sup>o</sup> C  |
| 8. Wind   | Direction: S.W. - W.S.W.<br>Force of wind: 10/11 meter/sec  |
| 9. Light  | On deck: 360 x 100 m.a.<br>Above the water: 180 < 100 m.a.<br>Under the water: 100 < 100 m.a.                                       |
| 10. Lighthours a day  | Lighthours a day 11.32  |
| 11. Tides   | Second hightide 14.57   |
| 12. Direction of streams during hauling                     | 3 hours before high tide  |
| 13. Chemical analysis of seawater near the place of hauling | Chloride 10200 mg/l<br>Phosphate 0,55 mg/l<br>Nitrate 4 mg/l  |

SAMPLING DATA

OCTOBER 1967

LIST OF ORGANISMS

Station: "Pier" Scheveningen

Date: 3rd of October 1967

TYPES			
	coarse	medium	fine
1. B A C I L L A R I O P H Y C E A O			
Biddulphia alternans	100		250
" mobilienensis			6250
" sinensis			6900
Cerataulina bergonii	200		
Chaetoceros sp		50	100
Coscinodiscus concinnus	200	300	16250
" excentricus		50	26500
" granii	700	1050	41650
Fragilaria sp			500
Lauderia borealis			100
Leptocylindricus danicus	200		
Rhizosolenia sp	100	200	100
2. P r o t o z o a			
Noctiluca miliaris	50	1250	550
Foraminifera sp	350		150
3. C o e l e n t e r a t a			
Phialidium hemisphericum			50
4. C h a e t o g n a t h a			
Sagitta setosa		100	50
5. P o l y c h a e t a			
Empty vase of Terebella larva		50	
Larva Terebella		150	
Polychaeta sp		50	50
6. C r u s t a c e a			
C o p e p o d a			
Acartia clausi		250	700
Centropages hamatus		50	50
Microcalanus pusillus			1150
Temora longicornis		600	200
C y c l o p o i d a			
Corycaeus anglicus		50	1200
" " with eggs			100
M y s i d a c e a			
Leptomysis gracilis		400	
D e c a p o d a			
Larva Crangon vulgaris	50		
C i r r i p e d i a			
Cypris larva Balanus sp	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			
Modiolus modiolus (0.25 mm.)	150		200
Venus ovata (0.25 m.m.)	150		

SAMPLING DATA

NOVEMBER 1967

Station: "Pier" Scheveningen

Date: 1st of November 1967

- |   |   |
|---|---|
| 1. Hauls                                | "Pier" Scheveningen   |
| 2. Situation                            | ± 300 meter from the beach  |
| 3. Weather forecast                     | Rain, showers; occasionally sunny periods, but later on again rain. Wind strong, stormy between West and North. |
| 4. Weather conditions, while hauling    | Rough sea, cloudy with sun. Clouds were very black and pointed to heavy rain coming.                            |
| 5. Time of hauling                      | By walking:<br>coarse net 10.36 - 10.46<br>medium net 10.52 - 11.04<br>fine net 11.13 - 11.25                   |
| 6. Distance, while hauling              | By walking: ± 144 meter   |
| 7. Temperature                          | In the air 10° C<br>In the water 6½° C  |
| 8. Wind                                 | Direction: S.S.W.-S.<br>Force of wind: 8/10 m/sec.  |
| 9. Light                                | on deck: 290 - 100 m.a.<br>above the water: 360 < 100 m.a.<br>in the sea 180 < 100 m.a.                         |
| 10. Light hours a day                   | Lighthours a day: 9.39  |
| 11. Tides                               | Second high tide 14.09  |
| 12. Direction of streams during hauling | Three hours before high tide  |

13. Chemical analyses of seawater near the place of hauling

Chloride 16300 mg/l  
Phosphate 0.29 mg/l  
Nitrate 2 mg/l

## LIST OF ORGANISMS

Station: "Pier" Scheveningen

Date: 1st of November 1967

TYPES			
	coarse	medium	fine
1. B A C I L L A R I O P H Y C E A E			
Biddulphia alternans	50		500
" aurita			350
" mobiliensis			300
" regia	50		
" sinensis		50	2800
Cerataulina pelagica			50
Coscinodiscus concinnus	200	50	1100
" excentricus	150	100	1200
" granii	550	300	4800
Ditylum brightwelli			150
Rhizosolenia sp			200
Thalassiosira sp	50		
2. P r o t o z o a			
Noctiluca miliaris		600	150
Ceratium sp			200
Foraminifera sp	150	350	1250
3. C o e l e n t e r a t a			
Phialidium hemisphericum	2800	100	50
4. P o l y c h a e t a			
Polychaeta sp	50		
5. C r u s t a c e a			
Cirripedia			
Cypris larva of a species	100	50	700
Copepoda			
Acartia clausi		100	
Corycaeus anglicus			100
Isopoda			
Eurydice sp		50	
6. M o l l u s c a			
Lamellibranchiata			
Mactra corallina(0,2mm)		700	900
Modiolus modiolus (0.17mm.)		50	900
Mytilis edulis (0.25 mm)			350
Gastropoda			
Young Gastropoda			50
7. E c t o p r o c t a			
Cyphonautes larva of	50		700
Membranipora membranacea			



## SAMPLING DATA

DECEMBER 1967

Station: "Pier" ScheveningenDate: 1st December 1967

- 
- |   |   |
|---|---|
| 1. Place of hauling   | "Pier" Scheveningen   |
| 2. Situation  | + 300 meter from the beach  |
| 3. Weather forecast   | Light frost; fog and temperature near freezing-point. In the North of the Netherlands rising of temperature   |
| 4. Weather conditions during hauling                        | Grey sky without any sun. Not much wind; it, however was rather cold.   |
| 5. Time of hauling  | By walking:<br>coarse net      10.46 - 10.56<br>medium net     11.04 - 11.16<br>fine net        11.22 - 11.34 |
| 6. Distance of hauling                                      | By walking + 144 meter  |
| 7. Temperature during hauling                               | In the air $-1^{\circ}\text{C}$<br>In the water $3^{\circ}\text{C}$   |
| 8. Wind during hauling                                      | Direction: S.S.W. - S.W.<br>Force of wind: 2m/sec   |
| 9. Light  | On deck: 580 x 100 m.a.<br>above the water: 400 x 10 m.a.<br>in the water: 80 x 10 m.a.                       |
| 10. Lighthours a day  | Lighthours a day $8^{08}$   |
| 11. Tides   | Second high tide 14.29  |
| 12. Direction of streams during hauling                     | Three hours before high tide  |
| 13. Chemical analysis of seawater near the place of hauling | Chloride 15000 mg/l<br>Phosphate 0.40 mg/l<br>Nitrate 2 mg/l  |



## LIST OF ORGANISMS

Station: "Pier" Scheveningen

Date: 1st of December 1967

TYPES			
	coarse	medium	fine
1. B A C I L L A R I O P H Y C E A E			
Bellarochea malleus			250
Biddulphia alternans		100	150
" aurita			400
" mobiliensis		50	500
" regia			150
" sinensis			850
Chaetoceros sp		50	50
Coscinodiscus concinnus	350	650	1950
" excentricus	700	1750	1250
" granii	400	750	4950
Ditylimum brightwelli			100
Eucampia zodiacus			150
Fragilaria oceanica		50	150
Lauderia borealis	50		150
Rhizosolenia sp	100		450
Thalassiosira gravida		50	500
Skeletonema costatum			450
2. P r o t o z o a			
Noctiluca miliaris		750	3500
Foraminifera sp			50
3. C o e l e n t e r a t a			
Phialidium hemisphericum	50	50	
4. P o l y c h a e t a			
Terebella larva	100		
Vase Terebella larva	50	50	
Polychaeta sp			50
5. C h a o t o g n a t h a			
Sagitta setosa	50	50	
6. C r u s t a c e a			
C o p e p o d a			
Acartia clausi		250	
Calanus fin marchicus	50	50	50
Centropages hamatus		100	
Corycaeus anglicus		50	150
Microcalanus pusillus			50
Nauplius larva Copepoda			100
Temora longicornis		50	50
A m p h i p o d a			
Hyperia galba		50	
7. M o l l u s c a			
Venus ovata (0.2 m.m.diam)			150
" striata (0.2 m.m.)			50
8. E c t o p r o c t a			
Cyphonautes larva			150
Membranipora membranacea			
9. E c h i n o d e r m a t a			
Young Echinoidea	50		
10. E g g s			
Fish.			
Empty yoke sac	50	400	650
Merluccius merluccius			
Vertebrata			
Packet eggs			50
(diam egg 0.5 m.m.)			

SAMPLING DATA

JANUARY 1968

Station: "Pier" Scheveningen  
 Date: 16th January 1968

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- |                                      |   |
|--------------------------------------|---|
| 1. Place of hauling                  | "Pier" Scheveningen   |
| 2. Situation                         | + 300 meter from the beach  |
| 3. Weather forecast                  | At first here and there some clearing of the sky. Later on sky overcast and towards the evening rain. Wind moderate to strong, sometimes stormy coming from the West. |
| 4. Weather conditions during hauling | Stormy weather. Sky covered and fully greyish. No sun and cold weather though not freezing.   |
| 5. Time of hauling                   | By walking:<br>coarse net: 12.33 - 12.46<br>medium net: 12.50 - 13.02<br>fine net: 13.09 - 13.20  |
| 6. Distance of hauling               | By walking + 144 meter  |
| 7. Temperature during hauling        | In the air 6°C<br>in the water 2°C  |
| 8. Wind during hauling               | Direction: S - S.S.W.<br>Force of wind: 13 meter/sec.   |
| 9. Light                             | on deck+ 10 x 500 m.a.<br>above the water: 10 x 440 m.a.<br>in the water 10 x 100 m.a.  |
| 10. Lighthours a day                 | Lighthours a day 8.17   |
| 11. Tides                            | Second high tide 15.51  |
| 12. Direction of streams             | Three hours before high tide  |

13. Chemical analysis of seawater near the place of hauling

Chloride 12900 mg/l  
 Phosphate 0.80 mg/l  
 Nitrate 5 mg/l

SAMPLING DATA

JANUARY 1968

LIST OF ORGANISMS

Station: "Pier" Scheveningen

Date: 16th January 1968

TYPES			
	coarse	medium	fine
1. BACILLARIOPHYCEAE			
Bellarochea malleus			100
Biddulphia alternans			450
" mobiliensis	50	100	350
" sinensis	250	100	2200
Chaetoceros sp			150
Coscinodiscus concinnus	700		6250
" excentricus	900		7100
" granii	350	150	7200
Eucampia zoodiacus			100
Fragilaria sp			150
Rhizosolenia sp	100		450
Skeletonema costatum			50
Thalassiosira gravida			50
2. Protozoa			
Noctiluca miliaris		250	300
Foraminifera sp			3250
3. Coelenterata			
Thalididium hemisphericum	100	50	
4. Chaetognatha			
Sagitta setosa	50	50	
5. Crustacea			
Cirripedia			
Cypris larva Cirripedia sp			900
Nauplius " " "			150
Copepoda			
Acartia clausi	50	750	300
Centropages hamatus		50	
Corycaeus anglicus		200	50
Microcalanus pusillus			200
Temora longicornis			200
" " with eggs		50	50
6. Polychaeta			
Polychaeta sp			50
Polynoid larva		50	
7. Mollusca			
Lamellibranchiata			
Glycymeris glycymeris (0.35mm)		300	350
Mactra corallina(0.25mm)	50		450
Gastropoda			
Gastropoda postal larva	100		
8. Echinodermata			
Young Echinoidea sp			50
9. Eggs			
Fish Limanda limanda	50		50
Eggs of Temora longicornis		1050	



SAMPLING DATA

FEBRUARY 1968

Station: "Fier" Scheveningen

Date: 2nd February 1968

- |                                      |   |
|--------------------------------------|---|
| 1. Place of hauling                  | "Pier" Scheveningen   |
| 2. Situation                         | + 300 meter from the beach  |
| 3. Weather forecast                  | Occasionally bright sky; but rain can also be expected. Wind moderate to strong. Little change in temperature |
| 4. Weather conditions during hauling | Wind strong; sea rough; this may have been caused, because the wind was changing. Sky bright with sunshine    |
| 5. Time of hauling                   | By walking:<br>course net 14.18 - 14.28<br>medium net 14.30 - 14.47<br>fine net 14.54 - 15.12                 |
| 6. Distance of hauling               | By walking + 144 meter  |
| 7. Temperature during hauling        | In the air 6°C<br>In the water 2½°C   |
| 8. Wind during hauling               | Direction: S.S.E.-S.E.<br>Force of wind: 8m/sec   |
| 9. Light during hauling              | on deck: 250 x 100 m.a.<br>above the water: 160 x 100 m.a.<br>in the water: 100 x 100 m.a.                    |
| 10. Light hours a day                | Light hours a day 9.08  |
| 11. Tides                            | Second high tide 17.51  |
| 12. Direction of streams             | Three hours before high tide  |

13. Chemical analysis of sea water near the place of hauling

Chloride <sup>11 800</sup>~~12900~~ mg/l  
Phosphate 0.55 mg/l  
Nitrate 21 mg/l

LIST OF ORGANISMS

Station: "Pier" Scheveningen

Date: 2nd February 1968

TYPES	coarse	medium	fine
1. BACILLARIOPHYCEAE			
Biddulphia alternans		50	
" mobiliensis		150	
" sinensis	150	300	50
Cerataulina bergonii	50		
Coscinodiscus concinnus	200	450	
" excentricus	300	700	
" granii	400	1650	300
Rhizosolenia sp		50	
2. Protozoa			
Noctiluca miliaris		2650	3450
Foraminifera sp	150	600	100
3. Crustacea			
Cirripedia			
Cypris larva Cirripedia	100	150	100
Nauplius " "		150	
Copepoda			
Acartia clausi		50	550
Calanus finmarchicus		50	50
Corycaeus anglicus		150	
Microcalanus pusillus			50
Temora longicornis		1100	750
Temora longicornis with eggs		150	400
4. Mollusca			
Lamellibranchiata			
Mactra corallina(0.2 mm) 50	50	250	400
Gastropoda			
Postal larva Gastropoda	200	200	



## SAMPLING DATA

MARCH 1968

Station: "Pier" ScheveningenDate: 1st March 1968

- 
1. Hauls "Pier" Scheveningen
2. Situation  $\pm$  300 meter from the beach
3. Weather forecast Many clouds. Most places will have dry weather, locally fog in the evening and during the night. During the day also clearing up. Eastern wind, light to moderate. Little change in temperature.
4. Weather conditions while hauling Cold weather, especially the wind made it bad. The sky fully overcast and no sunshine. A little misty.
5. Time of hauling By walking:  
     medium net 13.18 - 13.29  
     coarse net 13.36 - 13.48  
     fine net 13.53 - 14.06
6. Distance, while hauling By walking  $\pm$  144 meter
7. Temperature In the air  $-1^{\circ}\text{C}$   
 In the water  $-4^{\circ}\text{C}$
8. Wind Direction: N - N.N.E.  
 Force of wind: 5m/sec
9. Light On deck: 180x100 m.a.  
 Above the water: 150-100 m.a.  
 Under the water: 100x100 m.a.
10. Light hours a day Lighthouse a day: 10.54
11. Tides Second high-water 16.49
12. Direction of streams during hauling Three hours before high tide
13. Chemical analyses of sea water, near the place of Hauling Chloride 16300 mg/l  
 Phosphate 0.28 mg/l  
 Nitrate 2 mg/l

SAMPLING DATA

MARCH 1968

Station: "Pier" Scheveningen

Date: 1st March 1968

TYPES	R		
	coarse	medium	fine
1. BACILLARIOPHYCEAE			
Bellarocha malleus			100
Biddulphia aurita		50	
" mobiliensis		1450	2350
" sinensis	50	1600	56800
Chaetoceras sp		1050	1350
Coscinodiscus concinnus			8000
" excentricus			4850
" granii	100	150	3000
Ditylum brightwelli	50	50	3000
Eucampia zoodiacus			250
Fragilaria sp		50	100
Lauderia borealis			100
Navicula sp		50	100
Rhizosolenia sp		250	500
2. Protozoa			
Noctiluca miliaris	300	61650	24500
3. Coelenterata			
Thialidium hemisphericum	150	100	50
4. Ctenophora			
Pleurobrachia pileus	50	100	50
5. Chaetognata			
Sagitta setosa	150	50	50
6. Crustacea			
Copepoda			
Acartia clausi	50	3700	2400
" " with eggs			50
Calanus finmarchicus	150	250	50
Centropages hamatus		2900	1200
Corycaeus anglicus		100	100
Microcalanus pusillus		200	1500
Temora longicornis		1500	100
" " with eggs			50
Nauplius larva Copepoda			200
Mysidacea			
Leptomysis gracilis	300	150	100
Amphipoda			
Amphipoda sp	100		
Hyperia galba	50		
Gammarus sp	50		
7. Polychaeta			
Polychaeta sp			50
8. Nematoda			
Nematoda sp			50
9. Ectoprocta			
Cyphonautes larva		50	100
Membranipora membranacea			
10. Echinodermata			
Brachiolaria larva Asterias rubens		300	50
11. Mollusca			
Lamelli branchiata			
Mactra corallina			100
12. Eggs Fish			
Gadus callaris(1.6 mm.du)	100		
Invertebrata			
Packet of Copepoda eggs		100	

SAMPLING DATA

APRIL 1968

Station: "Pier" ScheveningenDate: 1st April 1968

- 
- |                                      |  |
|--------------------------------------|--|
| 1. Hauls                             | "Pier" Scheveningen  |
| 2. Situation                         | ± 300 meter from the beach   |
| 3. Weather forecast                  | Some rain. At first still warm and sunny; later on lower temperature. Locally clouds with rain, wind light to moderate, southern, coming from the sea. |
| 4. Weather conditions, while hauling | Clear sky with clouds here and there<br>The wind was sharp and cold. Sea rough   |
| 5. Time of hauling                   | By walking:<br>coarse net 13.53 - 14.05<br>medium net 14.08 - 14.21<br>fine net 14.24 - 14.36  |
| 6. Distance while hauling            | By walking ± 144 meter   |
| 7. Temperature                       | In the air 9°C<br>In the water 4½°C  |
| 8. Wind                              | Direction: E.S.E. - S.E.<br>Force of wind: 11m/sec.  |
| 9. Light                             | On deck: 400x100 m.a.<br>Above the water: 220x100 m.a.<br>Under the water: 160x100 m.a.  |
| 10. Light hours a day                | Light hours a day 12.59  |
| 11. Tides                            | Second high tide 17.19   |
| 12. Direction of streams             | Three hours before high tide   |

13. Chemical analysis of sea near the place of hauling

Chloride 11000 mg/l  
Phosphate 0.73 mg/l  
Nitrate 5 mg/l



## LIST OF ORGANISMS

Station: "Pier" Scheveningen

Date: 1st April 1968

TYPES			
	coarse	medium	fine
1. B A C I L L A R I O P H Y C A E A			
Biddulpha alternans			100
" aurita			50
" mobiliensis			450
" sinensis	150		1700
Chaetoceros sp		50	350
Coscinodiscus concinnus	600	50	1050
" excentricus	850	150	2350
" granii	600	200	3350
Fragilaria			50
Leptocylindricus danicus		100	
Rhizosolenia sp	50		
Thalassiosira gravida	100		
2. P r o t o z o a			
Notiluca miliaris		4200	400
Foraminifera sp	250	100	1750
3. C o e l e n t e r a t a			
Rathkea octopunctata		50	
4. P o l y c h a e t a			
Nereid nectochaeta larva			50
Polychaeta sp		50	
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			
Acartia clausi		300	50
" " with eggs		100	
Centropages hamatus		300	100
Temora longicornis		50	50
M y s i d a c e a			
Leptomysis gracilis		50	
C i r r i p e d i a			
Cypris larva Cirripedia sp			100
Nauplius " " "			100
7. M o l l u s c a			
Lamelli branchiata (Lamelli branchiata)			
Cardium sp (0.16mm)			150
Mactra corallina (0.2mm)			100
Spisula solida (0.3 mm.)		50	200
8. E g g s			
F i s h			
Platichthys flesus(0.7mm)		50	
I n v e r t e b r a t a			
Copepoda eggs	150	50	50

## SAMPLING DATA

APRIL 1968

Station: "Pier" ScheveningenDate: 22nd April 1968

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- |                                     |  |
|-------------------------------------|--|
| 1. Hauls                            | "Pier" Scheveningen  |
| 2. Situation                        | ± 300 meter from the beach   |
| 3. Weather forecast                 | Weather could. Chance on rain or thunder. Not much wind, getting cooler.                   |
| 4. Weather conditions while hauling | Sky fully overcast. A heavy rain was falling and visibility was poor.                      |
| 5. Time of hauling                  | By walking:<br>coarse net: 8.33 - 8.44<br>medium net: 8.47 - 8.59<br>fine net: 9.14 - 9.26 |
| 6. Distance while hauling           | By walking ± 144 meter   |
| 7. Temperature                      | In the air 10°C<br>In the water 7°C  |
| 8. Wind                             | Direction: E.S.E. - S.E.<br>Force of wind 2/3 m/sec.                                       |
| 9. Light                            | On deck: 410x10 m.a.<br>Above the water 360x10m.a.<br>In the water 220x10 m.a.             |
| 10. Light hours                     | Light hours a day 14.22  |
| 11. Tides                           | High tide 11.40  |
| 12. Direction of streams            | Three hours before high tide   |

13. Chemical analysis of sea, near the place of hauling

Chloride 13115 mg/l  
Phosphate 0.3 mg/l  
Nitrate 3 mg/l



SAMPLING DATA

APRIL 1968

## LIST OF ORGANISMS

Station: "Pier" Scheveningen

Date: 22th April 1968

TYPES			
	coarse	medium	fine
1. B A C I L L A R I O P H Y C E A E			
Bellarochea malleus			150
Biddulphia alternans			150
" aurita			900
" mobiliensis	50	400	1500
" sinensis			1950
Cerataulina bergonii			3300
Chaetoceros sp	50	150	10500
Coscinodiscus concinnus	450	700	6750
" excentricus	300	650	4350
" granii	200	350	3900
Ditylum brightwelli			450
Eucampia zoodiacus			1500
Lauderia sp			450
Leptocylindricus danicus	200	250	3600
Navicula sp			150
Rhizosolenia sp	50	300	3600
Skeletonema costatum	50		15300
Thalassiosira sp			450
2. P r o t o z o a			
Noctiluca miliaris		3550	1650
3. C o e l e n t e r a t a			
Phialidium hemisphericus		50	
Siphonophora sp	50		
4. P o l y c h a e t a			
Polychaeta sp		150	50
Polychaeta larva			50
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			
Acartia clausi		1100	50
Centropages hamatus	50	1650	350
Temora longicornis		100	
Temora longicornis with eggs		50	
Nauplius larva			
Copepoda sp	50		
M y s i d a c e a			
Leptomysis gracilis	100	100	
Leptomysis gradlis		50	
with eggs			
A m p h i p o d a			
Amphipoda sp	50		
7. M o l l u s c a			
Lamelli Branchiata			
Mactra corallina (0.2mm)	50		
8. E c h i n o d e r m a t a			
Bipinnaria larva		200	
9. E g g s			
Limanda limanda		50	

SAMPLING DATA

MAY 1968

Station: "Pier" Scheveningen

Date: 8th May 1968

- |   |   |
|---|---|
| 1. Hauls  | "Pier" Scheveningen   |
| 2. Situation  | ± 300 meter from the beach  |
| 3. Weather forecast   | Sky clearing, but still rainshowers<br>Wind light to moderate at first<br>North-West, but later on a southern<br>wind. The night is cold. |
| 4. Weather conditions<br>while hauling                            | Rainy; sky overcast. At the end of<br>the hauling the sky cleared a<br>little and there was some<br>sunshine.                             |
| 5. Time of hauling  | By walking:<br>course net: 8.27 - 8.39<br>medium net: 8.45 - 8.58<br>fine net : 9.14 - 9.27   |
| 6. Distance while hauling   | By walking: ± 144 meter   |
| 7. Temperature  | In the air: 7°C<br>In the water: 5°C  |
| 8. Wind   | Direction: N.N.E. - N.E.<br>Force of wind: 4 m/sec  |
| 9. Light  | On deck: 120x100 m.a.<br>Above the water: 180x100 m.a.<br>Under the water: 80x100 m.a.  |
| 10. Light-hours a day   | Light-hours a day 15.58   |
| 11. Tides   | First high tide 11.38   |
| 12. Direction of streams  | Three hours before high tide  |
| 13. Chemical analyses of<br>the sea, near the place<br>of hauling | Chloride 11690 mg/l<br>Phosphate 0.3 mg/l<br>Nitrate 6 mg/l   |

SAMPLING DATA

MAY 1968

Station: "Pier" Scheveningen

Date : 8th May 1968

TYPES			
	coarse	medium	fine
1. B A C I L L A R I O P H Y C E A E			
Biddulphia alternans			250
" aurita		250	750
" mobiliensis		250	1000
" sinensis			1500
Chaetoceros sp		3600	2000
Coscinodiscus concinnus	150	500	35550
" excentricus		250	12500
" granii			3300
Eucampia zodiacus	50	500	213500
Fragilaria sp		100	250
Leptocylindricus danicus	350	250	
Skeletonema costatum	150		
Rhizosolenia sp	350	3600	601650
2. P r o t o z o a			
Noctiluca miliaris	50	18850	3000
Foraminifera sp	250	100	
C o e l e n t e r a t a			
Sarsia prolifera	150		
3. P o l y c h a e t a			
Polychaeta sp	50	100	350
4. C r u s t a c e a			
C o p e p o d a			
Acartia clausi		1100	8150
Acartia clausi with eggs			150
Centropages hamatus		2100	850
Microcalanus pusillus		1100	16500
Temora longicornis	50	100	2900
" " with eggs		600	250
Nauplius larva Copepoda			150
C i r r i p e d i a			
Cypris larva Cirripedia sp			
M y s i d a c e a			
Leptomysis gracilis	50	50	
" " with eggs	50	50	
Mysid sp	50		
5. M o l l u s c a			
Lamellibranchiata			
Spisula solida (0.3mm)			100
6. E g g s			
Fish			
Platichthys flesus (0.8mm)	50	50	
I n v e r t e b r a t a			
Pocket with Copepoda eggs			50
7. F i s h			
Platichthys flesus (5mm)	50		

SAMPLING DATA

JUNE 1968

Station: "Pier" Scheveningen

Date : 5th June 1968

- 
- |                                     |  |
|-------------------------------------|--|
| 1. Hauls                            | "Pier" Scheveningen  |
| 2. Situation                        | + 300 meter from the beach   |
| 3. Weather forecast                 | Locally rain. Sky partly or fully overcast; locally mist during the night and some rain. Light wind, in the afternoon temperature a little lower than yesterday. |
| 4. Weather conditions while hauling | Sky fully overcast, sea calm<br>Dark clouds indicated that rain could be expected.   |
| 5. Time of hauling                  | By walking:<br>coarse net : 9.29 - 9.44<br>medium net: 9.47 - 10.01<br>fine net : 10.14 - 10.26  |
| 6. Distance while hauling           | By walking: 144 meter  |
| 7. Temperature while hauling        | In the air 15°C<br>In the water 12°C   |
| 8. Wind                             | Direction of wind N.N.E.-N.E.<br>Force of wind 4m/sec  |
| 9. Light                            | On deck: 100x120 m.a.<br>Above the water: 100x110 m.a.<br>Under the water: 100x 60 m.a.  |
| 10. Light-hours a day               | Light-hours a day 16.31  |
| 11. Tides                           | First high tide 9.31   |
| 12. Direction of streams            | High tide  |

13. Chemical analyses of the sea, near the place of hauling

Chloride  
Phosphate  
Nitrate

12400 mg/l  
0,4 mg/l  
2 mg/l



SAMPLING DATA

JUNE 1968

Station: "Pier" Scheveningen

Date: 5th of June 1968

TYPES	coarse	medium	fine
1. B A C I L L A R I O P H Y C E A E			
Biddulphia aurita			800
" mobiliensis		200	1600
" regia			200
" sinensis			3000
Chaetoceros sp	100	94600	95400
Coscinodiscus concinnus			300
" excentricus	50		600
" granii		600	1600
Ditylum brightwelli			200
Eucampia zodiacus	50		800
Fragilaria sp			200
Rhizosolenia sp			2800
Skeletonema costatum		200	800
2. P r o t o z o a			
Noctiluca miliaris	600	103600	101600
Empty vase of Tintinoid sp			400
3. C o e l e n t e r a t a			
Beroë cucumis	50		
Bougainvillia ramosa	100		
Phialidium hemisphericum		50	
Pleurobrachia pileus	150	150	
Sarsia sp			50
Steenstrupia nutans	50	100	50
4. P o l y c h a e t a			
Empty vase Terebella larva	100		
Polychaeta sp	50	100	50
Terebella larva	50		
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			
Acartia clausi		300	300
Centropages hamatus	150	800	350
Microcalanus pusillus			350
Temora longicornis	50	50	50
Nauplius larva Copepoda sp			250
C l a d o c e r a			
Evadna sp		50	50
C i r r i p e d i a			
Cypris larva Cirripedia sp	50		250
Nauplius " " "			100
D e c a p o d a			
Zoea larva Pagurus sp	50		
7. M o l l u s c a			
E a m e l l i b r a n c h i a t a			
Cardium sp(0.16 mm)			50
Spisula solida(0.2mm)	100	250	150
G a s t r o p o d a			
Egg Gastropoda sp	50	400	8500
S a l p i d a			
Oikopleura dioica			50
8. E c h i n o d e r m a t a			
Bipinnaria larva Asteroidea sp			250



Per  
5-6.62<sup>2</sup>.

	<u>coarse</u>	<u>medium</u>	<u>fine</u>
9. Eggs			
Fish			
Clupea sprattus (0.1mm.)		150	600
Platichthys flesus (1.2mm)	100		
10. Fish			
Clupea sprattus (5 mm.)	50	100	

## SAMPLING DATA

JULY 1968

Station: "Pier" ScheveningenDate: 5th July 1968

- |                                     |   |
|-------------------------------------|---|
| 1. Hauls                            | "Pier" Scheveningen   |
| 2. Situation                        | ± 300 meter from the beach  |
| 3. Weather forecast                 | Temperature higher. Weather sunny and dry. Wind moderate later on Eastern.  |
| 4. Weather conditions while hauling | Hazy, later on the sky became clearer and the sun was just coming through the hazy air; the sun, however, was shrouded. |
| 5. Time of hauling                  | By walking:<br>coarse net 7.15 - 7.27<br>medium net 7.33 - 7.46<br>fine net 7.59 - 8.13                                 |
| 6. Distance, while hauling          | By walking: ± 144 meter   |
| 7. Temperature, while hauling       | In the air 17½° C<br>In the water 16° C   |
| 8. Wind                             | Direction: N.N.E.<br>Force of wind: 5/6 m/sec.  |
| 9. Light                            | On deck: 100x220 m.a.<br>Above the water: 100x200 m.a.<br>Under the water: 100x100 m.a.                                 |
| 10. Light hours a day               | Light hours a day 16.34   |
| 11. Tides                           | First high water 9.49   |
| 12. Direction of streams            | Two hours before high water   |

13. Chemical analysis of the sea, near the place of hauling

Chloride 10900 mg/l  
Phosphate 0.4 mg/l  
Nitrate 2 mg/l

## SAMPLING DATA

JULY 1968

Station: "Pier" Scheveningen

Date: 5th July 1968

TYPES			
	coarse	medium	fine
1. B A C I L L A R I O P H Y C E A E			
Biddulphia mobiliensis			250
Cerataulina bergonii	1300	7500	247000
Coscinodiscus concinnus			350
" excentricus	50		300
" granii	50		5200
Rhizosolenia sp	55700	50700	288350
Skeletonema costatum			750
2. P r o t o z o a			
Noctiluca miliaris	250	25500	6100
3. C o e l e n t e r a t a			
Phialella quadratum	500	1450	1450
Pleurobrachia pileus	1500	250	600
Obelia sp	50	250	100
Steenstrupia nutans	500	550	300
4. P o l y c h a e t a			
Empty vase Terebella larva	100	900	4650
Free swimming larva Autolytus		50	
Polychaeta larva		50	50
Polychaeta sp		200	300
Terebella larva	1050	350	200
5. N e m a t o d a			
Nematoda sp			50
6. C h a e t o g n a t h a			
Sagitta sp		100	
7. C r u s t a c e a			
C o p e p o d a			
Acartia clausi	50	2600	3900
Anomalocera sp		1250	1150
Centropages hughatus	150	2650	1800
Microcalanus pusillus			4650
Tezora longicornis		750	1300
Nauplius larva Copepoda sp		50	50
C l a d o c e r a			
Evadna sp			50
D e c a p o d a			
M e g a l o p a larva Decapoda sp	400 <del>450</del>	100	
Zoea larva Carcinus maenas		50	
8. M o l l u s c a			
L a m e l l i branchiata			
Mytilus edule (0.2mm)			250
9. S a l p i d a			
Oikopleura dioica	50	950	700
10. E g g s			
Evertebrata			
Copepoda eggs	650		900
11. F i s h			
Clupea sprattus(4mm)		150	150
Gadus callarius (3mm)	50		

## SAMPLING DATA

AUGUST 1968

Station: "Pier" ScheveningenDate: 5th August 1968

- 
- |   |  |
|---|--|
| 1. Hauls  | "Pier" Scheveningen  |
| 2. Situation  | + 300 meter from the beach   |
| 3. Weather forecast   | Sky for the greater part overcast<br>Wind light to moderate, near the coast sometimes strong, Northern.<br>Temperature not much change |
| 4. Weather conditions, while hauling                        | Misty weather visibility poor<br>see calm  |
| 5. Time of hauling  | By walking:<br>coarse net 8.29 - 8.45<br>medium net 8.47 - 8.56<br>fine net 9.03 - 9.15  |
| 6. Distance, while hauling                                  | By walking: + 144 meter  |
| 7. Temperature, while hauling                               | In the air: 16 $\frac{1}{2}$ °C<br>In the water: 19°C  |
| 8. Wind   | Direction: N.N.E.<br>Force of wind $\frac{1}{2}$ m.p.sec. (at 8.15)  |
| 9. Light  | On deck: 100x100 m.a.<br>Above the water: 80x100 m.a.<br>Under the water: 60x100 m.a.  |
| 10. Lighthours a day  | Lighthours a day 15.15   |
| 11. Tides   | First high tide 10.28  |
| 12. Direction of stream                                     | two hours before high water  |
| 13. Chemical analysis of the sea, near the place of hauling | Chloride 19200 mg/l<br>Phosphate 3.34 mg/l<br>Nitrate 2 mg/l   |



SAMPLING DATA AUGUST 1968

Station: "Pier" Scheveningen

Date: 5th August 1968

TYPES	coarse	medium	fine
1. B A C I L L A R I O P H Y C E A E			
Biddulphia aurita		50	
Cerataulina bergonii			100
Chaetoceros sp	50	50	100
Coscinodiscus concinnus			350
"    excentricus	50	50	1700
"    granii			1000
Rhizosolenia sp		150	100
Thalassiosira sp		50	250
2. P r o t o z o a			
Noctiluca miliaris	6900	90400	203000
Tinninid vase		100	
3. C o e l e n t e r a t a			
Obelia sp	50		
Phialella quadrata	100		
Phialidium hemisphericum	450		
4. C t e n o p h o r a			
Beroë cucumis	150	50	
Pleurobrachia pileus	100	50	
5. C h a e t o g n a t h a			
Sagitta elegans	100		
Sagitta sp			50
6. P o l y c h a e t a			
Empty vase Terebella larva	200		
Polychaeta sp		50	300
Terebella larva	350	200	350
7. N e m a t o d a			
Nematoda sp	50		
8. C r u s t a c e a			
C o p e p o d a			
Acartia clausi	50	400	450
Acartia clausi with eggs		50	
Centropages hamatus		100	150
Cladocera			
Podon sp			50
D e c a p o d a			
Megalopa larva of a Decapoda sp	200		
Zoëa larva Portunus puber	250		
C i r r i p e d i a			
Cypris larva of Balanus sp			50
9. M o l l u s c a			
G a s t r o p o d a			
Young Gastropoda(o.35mm)			150
10. S a l p i d a			
Oikopleura dioica	50		
11. E g g s			
I n v e r t e b r a t a			
Gastropoda sp			50
F i s h			
Trigla gurnardus		50	

