



Statlig program for forurensningsovervåking

**Hydrografi/hydrokjemi  
Datarapport 2000**

**Rapport  
844/02**

Kystovervåkingsprogrammet

**s ft:**

NIVA 

**Statlig program for forurensningsovervåking**

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge

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**LANGTIDSOVERVÅKING AV MILJØKVALITETEN I  
KYSTOMRÅDENE AV NORGE**

**HYDROGRAFI/HYDROKJEMI**

**DATARAPPORT 2000**

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## Forord

Statens forurensningstilsyn (SFT) ba i 1989 Norsk institutt for vannforskning (NIVA) om å utarbeide et program for langtidsovervåking av tendensen i trofikutviklingen langs kysten av Sør-Norge (Kystovervåkingsprogrammet). Ferdige programforslag forelå våren 1990, og feltarbeidet startet samme år med hydrokjemiske og biologiske undersøkelser (hard- og bløtbunn). Den hydrokjemiske overvåkingen utføres i samarbeid med Havforskningsinstituttet i Bergen (HI) og Havforskningsinstituttets forskningsstasjon Flødevigen (HFF).

NIVA har hovedansvaret for gjennomføring av prosjektet og utarbeidelse av rapporter.

For innsamling av vannprøver fra Jomfruland har Kystverkets båt Munin blitt brukt. Ved Arendal har forskningsfartøyet "G.M.Dannevig" blitt brukt, og ved Lista "Brekne". Vi vil takke mannskapet ombord på fartøyene for en fin innsats.

Feltarbeidet er blitt utført av mannskapet på Munin, samt Einar Dahl, Terje Jåvold, Anita Reivåg og Lena Omli ved Havforskningsinstituttets forskningsstasjon Flødevigen og Hans Heimvoll har gjennomført feltarbeidet ved Lista.

Foreliggende rapport er en datarapport med presentasjon av de hydrografiske data i tabellform.

Oslo den 20.1.2002

Jan Magnusson

## **Innhold**

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## 1. Formål

Kystovervåkingsprogrammet skal gi en oversikt over trofistanden og kartlegge utviklingstendenser i området fra svenskegrensen til Vestlandet.

I 2000 er det gjennomført hydrografiske/hydrokjemiske tokt til 4 hovedstasjoner i kystvannet mellom svenskegrensen og Lista.

Formålet med denne datarapporten er å presentere de hydrografiske/hydrokjemiske observasjonene fra 2000.

## 2. Gjennomføring

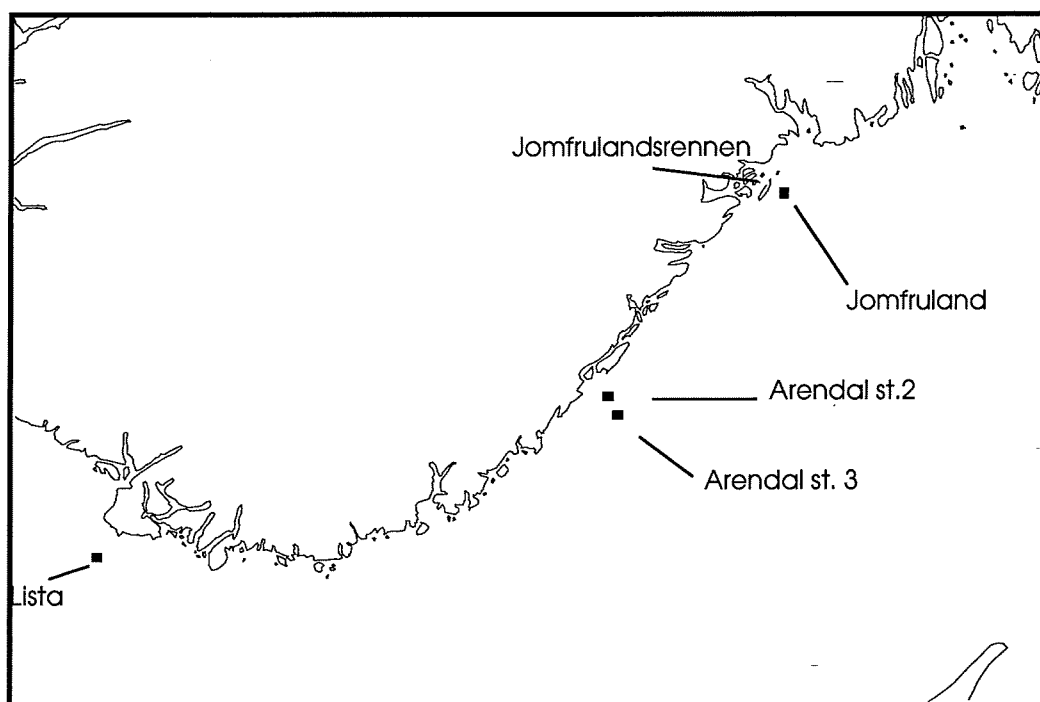
Stasjoner og observasjonsfrekvens fremgår av tabell 1 og figur 1.

I 2000 ble observasjonsfrekvensen noe lavere enn beregnet som følge av praktiske vanskeligheter med gjennomføringen av toktprogrammet (dårlig vær, motorhaverier m.m.). Tabell 2 viser en oversikt over gjennomførte tokt i 2000.

Tabell 1. Stasjoner og observasjonsfrekvens i 2000.

| Stasjon       | Posisjon    |            | Dyp       | Observasjonsfrekvens |
|---------------|-------------|------------|-----------|----------------------|
| Jomfruland    | N: 58° 51'  | E: 09°40.' | ca. 100 m | Ca. hver 14 dag.     |
| Arendal st 2. | N: 58° 23'  | E: 08°49'  | ca. 75 m  | Ca. hver 14 dag.     |
| Arendal st.3. | N: 58° 20.' | E: 08°54.' | ca. 260 m | Ca. 1 gang pr. måned |
| Lista         | N: 58° 01'  | E: 06°32.' | ca. 350 m | Ca. 1 gang pr. måned |

I tillegg er det tatt overflateobservasjoner i Jomfrulandsrennen ( N: 58° 53.5' E: 09° 37.0').



Figur 1. Hydrografiske/hydrokjemiske stasjoner i kystovervåkingsprogrammet 2000.

Tabell 2. Gjennomførte tokter i 2000.

| Dato  | Jomfruland | Arendal St 2 | Arendal St 3 | Lista |
|-------|------------|--------------|--------------|-------|
| 13.1  |            |              |              | 1     |
| 16.1  |            | 1            | 1            |       |
| 25.1  | 1          |              |              |       |
| 9.2   | 2          |              |              |       |
| 13.2  |            | 2            | 2            |       |
| 16.2  |            |              |              | 2     |
| 22.2  | 3          |              |              |       |
| 8.3   |            | 3            | 3            |       |
| 9.3   |            |              |              | 3     |
| 20.3  |            | 4            |              |       |
| 29.3  | 4          |              |              |       |
| 11.4  | 5          |              |              |       |
| 12.4  |            | 5            | 4            |       |
| 26.4  | 6          |              |              |       |
| 8.5   | 7          |              |              | 5     |
| 9.5   |            | 6            |              |       |
| 17.5  |            | 7            | 5            |       |
| 26.5  |            | 8            |              |       |
| 1.6   | 8          |              |              |       |
| 6.6   |            |              |              | 6     |
| 10.6  |            | 9            | 6            |       |
| 20.6  | 9          |              |              |       |
| 23.6  |            | 10           |              |       |
| 4.7   |            | 11           | 7            |       |
| 6.7   |            |              |              | 7     |
| 10.7  | 10         |              |              |       |
| 26.7  | 11         |              |              |       |
| 27.7  |            | 12           |              |       |
| 6.8   |            |              |              | 8     |
| 9.8   | 12         |              |              |       |
| 18.8  |            | 13           | 8            |       |
| 22.8  | 13         |              |              |       |
| 31.8  |            | 14           |              |       |
| 5.9   |            |              |              | 9     |
| 6.9   | 14         |              |              |       |
| 15.9  |            | 15           | 9            |       |
| 27.9  | 15         |              |              |       |
| 3.10  |            |              |              | 10    |
| 5.10  |            | 16           |              |       |
| 21.10 |            | 17           | 10           |       |
| 2.11  |            | 18           | 11           |       |
| 10.11 |            |              |              | 11    |
| 13.11 | 16         |              |              |       |
| 28.11 |            | 19           |              |       |
| 29.11 | 17         |              |              |       |
| 4.12  |            | 20           | 12           |       |
| 11.12 |            |              |              | 12    |
| 18.12 |            | 21           |              |       |
| 19.12 | 18         |              |              |       |

Enkelte parametre ble kun analysert på et begrenset antall dyp. I felt ble vann til næringssalt-analyser filtrert gjennom en zooplanktonduk med maskevidde på 180 µm.

Samtlige analyser av TSM er gjennomført ved NIVA. Øvrige analyser er gjennomført ved HFF (Arendal St 2 og 3 samt Lista) og NIVA (Jomfruland), unntatt partikulært karbon og nitrogen ved Arendal St. 2, Arendal St. 3 og Lista, som ble analysert av Havforskningsinstituttet i Bergen. For en beskrivelse av analysemetoder henvises til tidligere rapport (Aure m.fl.1991).

Tabell 3 viser observerte variable på de ulike stasjonene i 2000 og tabell 4 viser observasjonsdyp.

Tabell 3. Oversikt av observasjoner på de ulike stasjoner i 2000

| Stasjon/parameter                      | Jomfrulandsrennen | Jomfruland | Arendal St. 2 | Arendal St. 3 | Lista |
|--|-------------------|------------|---------------|---------------|-------|
| Temperatur                             | x                 | x          | x             | x             | x     |
| Saltholdighet                          | x                 | x          | x             | x             | x     |
| Oksygen                                |                   | x          | x             | x             |       |
| Tot-P                                  | x                 | x          | x             | x             | x     |
| PO <sub>4</sub> -P                     |                   | x          | x             | x             | x     |
| POP                                    |                   | x          | x             | x             | x     |
| Tot-N                                  | x                 | x          | x             | x             | x     |
| NO <sub>3</sub> -N+ NO <sub>2</sub> -N |                   | x          |               |               |       |
| NO <sub>3</sub> -N                     |                   |            | x             | x             | x     |
| NO <sub>2</sub> -N                     |                   |            | x             | x             | x     |
| NH <sub>4</sub> -N                     |                   | x          | x             | x             |       |
| PON                                    |                   | x          | x             | x             | x     |
| Si <sub>2</sub> O <sub>3</sub> -Si     |                   | x          | x             | x             | x     |
| POC                                    |                   | x          | x             | x             | x     |
| TSM                                    |                   | x          | x             |               |       |
| KI-a                                   |                   | x          | x             | x             | x     |
| Siktedyp                               | x                 | x          | x             | x             | x     |
| Gulstoff(Ay380)                        |                   | x          |               |               |       |
| Plantep.*                              |                   | x          | x             |               |       |
| Zooplankton*                           |                   |            | x             |               |       |

\* Rapporteres i hovedrapporter

Tabell 4. Observasjonsdyp.

| Stasjon | Jomfruland                        | Arendal St. 2                 | Arendal St. 3            | Lista  |
|---------|-----------------------------------|-------------------------------|--------------------------|--|
| Dyp     | 0, 5, 10, 15, 20, 30, 50, 75, 100 | 0, 5, 10, 15, 20, 30, 50, 75. | 100, 125, 150, 200, 240* | 0, 5, 10, 15, 20, 30, 50, 75, 100, 150, 200, 300 |

\* bare observasjoner i kystovervåkingsprogrammet fra 100-240 meters dyp. Øvrige observasjoner (0-75m) fra denne stasjonen er fra Havforskningsinstituttets eget program.

For observasjoner av saltholdighet og temperatur er det brukt SEACAT CTD (SEABIRD) på Jomfruland, og Gytresonde (Sensordata) på Lista. På Arendalstasjonene er det som regel brukt Neil Brown CTD (Mark III).

Kvaliteten på CTD-sonder varierer og hver sonde må kontrolleres jevnlig. SEACAT-sonden blir kontrollert dels ved normale rutiner, men også ved at det gjennomføres prøvetaking med vendetermometre og analyseres på saltholdighet på de to nederste vannhenterdypene (75 og 100 meters dyp). På Lista gjennomføres samme prosedyre på saltholdighet, for å kontrollere Gytresonden (Sensordata).

Der hvor det er foretatt saltanalyser på Jomfruland (75 og 100 m) er disse resultatene presentert i tabellen, øvrige dyp er observasjonene fra CTD.

Havforskningsinstituttet Forskningstasjonen Flødevigen (HFF) og Norsk institutt for vannforskning (NIVA) deltok i kvalitetssikringsprogrammet Quasimeme 2 ganger i 2000 (Runde 22 og 24). Det ble analysert på tot-P, tot-N, nitrat, nitrit, ammonium, fosfat og silikat, både lave og høye konsentrasjoner. Resultatet var for samtlige næringsaltsanalyser meget bra (satisfactory).



### 3. Hydrografiske/hydrokjemiske observasjoner 2000

#### 3.1 Jomfruland

| Station: Jomfruland |           |          |               | Date: 25.01.2000 |            | Time (UTC): 07:30  |                |            | Position: N: 58° 51' |          | E: 9° 40'           |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------------|----------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 126 |                |            | Secchidepth (m): 8   |          | Secchicolour: Green |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)            | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 2.34      | 28.884   | 7.20          | 0.71             | 0.58       | 34.6               | 10.1           | 4.9        | 23.5                 | 36.6     | 7.1                 | 0.1      | 2.10       | 0.25        | 1.08        |
| 5                   | 3.00      | 28.976   | 7.17          | 0.74             | 0.68       | 32.5               | 10.1           | 5.5        | 23.5                 | 34.1     | 6.5                 | 0.1      | 1.51       | 0.34        | 1.01        |
| 10                  | 4.56      | 31.193   | 7.08          | 0.74             | 0.58       | 31.8               | 10.0           | 5.0        | 21.7                 | 32.9     | 6.1                 | 0.1      | 1.99       | 0.10        | < 0.88      |
| 20                  | 5.65      | 32.895   | 6.56          | 0.77             | 0.61       | 41.1               | 8.1            | 5.1        | 13.4                 | 52.0     | 10.3                | 0.1      | 3.42       | 0.16        | 0.60        |
| 30                  | 5.83      | 33.308   | 6.52          | 0.77             | 0.65       | 38.9               | 8.2            | 4.8        | 13.1                 | 52.0     | 10.1                | 0.1      | 4.17       | 0.10        | < 0.51      |
| 50                  | 6.06      | 33.753   | 6.49          | 0.84             | 0.68       | 52.8               | 7.8            | 6.7        | 14.5                 |          |                     |          |            | 0.19        | 0.44        |
| 75                  | 6.70      | 34.188   | 6.36          | 0.71             | 0.58       | 27.8               | 6.9            | 5.0        | 9.8                  | 27.5     | 4.2                 | 0.1      | 1.79       |             | 0.35        |
| 100                 | 6.83      | 34.307   | 6.37          | 0.74             | 0.58       | 26.8               | 6.8            | 4.3        | 9.8                  |          |                     |          |            |             | 0.37        |

| Station: Jomfruland |           |          |               | Date: 09.02.2000 |            | Time (UTC): 07:17  |                |            | Position: N: 58° 51' |          | E: 9° 40'           |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------------|----------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 120 |                |            | Secchidepth (m): 7   |          | Secchicolour: Green |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)            | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 4.94      | 33.251   | 6.66          | 0.68             | 0.58       | 20.3               | 8.1            | 0.4        | 12.7                 | 17.2     | 2.7                 | 0.1      | 1.42       | 0.33        | 0.55        |
| 5                   | 4.97      | 32.920   | 6.66          | 0.68             | 0.61       | 22.1               | 8.1            | 1.1        | 12.7                 | 22.7     | 3.8                 | 0.1      | 1.92       | 0.36        | 0.55        |
| 10                  | 5.18      | 32.988   | 6.63          | 0.68             | 0.58       | 18.2               | 7.9            | < 0.4      | 12.4                 | 15.7     | 2.3                 | 0.1      | 1.18       | 0.33        | 0.41        |
| 20                  | 5.29      | 33.251   | 6.66          | 0.68             | 0.58       | 21.1               | 7.9            | 0.5        | 11.6                 | 22.6     | 3.4                 | 0.1      | 1.50       | 0.42        | 0.51        |
| 30                  | 5.33      | 33.399   | 6.60          | 0.68             | 0.58       | 16.8               | 7.7            | 0.5        | 11.8                 | 18.4     | 2.4                 | 0.1      | 1.85       | 0.23        | 0.37        |
| 50                  | 5.36      | 33.460   | 6.63          | 0.71             | 0.58       | 20.3               | 7.9            | 0.6        | 11.6                 |          |                     |          |            | 0.26        | 0.35        |
| 75                  | 5.34      | 33.530   | 6.61          | 0.68             | 0.58       | 18.9               | 7.8            | 0.6        | 11.8                 | 16.6     | 2.0                 | 0.1      | 1.93       |             | 0.41        |

## Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: Jomfruland |           |          |               | Date: 22.02.2000 |            | Time (UTC): 10:50  |                |            | Position: N: 58° 51' |          | E: 9° 40'                |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|--------------------------|----------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 130 |                |            | Secchidepth (m): 8.5 |          | Secchicolour: Gray/green |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)                 | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 1.07      | 25.285   | 7.68          | 0.65             | 0.48       | 28.9               | 12.1           | 1.0        | 35.6                 | 26.4     | 3.7                      | 0.1      | 0.71       | 0.39        | 1.43        |
| 5                   | 2.82      | 28.658   | 7.28          | 0.74             | 0.55       | 31.8               | 9.1            | 1.0        | 22.9                 | 40.1     | 6.4                      | 0.1      | 1.29       | 0.65        | 1.15        |
| 10                  | 3.65      | 30.310   | 6.95          | 0.74             | 0.58       | 24.3               | 9.9            | 0.8        | 19.7                 | 28.6     | 4.1                      | 0.1      | 1.14       | 0.54        | 0.97        |
| 20                  | 5.25      | 32.921   | 6.50          | 0.74             | 0.61       | 25.7               | 8.5            | 0.6        | 14.1                 | 38.4     | 6.2                      | 0.1      | 1.39       | 0.21        | 0.69        |
| 30                  | 5.63      | 33.542   | 6.46          | 0.71             | 0.58       | 23.6               | 8.1            | 0.5        | 12.7                 | 29.7     | 4.5                      | 0.1      | 1.53       | 0.24        | 0.62        |
| 50                  | 5.64      | 33.899   | 6.53          | 0.81             | 0.65       | 43.9               | 9.0            | 1.6        | 12.5                 |          |                          |          |            | 0.28        | 0.76        |
| 75                  | 5.80      | 34.236   | 6.49          | 0.84             | 0.68       | 51.0               | 7.8            | 1.8        | 11.6                 | 53.4     | 8.1                      | 0.1      | 2.43       |             | 1.11        |
| 100                 | 6.14      | 34.556   | 6.42          | 0.74             | 0.61       | 24.6               | 6.6            | 0.6        | 10.6                 |          |                          |          |            |             | 0.35        |

| Station: Jomfruland |           |          |               | Date: 16.03.2000 |            | Time (UTC): 11:00  |                |            | Position: N: 58° 51' |          | E: 9° 40'           |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------------|----------|------------|-------------|-------------|
| Ship: Hugin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 130 |                |            | Secchidepth (m): 9   |          | Secchicolour: Green |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)            | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 3.99      | 30.182   | 7.09          | 0.58             | 0.45       | 20.7               | 10.6           | 0.6        | 16.4                 | 18.3     | 2.3                 | 0.1      | 0.79       | 0.34        | 0.67        |
| 5                   | 3.93      | 32.070   | 6.97          | 0.61             | 0.45       | 23.2               | 10.7           | 0.5        | 13.6                 | 25.4     | 4.4                 | 0.1      | 1.01       | 1.04        | 0.55        |
| 10                  | 4.00      | 32.270   | 6.98          | 0.61             | 0.45       | 25.3               | 11.4           | 0.5        | 12.6                 | 24.6     | 4.3                 | 0.1      | 1.16       | 1.23        | 0.44        |
| 20                  | 4.67      | 33.226   | 6.92          | 0.61             | 0.45       | 18.2               | 7.7            | 0.5        | 8.0                  | 22.6     | 3.7                 | 0.1      | 0.94       | 1.17        | 0.39        |
| 30                  | 4.94      | 33.619   | 6.73          | 0.61             | 0.48       | 18.9               | 8.6            | 0.4        | 10.1                 | 17.6     | 2.3                 | 0.1      | 1.05       | 0.83        | 0.35        |
| 50                  | 5.02      | 33.766   | 6.67          | 0.68             | 0.55       | 34.3               | 8.9            | 1.1        | 10.5                 |          |                     |          |            | 0.53        | 0.32        |
| 75                  | 5.10      | 33.831   | 6.68          | 0.61             | 0.52       | 18.6               | 8.6            | < 0.4      | 10.9                 | 14.8     | 1.5                 | 0.1      | 1.20       |             | 0.35        |
| 100                 | 5.09      | 33.840   | 6.70          | 0.61             | 0.52       | 16.8               | 8.6            | < 0.4      | 10.9                 |          |                     |          |            |             | 0.28        |

| Station: Jomfruland |           |          |               | Date: 29.03.2000 |            | Time (UTC): 08:45  |                |            | Position: N: 58° 51' |          | E: 9° 40'                |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|--------------------------|----------|------------|-------------|-------------|
| Ship: Hugin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 125 |                |            | Secchidepth (m): 8.5 |          | Secchicolour: Grey/green |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)                 | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 3.69      | 27.556   | 7.59          | 0.55             | 0.06       | 22.1               | 1.4            | 0.5        | 7.6                  | 61.6     | 10.6                     | 0.5      | 1.29       | 1.92        | 0.90        |
| 5                   | 4.18      | 28.351   | 7.60          | 0.36             | 0.06       | 19.6               | 1.0            | 0.5        | 6.7                  | 46.6     | 7.6                      | 0.3      | 0.79       | 2.39        | 0.74        |
| 10                  | 4.19      | 28.874   | 7.51          | 0.39             | 0.06       | 22.1               | 1.3            | 0.5        | 5.9                  | 44.2     | 7.5                      | 0.3      | 1.34       | 2.56        | 0.83        |
| 20                  | 4.28      | 31.030   | 7.07          | 0.48             | 0.26       | 34.6               | 6.1            | 1.4        | 8.4                  | 51.0     | 8.3                      | 0.1      | 1.88       | 1.15        | 0.81        |
| 30                  | 4.49      | 32.580   | 6.87          | 0.55             | 0.39       | 29.6               | 9.4            | 1.1        | 10.5                 | 32.1     | 5.8                      | 0.1      | 1.08       | 0.54        | 0.51        |
| 50                  | 5.33      | 34.442   | 6.29          | 0.74             | 0.65       | 26.1               | 8.1            | 0.6        | 9.7                  |          |                          |          |            | 0.48        | 0.23        |
| 75                  | 6.10      | 34.937   | 6.33          | 0.77             | 0.65       | 31.1               | 8.1            | 0.6        | 8.4                  | 37.0     | 5.9                      | 0.1      | 1.88       |             | 0.21        |
| 100                 | 6.27      | 35.007   | 6.29          | 0.77             | 0.65       | 27.5               | 8.7            | 0.6        | 8.8                  |          |                          |          |            |             | 0.18        |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: Jomfruland |           |          |               | Date: 11.04.2000 |            | Time (UTC): 09:15  |                |            | Position: N: 58° 51' |          | E: 9° 40'           |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------------|----------|------------|-------------|-------------|
| Ship: Hugin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 145 |                |            | Secchidepth (m): 13  |          | Secchicolour: Green |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)            | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 5.05      | 23.449   | 7.65          | 0.39             | 0.06       | 20.0               | 1.1            | 0.9        | 8.4                  | 47.7     | 6.6                 | 0.3      | 1.16       | 2.25        | 0.69        |
| 5                   | 3.94      | 25.110   | 7.81          | 0.26             | 0.06       | 15.3               | 1.1            | 1.0        | 6.9                  | 23.6     | 3.4                 | 0.1      | 0.66       | 0.78        | 0.65        |
| 10                  | 3.87      | 26.979   | 7.44          | 0.29             | 0.13       | 21.1               | 2.5            | 2.1        | 8.0                  | 24.1     | 3.7                 | 0.1      | 0.91       | 0.39        | 0.71        |
| 20                  | 4.39      | 31.565   | 6.94          | 0.52             | 0.39       | 25.3               | 8.7            | 1.5        | 10.1                 | 31.7     | 4.6                 | 0.1      | 1.00       | 0.26        | 0.48        |
| 30                  | 4.74      | 32.847   | 6.69          | 0.58             | 0.48       | 22.5               | 9.4            | 1.0        | 10.1                 | 26.6     | 3.8                 | 0.1      | 1.04       | 0.16        | 0.35        |
| 50                  | 5.81      | 34.344   | 6.35          | 0.71             | 0.61       | 22.8               | 9.4            | 0.6        | 9.9                  |          |                     |          |            | 0.16        | 0.32        |
| 75                  | 6.15      | 34.800   | 6.23          | 0.71             | 0.65       | 17.8               | 9.5            | 0.4        | 9.9                  | 16.8     | 2.0                 | 0.0      | 0.93       |             | 0.16        |
| 100                 | 6.13      | 34.805   | 6.29          | 0.74             | 0.65       | 21.4               | 9.5            | 0.6        | 9.7                  |          |                     |          |            |             | 0.25        |

| Station: Jomfruland |           |          |               | Date: 26.04.2000 |            | Time (UTC): 06:34  |                |            | Position: N: 58° 51' |          | E: 9° 40'                |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|--------------------------|----------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 130 |                |            | Secchidepth (m): 8.5 |          | Secchicolour: Grey/green |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)                 | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 7.35      | 13.226   | 7.73          | 0.19             | < 0.03     | 27.5               | 9.4            | 1.1        | 32.3                 | 34.1     | 5.2                      | 0.2      | 1.02       | 1.30        | 1.56        |
| 5                   | 5.89      | 23.647   | 7.46          | 0.23             | < 0.06     | 24.6               | 2.4            | 0.9        | 8.4                  | 39.4     | 5.6                      | 0.2      | 1.22       | 1.17        | 0.92        |
| 10                  | 5.20      | 26.695   | 7.60          | 0.29             | 0.10       | 23.9               | 3.9            | 1.5        | 7.6                  | 36.7     | 5.3                      | 0.1      | 1.22       | 0.62        | 0.92        |
| 20                  | 4.81      | 29.795   | 7.45          | 0.39             | 0.23       | 22.8               | 5.9            | 1.2        | 6.3                  | 30.4     | 4.1                      | 0.1      | 1.01       | 0.50        | 0.76        |
| 30                  | 5.38      | 33.326   | 6.26          | 0.71             | 0.58       | 20.0               | 9.5            | 0.6        | 12.6                 | 12.5     | 1.9                      | 0.1      | 0.63       | 0.24        | 0.46        |
| 50                  | 6.01      | 34.548   | 6.12          | 0.77             | 0.65       | 20.3               | 9.4            | 0.4        | 10.9                 |          |                          |          |            | 0.18        | 0.32        |
| 75                  | 6.25      | 34.843   | 6.15          | 0.77             | 0.68       | 15.3               | 9.4            | < 0.4      | 10.9                 | 10.5     | 1.3                      | 0.0      | 1.01       |             | 0.32        |
| 100                 | 6.32      | 34.923   | 6.18          | 0.81             | 0.71       | 18.9               | 10.0           | < 0.4      | 10.7                 |          |                          |          |            |             | 0.35        |

| Station: Jomfruland |           |          |               | Date: 08.05.2000 |            | Time (UTC): 11:00  |                |            | Position: N: 58° 51' |          | E: 9° 40'                |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|--------------------------|----------|------------|-------------|-------------|
| Ship: Hugin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 140 |                |            | Secchidepth (m): 8.5 |          | Secchicolour: Grey/green |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)                 | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 12.55     | 12.409   | 7.13          | 0.19             | < 0.03     | 20.0               | 1.6            | 0.4        | 8.0                  | 33.4     | 4.8                      | 0.2      | 1.09       | 1.84        | 1.08        |
| 5                   | 10.76     | 19.112   | 7.22          | 0.19             | < 0.03     | 19.3               | 1.1            | 0.5        | 5.3                  | 29.1     | 3.9                      | 0.2      | 1.24       | 1.37        | 0.92        |
| 10                  | 9.05      | 24.447   | 7.15          | 0.29             | < 0.03     | 24.6               | 2.2            | 1.1        | 3.1                  | 46.8     | 6.8                      | 0.3      | 1.80       | 2.03        | 0.85        |
| 20                  | 6.73      | 33.103   | 6.94          | 0.26             | 0.13       | 15.3               | 3.6            | 1.5        | 3.6                  | 17.4     | 2.2                      | 0.1      | 0.74       | 0.67        | 0.55        |
| 30                  | 6.24      | 34.158   | 6.18          | 0.55             | 0.45       | 16.8               | 6.6            | 0.7        | 9.4                  | 12.2     | 1.8                      | 0.1      | 0.56       | 0.22        | 0.39        |
| 50                  | 6.39      | 34.421   |               | 0.39             | 0.29       | 12.1               | 3.4            | 1.6        | 5.3                  |          |                          |          |            | 0.26        | 0.32        |
| 75                  | 6.51      | 34.617   | 6.43          | 0.42             | 0.29       | 15.3               | 2.8            | 2.6        | 4.5                  | 13.9     | 1.6                      | 0.1      | 0.79       |             | 0.55        |
| 100                 | 6.55      | 34.712   | 6.35          | 0.48             | 0.36       | 15.0               | 3.3            | 3.0        | 5.3                  |          |                          |          |            |             | 0.44        |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: Jomfruland |           |          |               | Date: 01.06.2000 |            | Time (UTC): 15:00  |                |            | Position: N: 58° 51' |          | E: 9° 40'                |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|--------------------------|----------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 120 |                |            | Secchidepth (m): 5   |          | Secchicolour: Grey/green |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)                 | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 12.48     | 24.565   | 6.33          | 0.26             | < 0.03     | 18.9               | 1.2            | 0.6        | 2.3                  | 56.9     | 8.0                      | 0.3      | 1.56       | 2.38        | 0.85        |
| 5                   | 12.40     | 25.053   | 6.20          | 0.23             | < 0.03     | 16.8               | 1.5            | 0.9        | 2.1                  | 42.3     | 5.9                      | 0.2      | 1.62       | 2.60        | 0.76        |
| 10                  | 11.97     | 27.017   | 5.94          | 0.19             | < 0.03     | 15.7               | 1.8            | 1.4        | 2.3                  | 36.7     | 5.4                      | 0.2      | 1.36       | 1.89        | 0.81        |
| 20                  | 11.05     | 30.692   | 5.55          | 0.23             | < 0.03     | 18.2               | 3.3            | 3.3        | 3.4                  | 27.2     | 4.1                      | 0.1      | 1.04       | 0.64        | 0.78        |
| 30                  | 10.47     | 32.422   | 5.54          | 0.29             | 0.10       | 18.9               | 3.9            | 3.9        | 3.8                  | 18.4     | 2.9                      | 0.1      | 0.88       | 0.47        | 0.76        |
| 50                  | 8.86      | 33.928   | 5.94          | 0.39             | 0.19       | 17.8               | 3.1            | 3.1        | 4.2                  |          |                          |          |            | 0.31        | < 0.58      |
| 75                  | 7.29      | 34.452   | 6.14          | 0.55             | 0.36       | 23.6               | 3.9            | 3.1        | 5.5                  | 35.7     | 5.5                      | 0.1      | 1.47       |             | 0.37        |
| 100                 | 7.01      | 34.761   | 6.05          | 0.61             | 0.48       | 20.3               | 4.7            | 2.9        | 5.5                  |          |                          |          |            |             | 0.32        |

| Station: Jomfruland |           |          |               | Date: 20.06.2000 |            | Time (UTC): 06:35  |                |            | Position: N: 58° 51' |          | E: 9° 40'           |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------------|----------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 150 |                |            | Secchidepth (m): 8.5 |          | Secchicolour: Green |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)            | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 13.78     | 26.761   | 6.01          | 0.19             | < 0.03     | 22.5               | 1.0            | 1.0        | < 0.2                | 44.7     | 7.6                 | 0.2      | 1.31       | 1.18        | 0.97        |
| 5                   | 13.49     | 26.894   | 5.92          | 0.19             | < 0.03     | 20.7               | 1.4            | 1.6        | < 0.2                | 38.0     | 6.4                 | 0.2      | 1.14       | 1.31        | 1.29        |
| 10                  | 13.01     | 28.475   | 5.85          | 0.23             | 0.03       | 23.9               | 1.6            | 1.9        | 0.4                  | 44.0     | 7.6                 | 0.2      | 1.18       | 1.09        | 0.90        |
| 20                  | 11.86     | 31.701   | 5.58          | 0.23             | 0.06       | 25.7               | 5.3            | 3.1        | 2.0                  | 34.4     | 6.5                 | 0.2      | 0.91       | 0.69        | 0.78        |
| 30                  | 9.77      | 33.300   | 5.26          | 0.39             | 0.16       | 23.9               | 5.7            | 3.4        | 8.3                  | 32.2     | 5.4                 | 0.1      | 1.14       | 1.27        | 0.67        |
| 50                  | 8.97      | 33.920   | 5.13          | 0.48             | 0.32       | 29.6               | 4.7            | 3.6        | 9.6                  |          |                     |          |            | 0.30        | 0.58        |
| 75                  | 8.89      | 34.240   | 5.31          | 0.52             | 0.36       | 23.9               | 3.1            | 3.0        | 7.9                  | 43.9     | 8.0                 | 0.2      | 1.74       |             | 0.48        |
| 90                  | 8.83      | 34.403   | 5.43          | 0.55             | 0.39       | 23.9               | 3.1            | 3.1        | 7.0                  |          |                     |          |            |             | 0.78        |

| Station: Jomfruland |           |          |               | Date: 09.07.2000 |            | Time (UTC): 23:00  |                |            | Position: N: 58° 51' |          | E: 9° 40'     |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------|----------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 130 |                |            | Secchidepth (m):     |          | Secchicolour: |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 16.17     | 25.743   | 5.82          | 0.23             | < 0.03     | 16.1               | 0.6            | 0.6        | 0.9                  | 31.3     | 4.3           | 0.2      | 1.14       | 0.83        | 0.65        |
| 5                   | 16.12     | 27.144   | 6.01          | 0.19             | < 0.03     | 13.6               | 0.5            | 0.4        | 1.3                  | 23.9     | 3.0           | 0.2      | 0.98       | 0.94        | 0.65        |
| 10                  | 14.98     | 30.109   | 6.14          | 0.23             | < 0.03     | 13.6               | 0.8            | 0.6        | 0.4                  | 24.2     | 3.0           | 0.2      | 0.84       | 0.99        | 0.69        |
| 20                  | 13.47     | 31.360   | 5.45          | 0.23             | < 0.03     | 15.3               | 2.9            | 1.9        | 1.9                  | 19.1     | 2.5           | 0.1      | 0.61       | 0.86        | 0.60        |
| 30                  | 12.10     | 32.469   | 5.18          | 0.23             | 0.06       | 16.1               | 3.9            | 2.1        | 3.4                  | 13.6     | 2.1           | 0.1      | 0.51       | 0.34        | 0.58        |
| 50                  | 10.13     | 33.598   | 5.15          | 0.32             | 0.16       | 13.9               | 5.0            | 1.5        | 5.9                  |          |               |          |            | 0.16        | < 0.48      |
| 75                  | 9.68      | 34.048   | 5.46          | 0.36             | 0.19       | 14.6               | 4.2            | 1.9        | 5.1                  | 11.5     | 1.4           | 0.1      | 0.63       |             | 0.44        |
| 100                 | 8.58      | 34.794   | 5.48          | 0.52             | 0.36       | 11.4               | 3.1            | 2.2        | 5.7                  |          |               |          |            |             | 0.25        |

## Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: Jomfruland |           |          |               | Date: 26.07.2000 |            | Time (UTC): 06:31  |                |            |           | Position: N: 58° 51' |          | E: 9° 40'           |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|-----------|----------------------|----------|---------------------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 140 |                |            |           | Secchidepth (m): 7   |          | Secchicolour: Green |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM)             | PON (µM) | POP (µM)            | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 17.25     | 25.317   | 5.89          | 0.29             | 0.03       | 20.3               | 0.3            | < 0.4      | 2.5       | 70.2                 | 11.1     | 0.2                 | 1.91       | 1.41        | 0.85        |
| 5                   | 16.75     | 28.420   | 5.92          | 0.26             | 0.03       | 25.0               | 0.4            | 0.7        | 2.5       | 58.9                 | 9.9      | 0.2                 | 1.36       | 1.08        | 0.83        |
| 10                  | 16.69     | 30.471   | 6.06          | 0.19             | < 0.03     | 19.3               | 0.4            | 0.4        | 0.4       | 43.2                 | 7.4      | 0.2                 | 0.90       | 0.90        | 0.58        |
| 20                  | 14.27     | 32.101   | 5.61          | 0.23             | 0.03       | 14.6               | 0.4            | < 0.4      | 1.3       | 37.2                 | 6.1      | 0.2                 | 0.78       | 1.02        | 0.46        |
| 30                  | 13.39     | 32.608   | 5.31          | 0.16             | < 0.03     | 11.8               | 0.4            | < 0.4      | 2.1       | 26.5                 | 3.8      | 0.1                 | 0.69       | 0.88        | 0.44        |
| 50                  | 11.61     | 33.955   | 5.23          | 0.26             | 0.10       | 18.2               | 0.7            | 1.2        | 2.1       |                      |          |                     |            | 0.36        | 0.47        |
| 75                  | 9.65      | 34.814   | 5.22          | 0.48             | 0.36       | 18.2               | 3.6            | 1.2        | 6.3       | 34.9                 | 6.3      | 0.1                 | 1.16       |             | 0.37        |
| 100                 | 8.06      | 35.032   | 5.22          | 0.77             | 0.65       | 21.1               | 7.6            | 0.9        | 10.5      |                      |          |                     |            |             | 0.39        |

| Station: Jomfruland |           |          |               | Date: 09.08.2000 |            | Time (UTC): 07:11  |                |            |           | Position: N: 58° 51'  |          | E: 9° 40'                  |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|-----------|-----------------------|----------|----------------------------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 120 |                |            |           | Secchidepth (m): 10.5 |          | Secchicolour: Yellow/green |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM)              | PON (µM) | POP (µM)                   | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 17.05     | 23.867   | 5.96          | 0.19             | < 0.03     | 14.6               | 0.3            | 0.4        | 1.9       | 28.1                  | 3.8      | 0.2                        | 1.69       | 1.21        | 0.76        |
| 5                   | 16.85     | 24.758   | 5.90          | 0.26             | 0.03       | 15.7               | 0.3            | < 0.4      | 1.5       | 42.0                  | 5.4      | 0.2                        | 1.07       | 2.21        | 0.74        |
| 10                  | 16.41     | 28.050   | 5.56          | 0.26             | 0.03       | 13.9               | 0.3            | 0.5        | 1.3       | 38.0                  | 4.5      | 0.2                        | 0.99       | 1.91        | 0.69        |
| 20                  | 15.00     | 31.836   | 5.13          | 0.19             | 0.03       | 10.7               | 0.3            | 0.4        | 1.9       | 24.0                  | 3.0      | 0.2                        | 1.17       | 1.31        | 0.45        |
| 30                  | 13.98     | 32.571   | 5.14          | 0.23             | 0.06       | 11.1               | 0.7            | 0.4        | 3.1       | 21.1                  | 2.5      | 0.2                        | 0.68       | 1.17        | 0.39        |
| 50                  | 11.73     | 34.067   | 4.94          | 0.23             | 0.06       | 9.4                | 0.7            | < 0.4      | 4.6       |                       |          |                            |            | 0.76        | 0.31        |
| 75                  | 10.15     | 34.811   | 5.10          | 0.36             | 0.23       | 8.9                | 2.3            | 0.6        | 5.6       | 8.6                   | 1.1      | 0.1                        | 0.70       |             | 0.25        |
| 100                 | 8.92      | 35.028   | 5.09          | 0.52             | 0.42       | 11.4               | 4.8            | 0.9        | 7.8       |                       |          |                            |            |             | 0.32        |

| Station: Jomfruland |           |          |               | Date: 22.08.2000 |            | Time (UTC): 05:34  |                |            |           | Position: N: 58° 51' |          | E: 9° 40'                  |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|-----------|----------------------|----------|----------------------------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 118 |                |            |           | Secchidepth (m): 9   |          | Secchicolour: yellow/green |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM)             | PON (µM) | POP (µM)                   | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 16.79     | 24.041   | 6.20          | 0.36             | < 0.03     | 16.1               | 0.3            | < 0.4      | 1.0       | 73.6                 | 7.4      | 0.4                        | 2.25       | 3.06        | 0.65        |
| 5                   | 16.73     | 25.168   | 6.11          | 0.29             | 0.03       | 15.0               | 0.3            | < 0.4      | 1.1       | 62.3                 | 5.7      | 0.3                        | 1.50       | 2.60        | 0.70        |
| 10                  | 16.70     | 26.534   | 6.06          | 0.26             | 0.03       | 16.1               | 0.3            | < 0.4      | 1.9       | 47.5                 | 4.6      | 0.2                        | 1.39       | 1.98        | 0.62        |
| 20                  | 16.27     | 29.561   | 5.50          | 0.23             | 0.06       | 13.6               | 0.5            | 0.6        | 1.9       | 40.3                 | 4.7      | 0.2                        | 1.08       | 1.11        | 0.52        |
| 30                  | 15.56     | 31.065   | 4.96          | 0.19             | 0.06       | 11.4               | 0.6            | 0.4        | 3.1       | 25.9                 | 3.4      | 0.2                        | 0.94       | 0.69        | 0.44        |
| 50                  | 12.48     | 34.103   | 4.81          | 0.23             | 0.06       | 10.4               | 0.4            | < 0.4      | 5.0       |                      |          |                            |            | 0.59        | 0.32        |
| 75                  | 10.85     | 34.760   | 4.92          | 0.32             | 0.16       | 9.6                | 1.0            | 0.4        | 7.2       | 17.1                 | 2.8      | 0.1                        | 0.94       |             | 0.29        |
| 100                 | 9.87      | 34.885   | 4.98          | 0.39             | 0.26       | 10.4               | 2.8            | 0.4        | 7.4       |                      |          |                            |            |             | 0.23        |

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| Station: Jomfruland |           |          |               | Date: 06.09.2000 | Time (UTC): 08:20 | Position: N: 58° 51' | E: 9° 40'      |                    |                     |          |          |          |            |             |             |      |
|---------------------|-----------|----------|---------------|------------------|-------------------|----------------------|----------------|--------------------|---------------------|----------|----------|----------|------------|-------------|-------------|------|
| Ship: Munin         |           |          |               | Institute: NIVA  | Echodepth (m): 99 |                      |                | Secchidepth (m): 7 | Secchicolour: Green |          |          |          |            |             |             |      |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM)        | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM)         | SiO3 (µM)           | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |      |
| 0                   |           |          | 5.84          | 0.32             | 0.06              | 23.9                 | 0.3            | 0.4                | <                   | 0.2      | 66.0     | 10.9     | 0.3        | 1.78        | 2.05        | 0.82 |
| 5                   |           |          | 5.64          | 0.29             | 0.06              | 15.7                 | 0.3            | 0.4                |                     | 1.5      | 41.8     | 6.6      | 0.3        | 1.13        | 1.45        | 0.43 |
| 10                  |           |          | 5.59          | 0.26             | < 0.03            | 15.7                 | 0.3            | < 0.4              |                     | 1.9      | 52.0     | 8.1      | 0.2        | 1.69        | 0.93        | 0.47 |
| 20                  |           |          | 5.20          | 0.42             | 0.16              | 33.9                 | 0.6            | 1.6                |                     | 2.5      | 107.4    | 18.7     | 0.2        | 2.22        | 0.78        | 0.50 |
| 30                  |           |          | 4.53          | 0.29             | 0.13              | 12.5                 | 0.7            | 1.1                |                     | 4.7      | 44.2     | 6.1      | 0.2        | 1.23        | 0.43        | 0.32 |
| 50                  |           |          | 4.68          | 0.48             | 0.36              | 30.7                 | 2.4            | 1.3                |                     | 6.7      |          |          |            | 0.23        | 0.18        |      |
| 75                  | 9.44      | 35.073   | 4.84          | 0.45             | 0.32              | 24.6                 | 2.4            | 1.2                |                     | 4.7      | 77.3     | 11.2     | 0.1        | 2.48        |             | 0.23 |
| 100                 | 7.52      | 35.104   | 5.10          | 1.00             | 0.87              | 36.8                 | 10.4           | 1.3                |                     | 9.5      |          |          |            |             |             | 0.18 |

| Station: Jomfruland |           |          |               | Date: 27.09.2000 | Time (UTC): 05:40  | Position: N: 58° 51' | E: 9° 40'      |                      |                     |          |          |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|--------------------|----------------------|----------------|----------------------|---------------------|----------|----------|----------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  | Echodepth (m): 110 |                      |                | Secchidepth (m): 6.5 | Secchicolour: Green |          |          |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM)         | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM)           | SiO3 (µM)           | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   |           |          | 6.09          | 0.55             | 0.13               | 38.6                 | 0.3            | 1.1                  | 1.5                 | 99.9     | 18.8     | 0.4      | 2.64       | 1.61        | 1.30        |
| 5                   |           |          | 6.09          | 0.39             | 0.10               | 27.8                 | 0.3            | < 0.4                | 2.1                 | 58.7     | 11.4     | 0.2      | 1.58       | 0.95        | 0.73        |
| 10                  |           |          | 6.05          | 0.45             | 0.13               | 35.0                 | 0.3            | 0.6                  | 1.1                 | 88.2     | 17.1     | 0.2      | 2.74       | 1.32        | 0.66        |
| 20                  |           |          | 5.71          | 0.32             | 0.10               | 28.9                 | 0.3            | 0.6                  | 1.9                 | 69.6     | 13.7     | 0.2      | 2.12       | 1.06        | 0.48        |
| 30                  |           |          | 5.00          | 0.32             | 0.13               | 32.5                 | 0.5            | 1.4                  | 3.9                 | 81.9     | 15.5     | 0.2      | 2.32       | 0.67        | 0.36        |
| 50                  |           |          | 5.28          | 0.36             | 0.13               | 36.1                 | 0.5            | 1.7                  | 4.5                 |          |          |          |            | 0.51        | 0.52        |
| 75                  | 14.02     | 34.033   | 5.27          | 0.32             | 0.13               | 22.1                 | 0.6            | 1.1                  | 5.1                 | 46.2     | 8.4      | 0.1      | 2.00       |             | 0.25        |
| 100                 | 10.04     | 34.755   | 4.54          | 0.84             | 0.65               | 44.3                 | 4.7            | 2.1                  | 9.1                 |          |          |          |            |             | 0.36        |

| Station: Jomfruland |           |          |               | Date: 13.11.2000 | Time (UTC): 11:00  | Position: N: 58° 51' | E: 9° 40'      |                    |                            |          |          |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|--------------------|----------------------|----------------|--------------------|----------------------------|----------|----------|----------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  | Echodepth (m): 120 |                      |                | Secchidepth (m): 5 | Secchicolour: Yellow/green |          |          |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM)         | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM)         | SiO3 (µM)                  | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   |           |          | 6.61          | 0.55             | 0.36               | 25.3                 | 9.7            | 2.6                | 40.5                       | 27.9     | 4.4      | 0.2      | 1.65       | 0.71        | 2.75        |
| 5                   |           |          | 6.04          | 0.68             | 0.48               | 19.6                 | 4.9            | 2.1                | 15.8                       | 21.2     | 3.6      | 0.1      | 1.34       | 0.72        | 1.29        |
| 10                  |           |          | 5.98          | 0.71             | 0.48               | 20.7                 | 3.9            | 1.9                | 12.0                       | 33.6     | 6.4      | 0.1      | 2.38       | 0.58        | 1.06        |
| 20                  |           |          | 5.59          | 0.68             | 0.52               | 16.1                 | 2.6            | 1.7                | 8.1                        | 19.7     | 3.2      | 0.1      | 0.71       | 0.42        | 0.65        |
| 30                  |           |          | 5.47          | 0.68             | 0.52               | 15.0                 | 2.6            | 1.5                | 8.1                        | 13.8     | 1.8      | 0.1      | 0.79       | 0.35        | 0.56        |
| 50                  |           |          | 5.47          | 0.71             | 0.55               | 14.6                 | 2.8            | 2.0                | 9.2                        |          |          |          |            | 0.43        | 0.57        |
| 75                  | 8.44      | 33.705   | 5.29          | 0.58             | 0.45               | 10.7                 | 3.4            | < 0.4              | 8.3                        | 6.9      | 1.2      | 0.1      | 1.00       |             | 0.33        |
| 100                 | 8.44      | 34.450   | 5.23          | 0.58             | 0.45               | 10.7                 | 3.3            | < 0.4              | 8.7                        |          |          |          |            |             | 0.28        |



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| Station: Jomfruland |           |          |               | Date: 29.11.2000 |            | Time (UTC): 09:37  |                |            | Position: N: 58° 51' |          | E: 9° 40'           |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------------|----------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 133 |                |            | Secchidepth (m): 6.5 |          | Secchicolour: Green |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)            | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 8.51      | 26.887   | 6.36          | 0.61             | 0.45       | 16.8               | 4.4            | 1.4        | 12.5                 | 14.4     | 1.6                 | 0.1      | 0.72       | 1.50        | 0.95        |
| 5                   | 8.86      | 27.606   | 6.37          | 0.65             | 0.45       | 16.8               | 4.4            | 1.6        | 11.8                 | 14.9     | 2.1                 | 0.1      | 0.84       | 1.40        | 0.81        |
| 10                  | 8.89      | 27.755   | 6.35          | 0.65             | 0.45       | 17.8               | 4.4            | 1.6        | 11.2                 | 20.5     | 2.8                 | 0.1      | 0.87       | 1.20        | 0.84        |
| 20                  | 9.23      | 28.618   | 6.18          | 0.68             | 0.52       | 17.8               | 4.4            | 1.6        | 11.6                 | 13.8     | 1.9                 | 0.1      | 0.84       | 0.95        | 0.74        |
| 30                  | 9.73      | 30.068   | 5.97          | 0.71             | 0.55       | 18.6               | 4.8            | 1.4        | 11.8                 | 11.2     | 1.3                 | 0.1      | 1.01       | 0.73        | 0.51        |
| 50                  | 11.18     | 32.903   | 5.65          | 0.71             | 0.58       | 16.8               | 6.3            | 0.4        | 12.2                 |          |                     |          |            | 0.41        | 0.51        |
| 75                  | 11.80     | 33.874   | 5.55          | 0.65             | 0.52       | 16.1               | 5.3            | 0.6        | 10.4                 | 14.1     | 1.6                 | 0.1      | 0.88       |             | 0.23        |
| 100                 | 12.03     | 34.283   | 5.46          | 0.65             | 0.52       | 13.6               | 5.1            | 0.9        | 10.0                 |          |                     |          |            |             | 0.28        |

| Station: Jomfruland |           |          |               | Date: 19.12.2000 |            | Time (UTC): 09:00  |                |            | Position: N: 58° 51' |          | E: 9° 40'           |          |            |             |             |
|---------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------------|----------|------------|-------------|-------------|
| Ship: Munin         |           |          |               | Institute: NIVA  |            | Echodepth (m): 165 |                |            | Secchidepth (m): 4.5 |          | Secchicolour: Brown |          |            |             |             |
| Depth               | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)            | POP (µM) | TSM (mg/l) | Chla (µg/l) | Ay380 (m-1) |
| 0                   | 5.91      | 22.730   | 6.57          | 0.68             | 0.52       | 23.6               | 11.4           | 1.2        | 33.7                 | 14.7     | 1.8                 | 0.1      | 1.13       | 0.31        | < 2.22      |
| 5                   | 7.21      | 23.534   | 6.47          | 0.71             | 0.52       | 23.9               | 11.4           | 1.1        | 33.7                 | 16.9     | 2.5                 | 0.1      | 1.24       | 0.31        | < 2.08      |
| 10                  | 8.59      | 26.221   | 6.14          | 0.77             | 0.61       | 20.0               | 9.1            | 0.5        | 20.0                 | 16.7     | 2.1                 | 0.1      | 1.26       | 0.31        | < 1.13      |
| 20                  | 9.74      | 32.798   | 5.75          | 0.71             | 0.55       | 18.9               | 7.8            | < 0.4      | 12.0                 | 17.2     | 3.1                 | 0.1      | 1.08       | 0.31        | < 0.55      |
| 30                  | 9.73      | 33.418   | 5.82          | 0.68             | 0.42       | 30.0               | 7.6            | 1.0        | 10.3                 | 43.7     | 7.9                 | 0.1      | 2.16       | 0.31        | < 0.64      |
| 50                  | 9.87      | 34.090   | 5.88          | 0.68             | 0.48       | 30.3               | 7.0            | 1.1        | 8.1                  |          |                     |          |            | 0.31        | < 0.75      |
| 75                  | 9.99      | 34.219   | 5.85          | 0.68             | 0.55       | 13.6               | 6.4            | < 0.4      | 8.7                  | 12.0     | 1.5                 | 0.1      | 1.28       |             | 0.40        |
| 100                 | 9.88      | 34.335   | 5.86          | 0.68             | 0.55       | 18.2               | 6.6            | 0.4        | 9.1                  |          |                     |          |            |             | 0.47        |

### 3.2 Arendal St. 2

| Station: Arendal St. 2 |           |          |               | Date: 16.01.2000 |            | Time (UTC): 07:00  |                |            | Position: N: 58° 23' |          | E: 8° 49'     |          |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 105 |                |            | Secchidepth (m):     |          | Secchicolour: |          |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 4.82      | 30.461   | 7.60          | 0.67             | 0.16       | 25.0               | 8.1            | 2.6        | 12.0                 | 15.7     | 2.5           | 0.2      | 2.14       | 0.60        |
| 5                      | 5.16      | 31.110   | 7.24          | 0.75             | 0.54       | 16.9               | 8.3            | 0.4        | 7.9                  | 8.5      | 1.4           | 0.1      | 1.00       | 0.40        |
| 10                     | 5.37      | 31.822   | 7.14          | 0.74             | 0.53       | 17.9               | 7.7            | 0.4        | 6.8                  | 10.6     | 1.4           | 0.1      | 1.08       | 0.50        |
| 20                     | 5.91      | 32.736   | 6.98          | 0.71             | 0.55       | 14.8               | 7.0            | 0.1        | 5.7                  | 12.3     | 1.5           | 0.1      | 1.06       | 0.40        |
| 30                     | 6.10      | 33.111   | 6.90          | 0.73             | 0.54       | 15.7               | 7.1            | 0.1        | 5.4                  | 13.7     | 1.6           | 0.1      | 0.99       | 0.30        |
| 50                     | 6.31      | 33.538   | 6.89          | 0.72             | 0.54       | 16.1               | 6.7            | 0.2        | 4.9                  |          |               | 0.1      |            | 0.30        |
| 75                     | 6.61      | 33.887   | 6.76          | 0.75             | 0.56       | 16.2               | 6.1            | 0.3        | 4.8                  | 9.7      | 1.3           | 0.1      | 1.35       |             |

| Station: Arendal St. 2 |           |          |               | Date: 13.02.2000 |            | Time (UTC): 19:00  |                |            | Position: N: 58° 23' |          | E: 8° 49'     |          |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 105 |                |            | Secchidepth (m):     |          | Secchicolour: |          |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 5.22      | 33.023   | 7.03          | 0.73             | 0.52       | 16.9               | 7.8            | 0.4        | 6.4                  | 6.6      | 0.8           | 0.1      | 1.18       | 0.40        |
| 5                      | 5.33      | 33.358   | 7.03          | 0.69             | 0.55       | 14.7               | 7.7            | 0.1        | 6.5                  | 5.2      | 0.6           | 0.1      | 1.49       | 0.40        |
| 10                     | 5.38      | 33.475   | 6.99          | 0.70             | 0.58       | 14.5               | 7.6            | 0.2        | 6.1                  | 5.2      | 0.5           | 0.1      | 1.34       | 0.40        |
| 20                     | 5.39      | 33.522   | 6.96          | 0.71             | 0.58       | 14.7               | 7.6            | 0.2        | 6.0                  | 4.4      | 0.5           | 0.1      | 1.10       | 0.50        |
| 30                     | 5.61      | 33.785   | 6.96          | 0.71             | 0.57       | 16.1               | 7.4            | 0.2        | 5.7                  | 5.6      | 0.6           | 0.1      | 1.46       | 0.40        |
| 50                     | 5.68      | 33.857   | 6.92          | 0.73             | 0.55       | 13.1               | 7.3            | 0.2        | 5.6                  |          |               |          |            | 0.30        |
| 75                     | 5.76      | 33.978   | 6.92          | 0.72             | 0.51       | 13.8               | 7.1            | 0.2        | 5.5                  | 5.5      | 0.5           | 0.1      | 1.82       |             |

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| Station: Arendal St. 2 |           |          |               | Date: 08.03.2000 |            | Time (UTC): 05:00  |                |            | Position: N: 58° 23' |          | E: 8° 49'     |          |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 105 |                |            | Secchidepth (m):     |          | Secchicolour: |          |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 4.62      | 32.606   | 7.20          | 0.64             | 0.43       | 19.8               | 8.8            | 2.5        | 6.6                  | 12.8     | 2.0           | 0.1      | 0.81       | 0.90        |
| 5                      | 4.66      | 32.728   | 7.16          | 0.63             | 0.51       | 19.9               | 8.9            | 0.5        | 6.2                  | 7.8      | 1.3           | 0.1      | 1.59       | 1.10        |
| 10                     | 4.86      | 33.057   | 7.10          | 0.66             | 0.52       | 19.3               | 8.8            | 0.3        | 6.0                  | 6.5      | 1.0           | 0.1      | 1.31       | 1.10        |
| 20                     | 5.04      | 33.379   | 7.05          | 0.67             | 0.53       | 19.7               | 8.2            | 0.4        | 5.7                  | 5.6      | 0.8           | 0.1      | 1.91       | 1.00        |
| 30                     | 5.31      | 33.937   | 7.01          | 0.66             | 0.56       | 17.5               | 8.2            | 0.2        | 5.6                  | 4.7      | 0.6           | 0.1      | 1.54       | 0.50        |
| 50                     | 5.44      | 34.102   | 6.93          | 0.62             | 0.58       | 16.8               | 7.6            | 0.1        | 5.3                  |          |               |          |            | 0.40        |
| 75                     | 5.52      | 34.217   | 6.94          | 0.63             | 0.58       | 17.8               | 7.9            | 0.6        | 5.3                  | 4.1      | 0.5           | 0.1      | 2.02       |             |

| Station: Arendal St. 2 |           |          |               | Date: 20.03.2000 |            | Time (UTC): 10:00  |                |            | Position: N: 58° 23' |          | E: 8° 49'     |          |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 105 |                |            | Secchidepth (m):     |          | Secchicolour: |          |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 3.99      | 30.930   | 7.80          | 0.56             | 0.30       | 22.6               | 7.8            | 0.6        | 6.0                  | 15.8     | 2.6           | 0.1      | 0.73       | 2.70        |
| 5                      | 4.00      | 32.180   | 7.58          | 0.70             | 0.39       | 23.4               | 10.3           | 0.4        | 6.0                  | 12.4     | 2.1           | 0.2      | 0.89       | 3.10        |
| 10                     | 4.14      | 32.410   | 7.46          | 0.68             | 0.43       | 22.8               | 11.0           | 0.6        | 6.3                  | 10.8     | 1.8           | 0.1      | 1.11       | 2.60        |
| 20                     | 4.26      | 32.800   | 7.44          | 0.67             | 0.47       | 25.0               | 10.1           | 0.6        | 5.3                  | 8.8      | 1.4           | 0.1      | 0.96       | 2.10        |
| 30                     | 4.47      | 33.230   | 7.35          | 0.66             | 0.46       | 22.7               | 9.5            | 1.0        | 4.7                  | 10.6     | 1.5           | 0.1      | 0.80       | 2.00        |
| 50                     | 4.71      | 33.640   | 7.22          | 0.77             | 0.56       | 26.4               | 9.1            | 1.7        | 5.3                  |          |               |          |            | 1.20        |
| 75                     | 5.28      | 34.580   | 6.97          | 0.75             | 0.61       | 19.1               | 7.9            | 1.3        | 5.1                  | 7.7      | 0.9           | 0.1      | 1.52       |             |

| Station: Arendal St. 2 |           |          |               | Date: 12.04.2000 |            | Time (UTC): 13:16  |                |            | Position: N: 58° 23' |          | E: 8° 49'     |          |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 105 |                |            | Secchidepth (m): 9   |          | Secchicolour: |          |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 5.37      | 23.612   | 7.98          | 0.32             | 0.01       | 16.8               | 0.6            | 1.1        | 3.9                  | 17.4     | 2.3           | 0.2      | 0.62       | 2.60        |
| 5                      | 5.38      | 23.612   | 8.01          | 0.32             | 0.01       | 16.3               | 0.5            | 0.9        | 5.3                  | 17.9     | 2.5           | 0.2      | 0.55       | 2.00        |
| 10                     | 4.83      | 25.379   | 8.26          | 0.27             | 0.01       | 16.4               | 1.0            | 1.1        | 3.3                  | 10.0     | 1.5           | 0.1      | 0.31       | 1.70        |
| 20                     | 4.31      | 30.508   | 7.63          | 0.43             | 0.18       | 20.1               | 5.8            | 1.1        | 3.7                  | 8.9      | 1.2           | 0.1      | 0.25       | 1.10        |
| 30                     | 4.74      | 33.002   | 7.37          | 0.45             | 0.31       | 16.7               | 5.4            | 1.3        | 2.9                  | 5.7      | 0.6           | 0.0      | 0.34       | 0.90        |
| 50                     | 5.49      | 34.214   | 6.84          | 0.68             | 0.55       | 18.6               | 8.8            | 0.6        | 4.5                  |          |               |          |            | 0.50        |
| 75                     | 6.13      | 34.788   | 6.65          | 0.74             | 0.62       | 17.7               | 8.8            | 0.2        | 4.4                  | 6.7      | 0.9           | 0.1      | 1.40       |             |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: Arendal St. 2 |           |          |               | Date: 09.05.2000 |            | Time (UTC): 07:40  |                |            | Position: N: 58° 23' |          | E: 8° 49'     |          |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------|----------|------------|-------------|
| Ship: Munin            |           |          |               | Institute: HFF   |            | Echodepth (m): 105 |                |            | Secchidepth (m):     |          | Secchicolour: |          |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 12.76     | 17.810   | 7.24          | 0.33             | 0.01       | 17.2               | 0.5            | 1.1        | 2.5                  | 20.3     | 2.5           | 0.1      | 0.86       | 1.20        |
| 5                      | 11.81     | 20.350   | 7.49          | 0.29             | 0.01       | 17.8               | 0.4            | 0.8        | 3.0                  | 17.3     | 2.5           | 0.1      | 0.89       | 1.30        |
| 10                     | 10.36     | 21.630   | 7.66          | 0.29             | 0.01       | 18.9               | 0.5            | 1.6        | 2.6                  | 14.3     | 2.2           | 0.1      | 0.72       | 1.40        |
| 20                     | 6.82      | 32.120   | 7.28          | 0.42             | 0.19       | 18.9               | 3.8            | 2.4        | 1.9                  | 10.9     | 1.5           | 0.1      | 0.23       | 1.10        |
| 30                     | 6.54      | 33.780   | 7.31          | 0.40             | 0.24       | 15.2               | 2.7            | 1.8        | 1.4                  | 7.1      | 1.0           | 0.1      | 0.36       | 0.70        |
| 50                     | 6.45      | 34.110   | 6.96          | 0.47             | 0.30       | 15.9               | 1.2            | 3.3        | 2.1                  |          |               |          |            | 0.20        |
| 75                     | 6.55      | 34.270   | 6.79          | 0.56             | 0.41       | 27.3               | 2.2            | 3.3        | 2.3                  | 25.1     | 4.3           | 0.1      | 1.14       |             |

| Station: Arendal St. 2 |           |          |               | Date: 17.05.2000 |            | Time (UTC): 06:00  |                |            | Position: N: 58° 23' |          | E: 8° 49'     |          |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 105 |                |            | Secchidepth (m): 5   |          | Secchicolour: |          |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 14.39     | 16.939   | 7.22          | 0.30             | 0.01       | 26.5               | 0.1            | 3.2        | 2.6                  | 26.4     | 3.6           | 0.2      | 1.10       | 1.70        |
| 5                      | 11.77     | 19.390   | 7.82          | 0.36             | 0.01       | 19.2               | 0.1            | 2.6        | 1.2                  | 23.9     | 3.2           | 0.2      | 0.97       | 1.90        |
| 10                     | 8.08      | 28.671   | 7.24          | 0.43             | 0.06       | 21.1               | 4.6            | 1.0        | 2.3                  | 17.6     | 2.6           | 0.2      | 0.64       | 2.10        |
| 20                     | 7.38      | 33.459   | 7.96          | 0.34             | 0.03       | 15.4               | 2.0            | 0.8        | 1.3                  | 16.6     | 2.5           | 0.2      | 1.63       | 3.20        |
| 30                     | 6.56      | 34.163   | 7.16          | 0.47             | 0.28       | 17.3               | 3.0            | 2.0        | 2.0                  | 10.9     | 1.8           | 0.1      | 0.74       | 0.30        |
| 50                     | 6.39      | 34.512   | 6.83          | 0.54             | 0.38       | 17.4               | 3.6            | 2.1        | 2.6                  |          |               |          |            | 0.10        |
| 75                     | 6.47      | 34.668   | 6.67          | 0.61             | 0.45       | 16.7               | 4.0            | 2.7        | 3.2                  | 5.3      | 0.7           | 0.0      | 0.10       |             |

| Station: Arendal St. 2 |           |          |               | Date: 26.05.2000 |            | Time (UTC): 07:01  |                |            | Position: N: 58° 23' |          | E: 8° 49'     |          |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 105 |                |            | Secchidepth (m):     |          | Secchicolour: |          |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 12.43     | 17.407   | 7.09          | 0.34             | 0.04       | 17.7               | 0.1            | 1.7        | 1.9                  | 20.7     | 2.7           | 0.2      | 1.14       | 2.20        |
| 5                      | 12.30     | 23.981   | 7.18          | 0.35             | 0.01       | 18.5               | 0.4            | 0.4        | 1.3                  | 21.1     | 2.5           | 0.2      | 1.02       | 4.10        |
| 10                     | 11.30     | 27.265   | 7.17          | 0.36             | 0.02       | 17.0               | 1.4            | 0.3        | 1.3                  | 32.8     | 3.1           | 0.2      | 0.97       | 4.50        |
| 20                     | 7.29      | 30.892   | 6.97          | 0.43             | 0.18       | 18.8               | 5.0            | 2.0        | 1.8                  | 10.7     | 1.2           | 0.1      | 0.57       | 0.90        |
| 30                     | 6.84      | 31.339   | 6.98          | 0.40             | 0.22       | 14.8               | 4.4            | 2.1        | 1.8                  | 6.7      | 0.8           | 0.1      | 0.46       | 0.40        |
| 50                     | 6.40      | 31.890   | 7.01          | 0.44             | 0.26       | 15.4               | 2.8            | 3.1        | 0.9                  |          |               |          |            | 0.20        |
| 75                     | 6.47      | 32.074   | 6.69          | 0.59             | 0.44       | 14.9               | 4.6            | 2.1        | 3.1                  | 5.3      | 0.7           | 0.0      | 3.35       |             |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: <b>Arendal St. 2</b> |           |          |               | Date: 10.06.2000 | Time (UTC): 06:00  | Position: N: 58° 23' | E: 8° 49'      |            |           |          |          |          |            |             |  |
|-------------------------------|-----------|----------|---------------|------------------|--------------------|----------------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|--|
| Ship: G.M.Dannevig            |           |          |               | Institute: HFF   | Echodepth (m): 105 | Secchidepth (m): 5   | Secchicolour:  |            |           |          |          |          |            |             |  |
| Depth                         | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM)         | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |  |
| 0                             | 14.14     | 24.028   | 6.93          | 0.32             | 0.01               | 17.9                 | 0.3            | 0.3        | 1.5       | 28.5     | 3.7      | 0.2      | 1.23       | 2.80        |  |
| 5                             | 12.81     | 26.407   | 6.91          | 0.39             | 0.01               | 18.2                 | 0.4            | 0.4        | 0.6       | 26.1     | 3.3      | 0.2      | 1.06       | 3.50        |  |
| 10                            | 11.42     | 30.307   | 6.10          | 0.38             | 0.03               | 20.0                 | 2.8            | 2.5        | 1.6       | 16.7     | 2.3      | 0.2      | 3.38       | 2.20        |  |
| 20                            | 10.83     | 31.616   | 5.89          | 0.40             | 0.10               | 24.0                 | 4.1            | 3.8        | 2.4       | 13.6     | 2.1      | 0.2      | 0.92       | 0.90        |  |
| 30                            | 9.93      | 33.278   | 5.86          | 0.41             | 0.21               | 17.9                 | 3.7            | 4.2        | 2.6       | 7.8      | 1.1      | 0.1      | 0.95       | 0.20        |  |
| 50                            | 9.03      | 34.178   | 6.15          | 0.52             | 0.26               | 18.9                 | 2.6            | 2.8        | 2.6       |          |          |          |            | 0.20        |  |
| 75                            | 8.56      | 34.542   | 6.24          | 0.48             | 0.31               | 15.3                 | 2.5            | 2.4        | 2.7       | 7.8      | 1.1      | 0.1      | 1.48       |             |  |

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| Station: Arendal St. 2 |           |          |               | Date: 22.06.2000 | Time (UTC): 07:18  | Position: N: 58° 23' | E: 8° 49'      |            |           |          |          |          |            |             |  |
|------------------------|-----------|----------|---------------|------------------|--------------------|----------------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|--|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   | Echodepth (m): 105 | Secchidepth (m): 10  | Secchicolour:  |            |           |          |          |          |            |             |  |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM)         | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |  |
| 0                      | 13.84     | 27.657   | 6.36          | 0.26             | 0.01               | 15.1                 | 1.5            | 1.2        | 0.5       | 15.7     | 2.0      | 0.1      | 0.81       | 1.60        |  |
| 5                      | 12.95     | 28.884   | 6.53          | 0.29             | 0.01               | 13.4                 | 0.7            | 0.5        | 0.1       | 15.4     | 2.0      | 0.2      | 0.53       | 1.80        |  |
| 10                     | 12.41     | 30.214   | 6.02          | 0.29             | 0.03               | 18.0                 | 3.6            | 2.5        | 0.8       | 10.6     | 1.4      | 0.1      | 0.30       | 1.10        |  |
| 20                     | 11.80     | 31.620   | 5.90          | 0.31             | 0.06               | 19.7                 | 5.3            | 2.6        | 1.4       | 9.4      | 1.4      | 0.1      | 0.46       | 1.50        |  |
| 30                     | 9.88      | 33.290   | 5.66          | 0.44             | 0.21               | 15.2                 | 4.1            | 2.6        | 3.5       | 8.0      | 0.9      | 0.1      | 0.73       | 0.50        |  |
| 50                     | 8.95      | 34.171   | 5.69          | 0.50             | 0.27               | 14.8                 | 3.7            | 2.5        | 3.7       |          |          |          |            | 0.40        |  |
| 75                     | 8.93      | 34.318   | 5.78          | 0.48             | 0.31               | 13.3                 | 3.0            | 2.2        | 3.0       | 6.3      | 0.7      | 0.1      | 0.92       |             |  |

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| Station: Arendal St. 2 |           |          |               | Date: 04.07.2000 | Time (UTC): 06:00  | Position: N: 58° 23' | E: 8° 49'      |            |           |          |          |          |            |             |  |
|------------------------|-----------|----------|---------------|------------------|--------------------|----------------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|--|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   | Echodepth (m): 105 | Secchidepth (m): 9   | Secchicolour:  |            |           |          |          |          |            |             |  |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM)         | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |  |
| 0                      | 13.53     | 30.114   | 5.99          | 0.36             | 0.01               | 21.0                 | 2.6            | 1.6        | 0.7       | 27.9     | 4.1      | 0.1      | 0.52       | 1.00        |  |
| 5                      | 13.47     | 30.243   | 5.95          | 0.36             | 0.01               | 19.4                 | 2.8            | 1.6        | 0.7       | 20.6     | 2.2      | 0.2      | 1.05       | 1.40        |  |
| 10                     | 12.42     | 31.688   | 5.67          | 0.35             | 0.02               | 20.7                 | 3.8            | 2.6        | 1.1       | 12.5     | 1.6      | 0.1      | 0.10       | 0.80        |  |
| 20                     | 10.30     | 33.937   | 5.75          | 0.36             | 0.09               | 13.8                 | 2.0            | 2.1        | 1.4       | 8.0      | 1.0      | 0.1      | 1.27       | 0.20        |  |
| 30                     | 9.65      | 34.198   | 5.89          | 0.41             | 0.17               | 12.3                 | 1.8            | 2.1        | 1.3       | 8.6      | 1.3      | 0.1      | 0.41       | 0.20        |  |
| 50                     | 9.02      | 34.555   | 5.85          | 0.54             | 0.28               | 13.2                 | 2.7            | 2.2        | 2.1       |          |          |          |            | 0.30        |  |
| 75                     | 8.76      | 34.718   | 5.97          | 0.55             | 0.32               | 13.1                 | 2.4            | 2.2        | 1.9       | 9.1      | 1.1      | 0.1      | 0.76       |             |  |

## Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: <b>Arendal St. 2</b> |           |          |               | Date: 27.07.2000 | Time (UTC): 08:30  | Position: N: 58° 23' | E: 8° 49'      |                     |           |               |          |          |            |             |  |
|-------------------------------|-----------|----------|---------------|------------------|--------------------|----------------------|----------------|---------------------|-----------|---------------|----------|----------|------------|-------------|--|
| Ship: Munin                   |           |          |               | Institute: HFF   | Echodepth (m): 105 |                      |                | Secchidepth (m):    |           | Secchicolour: |          |          |            |             |  |
| Depth                         | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM)         | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM)          | SiO3 (µM) | POC (µM)      | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |  |
| 0                             | 16.86     | 27.600   | 6.18          | 0.60             | 0.15               | 23.8                 | 0.2            | 0.5                 | 1.3       | 52.8          | 4.1      | 0.3      | 1.96       | 5.30        |  |
| 5                             | 16.69     | 27.990   | 6.24          | 0.48             | 0.10               | 22.9                 | 0.0            | 0.3                 | 1.3       | 46.1          | 4.0      | 0.3      | 1.58       | 5.00        |  |
| 10                            | 16.72     | 28.240   | 6.16          | 0.45             | 0.08               | 23.6                 | 0.0            | 0.3                 | 1.1       | 35.5          | 3.4      | 0.3      | 1.46       | 4.20        |  |
| 20                            | 14.25     | 31.680   | 6.03          | 0.40             | 0.08               | 20.8                 | 0.0            | 0.3                 | 0.9       | 30.9          | 2.7      | 0.2      | 1.00       | 3.30        |  |
| 30                            | 12.55     | 33.140   | 5.63          | 0.31             | 0.09               | 17.2                 | 0.5            | 0.7                 | 1.8       | 13.6          | 1.6      | 0.1      | 0.47       | 0.90        |  |
| 50                            | 10.95     | 34.270   | 5.50          | 0.46             | 0.22               | 19.1                 | 1.2            | 1.7                 | 1.8       |               |          |          |            | 1.10        |  |
| 75                            | 10.07     | 34.800   | 5.53          | 0.51             | 0.33               | 20.0                 | 2.4            | 1.5                 | 2.7       | 6.7           | 0.8      | 0.1      | 0.60       |             |  |
| Station: Arendal St. 2        |           |          |               | Date: 18.08.2000 | Time (UTC): 10:45  | Position: N: 58° 23' | E: 8° 49'      |                     |           |               |          |          |            |             |  |
| Ship: G.M.Dannevig            |           |          |               | Institute: HFF   | Echodepth (m): 105 |                      |                | Secchidepth (m): 11 |           | Secchicolour: |          |          |            |             |  |
| Depth                         | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM)         | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM)          | SiO3 (µM) | POC (µM)      | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |  |
| 0                             | 15.62     | 30.765   | 5.70          | 0.38             | 0.09               | 14.2                 | 0.3            | 0.6                 | 1.8       | 24.9          | 2.8      | 0.2      | 1.84       | 1.70        |  |
| 5                             | 15.65     | 30.963   | 5.62          | 0.36             | 0.09               | 12.9                 | 0.2            | 0.3                 | 1.5       | 22.5          | 2.6      | 0.2      | 0.88       | 1.70        |  |
| 10                            | 15.66     | 31.179   | 5.45          | 0.35             | 0.11               | 12.7                 | 0.0            | 0.6                 | 1.4       | 20.8          | 2.5      | 0.2      | 0.93       | 2.10        |  |
| 20                            | 14.51     | 32.446   | 5.04          | 0.31             | 0.13               | 10.1                 | 0.3            | 0.6                 | 2.0       | 12.3          | 1.4      | 0.1      | 0.66       | 0.90        |  |
| 30                            | 12.72     | 33.412   | 5.02          | 0.34             | 0.22               | 11.5                 | 0.9            | 1.1                 | 3.1       | 12.2          | 1.3      | 0.1      | 0.71       | 0.80        |  |
| 50                            | 11.62     | 34.240   | 5.26          | 0.38             | 0.26               | 11.3                 | 0.9            | 1.1                 | 2.6       |               |          |          |            | 0.30        |  |
| 75                            | 10.47     | 34.745   | 5.30          | 0.46             | 0.24               | 10.0                 | 1.9            | 1.7                 | 3.3       | 8.6           | 1.0      | 0.1      | 0.95       |             |  |
| Station: Arendal St. 2        |           |          |               | Date: 31.08.2000 | Time (UTC): 12:30  | Position: N: 58° 23' | E: 8° 49'      |                     |           |               |          |          |            |             |  |
| Ship: G.M.Dannevig            |           |          |               | Institute: HFF   | Echodepth (m): 105 |                      |                | Secchidepth (m): 8  |           | Secchicolour: |          |          |            |             |  |
| Depth                         | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM)         | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM)          | SiO3 (µM) | POC (µM)      | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |  |
| 0                             | 21.08     | 25.000   | 6.01          | 0.45             | 0.10               | 20.8                 | 0.3            | 0.3                 | 0.6       | 24.4          | 3.0      | 0.3      | 1.09       | 1.50        |  |
| 5                             | 15.99     | 30.500   | 5.79          | 0.59             | 0.11               | 15.5                 | 0.1            | 0.2                 | 0.9       | 21.3          | 2.7      | 0.4      | 0.95       | 2.10        |  |
| 10                            | 15.86     | 30.790   | 5.65          | 0.45             | 0.10               | 14.0                 | 0.1            | 0.3                 | 1.0       | 21.4          | 2.7      | 0.3      | 1.08       | 2.20        |  |
| 20                            | 15.35     | 31.790   | 5.53          | 0.44             | 0.09               | 13.7                 | 0.1            | 0.5                 | 1.1       | 20.0          | 2.1      | 0.3      | 0.77       | 2.00        |  |
| 30                            | 14.61     | 32.730   | 5.20          | 0.36             | 0.08               | 12.9                 | 0.1            | 0.6                 | 1.6       | 16.1          | 1.6      | 0.2      | 0.74       | 1.30        |  |
| 50                            | 13.40     | 33.500   | 4.87          | 0.34             | 0.12               | 11.8                 | 0.5            | 0.6                 | 1.9       |               |          |          |            | 0.70        |  |
| 70                            | 11.15     | 34.580   | 5.04          | 0.46             | 0.22               | 10.4                 | 1.9            | 0.3                 | 3.7       | 6.7           | 0.9      | 0.1      | 0.69       |             |  |



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| Station: Arendal St. 2 |           |          |               | Date: 15.09.2000 | Time (UTC): 11:22  | Position: N: 58° 23' | E: 8° 49'      |            |           |          |          |          |            |             |  |
|------------------------|-----------|----------|---------------|------------------|--------------------|----------------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|--|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   | Echodepth (m): 105 | Secchidepth (m): 5   | Secchicolour:  |            |           |          |          |          |            |             |  |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM)         | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |  |
| 0                      | 14.39     | 25.807   | 6.14          | 0.46             | 0.12               | 20.7                 | 0.3            | 1.3        | 2.3       | 28.2     | 2.9      | 0.2      | 1.06       | 2.60        |  |
| 5                      | 14.40     | 25.822   | 6.13          | 0.39             | 0.08               | 18.8                 | 0.2            | 1.7        | 2.3       | 27.1     | 2.6      | 0.2      | 1.01       | 3.20        |  |
| 10                     | 14.50     | 27.138   | 5.98          | 0.36             | 0.07               | 16.7                 | 0.1            | 0.9        | 2.0       | 26.2     | 3.1      | 0.2      | 1.81       | 2.70        |  |
| 20                     | 14.95     | 31.486   | 5.19          | 0.31             | 0.14               | 14.0                 | 0.5            | 1.2        | 2.5       | 14.6     | 1.8      | 0.1      | 0.37       | 0.60        |  |
| 30                     | 14.44     | 32.213   | 4.94          | 0.32             | 0.17               | 11.3                 | 0.8            | 1.9        | 2.8       | 12.5     | 1.9      | 0.1      | 0.48       | 0.20        |  |
| 50                     | 11.26     | 34.677   | 4.74          | 0.39             | 0.27               | 11.0                 | 1.2            | 1.0        | 3.6       |          |          |          |            | 0.10        |  |
| 75                     | 8.97      | 34.930   | 4.97          | 0.63             | 0.51               | 12.2                 | 6.1            | 0.2        | 5.2       | 7.8      | 1.1      | 0.1      | 0.61       |             |  |

| Station: Arendal St. 2 |           |          |               | Date: 05.10.2000 | Time (UTC): 07:30  | Position: N: 58° 23' | E: 8° 49'      |            |           |          |          |          |            |             |  |
|------------------------|-----------|----------|---------------|------------------|--------------------|----------------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|--|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   | Echodepth (m): 105 | Secchidepth (m): 9   | Secchicolour:  |            |           |          |          |          |            |             |  |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM)         | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |  |
| 0                      | 13.73     | 25.313   | 6.03          | 0.43             | 0.15               | 16.9                 | 0.8            | 1.5        | 2.7       | 18.2     | 2.1      | 0.1      | 0.60       | 1.60        |  |
| 5                      | 13.74     | 25.572   | 5.95          | 0.42             | 0.14               | 15.6                 | 0.3            | 1.4        | 1.4       | 10.6     | 1.3      | 0.1      | 0.38       | 1.90        |  |
| 10                     | 14.11     | 29.416   | 5.47          | 0.39             | 0.19               | 13.1                 | 0.4            | 1.4        | 1.7       | 6.4      | 0.9      | 0.1      | 0.57       | 0.80        |  |
| 20                     | 14.24     | 32.513   | 5.58          | 0.35             | 0.15               | 11.3                 | 0.3            | 1.2        | 1.7       | 5.3      | 0.8      | 0.1      | 0.27       | 0.60        |  |
| 30                     | 14.41     | 33.075   | 5.45          | 0.35             | 0.15               | 10.7                 | 0.2            | 0.9        | 2.1       | 4.3      | 0.6      | 0.1      | 0.51       | 0.30        |  |
| 50                     | 13.36     | 34.037   | 5.16          | 0.38             | 0.20               | 11.1                 | 1.6            | 0.6        | 2.8       |          |          |          |            | 0.40        |  |
| 75                     | 9.32      | 34.881   | 4.96          | 0.60             | 0.46               | 14.2                 | 5.2            | 0.3        | 4.7       | 4.5      | 0.6      | 0.0      | 0.40       |             |  |

| Station: Arendal St. 2 |           |          |               | Date: 21.10.2000 | Time (UTC): 06:00  | Position: N: 58° 23' | E: 8° 49'      |            |           |          |          |          |            |             |  |
|------------------------|-----------|----------|---------------|------------------|--------------------|----------------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|--|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   | Echodepth (m): 105 | Secchidepth (m): 8   | Secchicolour:  |            |           |          |          |          |            |             |  |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM)         | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |  |
| 0                      | 12.51     | 23.638   | 6.54          | 0.49             | 0.15               | 16.0                 | 0.6            | 1.5        | 2.2       | 25.6     | 3.3      | 0.2      | 0.91       | 2.00        |  |
| 5                      | 12.51     | 23.638   | 6.54          | 0.56             | 0.15               | 17.4                 | 0.6            | 2.1        | 2.2       | 28.7     | 3.8      | 0.3      | 1.09       | 2.60        |  |
| 10                     | 12.51     | 23.637   | 6.51          | 0.46             | 0.18               | 16.6                 | 0.5            | 1.4        | 2.2       | 19.4     | 2.6      | 0.2      | 0.75       | 2.00        |  |
| 20                     | 13.46     | 29.415   | 5.73          | 0.41             | 0.27               | 14.6                 | 1.0            | 1.4        | 2.3       | 11.2     | 1.6      | 0.1      | 0.47       | 0.40        |  |
| 30                     | 13.98     | 32.401   | 5.59          | 0.41             | 0.24               | 12.5                 | 1.3            | 2.0        | 2.1       | 10.1     | 1.4      | 0.1      | 0.46       | 0.40        |  |
| 50                     | 14.30     | 33.635   | 5.51          | 0.40             | 0.23               | 12.5                 | 1.4            | 1.3        | 2.3       |          |          |          |            | 0.20        |  |
| 75                     | 13.81     | 34.165   | 5.34          | 0.41             | 0.26               | 12.8                 | 2.8            | 0.5        | 3.7       | 8.3      | 1.2      | 0.1      | 0.38       |             |  |

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| Station: Arendal St. 2 |           | Date: 02.11.2000 | Time (UTC): 14:39  | Position: N: 58° 23' | E: 8° 49'     |            |                |            |           |          |          |          |            |             |
|------------------------|-----------|------------------|--------------------|----------------------|---------------|------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           | Institute: HFF   | Echodepth (m): 105 | Secchidepth (m): 5   | Secchicolour: |            |                |            |           |          |          |          |            |             |
| Depth                  | Temp (°C) | Salinity         | Oxygen (ml/l)      | TotP (µM)            | Po4-P (µM)    | Tot-N (µM) | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 12.53     | 30.960           | 5.89               | 0.66                 | 0.40          | 12.5       | 2.3            | 1.5        | 3.7       | 12.7     | 1.6      | 0.1      | 1.67       | 0.80        |
| 5                      | 12.82     | 31.675           | 5.72               | 0.62                 | 0.40          | 13.3       | 2.2            | 1.5        | 3.1       | 7.1      | 0.9      | 0.1      | 1.35       | 0.50        |
| 10                     | 13.37     | 32.965           | 5.45               | 0.62                 | 0.40          | 12.1       | 2.2            | 1.0        | 3.0       | 6.6      | 0.9      | 0.1      | 1.24       | 0.40        |
| 20                     | 13.43     | 33.098           | 5.49               | 0.64                 | 0.40          | 13.0       | 2.2            | 0.9        | 3.1       | 7.3      | 0.9      | 0.1      | 1.11       | 0.40        |
| 30                     | 13.44     | 33.155           | 5.50               | 0.65                 | 0.42          | 14.3       | 2.2            | 1.1        | 3.2       | 9.1      | 1.2      | 0.1      | 1.61       | 0.40        |
| 50                     | 13.49     | 33.303           | 5.45               | 0.61                 | 0.42          | 15.5       | 1.9            | 1.5        | 3.2       |          |          |          |            | 0.40        |
| 75                     | 13.34     | 33.999           | 5.45               | 0.67                 | 0.41          | 13.1       | 2.5            | 1.0        | 3.7       | 14.5     | 1.3      | 0.1      | 3.78       |             |

| Station: Arendal St. 2 |           | Date: 28.11.2000 | Time (UTC): 10:00  | Position: N: 58° 23' | E: 8° 49'     |            |                |            |           |          |          |          |            |             |
|------------------------|-----------|------------------|--------------------|----------------------|---------------|------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|
| Ship: Munin            |           | Institute: HFF   | Echodepth (m): 105 | Secchidepth (m):     | Secchicolour: |            |                |            |           |          |          |          |            |             |
| Depth                  | Temp (°C) | Salinity         | Oxygen (ml/l)      | TotP (µM)            | Po4-P (µM)    | Tot-N (µM) | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 8.40      | 24.880           | 7.06               | 0.74                 | 0.39          | 20.4       | 6.1            | 3.4        | 7.4       | 10.9     | 1.4      | 0.1      | 1.10       | 0.80        |
| 5                      | 9.87      | 31.130           | 6.62               | 0.80                 | 0.61          | 21.4       | 6.1            | 1.9        | 6.6       | 15.3     | 1.9      | 0.1      | 1.57       | 0.80        |
| 10                     | 10.05     | 31.230           | 6.33               | 0.81                 | 0.58          | 20.5       | 5.8            | 1.6        | 6.1       | 7.7      | 1.2      | 0.1      | 0.87       | 0.70        |
| 20                     | 10.33     | 31.770           | 6.02               | 0.80                 | 0.59          | 18.6       | 6.1            | 1.0        | 4.7       | 7.1      | 1.1      | 0.1      | 0.96       | 0.50        |
| 30                     | 10.23     | 32.090           | 6.12               | 0.81                 | 0.60          | 20.8       | 6.3            | 0.6        | 4.7       | 9.3      | 1.6      | 0.1      | 0.75       | 0.60        |
| 50                     | 11.29     | 33.400           | 5.85               | 0.78                 | 0.60          | 19.9       | 5.3            | 0.3        | 3.9       |          |          |          |            | 0.40        |
| 68                     | 11.78     | 33.950           | 5.67               | 0.75                 | 0.59          | 17.6       | 5.0            | 0.3        | 3.7       | 8.7      | 1.2      | 0.1      | 0.86       |             |

| Station: Arendal St. 2 |           | Date: 04.12.2000 | Time (UTC): 07:26  | Position: N: 58° 23' | E: 8° 49'     |            |                |            |           |          |          |          |            |             |
|------------------------|-----------|------------------|--------------------|----------------------|---------------|------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           | Institute: HFF   | Echodepth (m): 105 | Secchidepth (m): 5   | Secchicolour: |            |                |            |           |          |          |          |            |             |
| Depth                  | Temp (°C) | Salinity         | Oxygen (ml/l)      | TotP (µM)            | Po4-P (µM)    | Tot-N (µM) | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 9.01      | 28.322           | 6.64               | 0.82                 | 0.35          | 21.9       | 6.3            | 2.1        | 7.7       | 17.0     | 2.7      | 0.1      | 4.01       | 0.53        |
| 5                      | 9.02      | 28.343           | 6.60               | 0.79                 | 0.47          | 19.4       | 6.8            | 2.7        | 7.3       | 7.1      | 0.9      | 0.1      | 2.18       | 0.59        |
| 10                     | 9.09      | 28.607           | 6.22               | 0.81                 | 0.55          | 17.7       | 7.2            | 1.2        | 6.6       | 9.4      | 1.2      | 0.1      | 0.88       | 0.47        |
| 20                     | 10.90     | 33.116           | 5.79               | 0.77                 | 0.55          | 14.8       | 6.4            | 0.2        | 5.2       | 4.7      | 0.7      | 0.1      | 3.61       | 0.25        |
| 30                     | 11.26     | 33.513           | 5.82               | 0.80                 | 0.56          | 15.8       | 6.4            | 0.2        | 5.0       | 5.4      | 0.6      | 0.1      | 0.87       | 0.25        |
| 50                     | 11.04     | 34.009           | 5.93               | 0.79                 | 0.52          | 15.1       | 5.3            | 0.4        | 4.1       |          |          |          |            | 0.25        |
| 75                     | 11.08     | 34.366           | 5.92               | 0.74                 | 0.51          | 13.2       | 4.8            | 0.2        | 3.9       | 5.7      | 0.7      | 0.1      | 0.87       |             |

| Station: <b>Arendal St. 2</b> |           |          |               | Date: 18.12.2000 |            | Time (UTC): 14:05  |                |            | Position: N: 58° 23' |          | E: 8° 49'     |          |            |             |
|-------------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|------------|----------------------|----------|---------------|----------|------------|-------------|
| Ship: Munin                   |           |          |               | Institute: HFF   |            | Echodepth (m): 105 |                |            | Secchidepth (m):     |          | Secchicolour: |          |            |             |
| Depth                         | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM)            | POC (µM) | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                             | 7.81      | 26.240   | 6.89          | 0.70             | 0.49       | 20.0               | 9.4            | 1.1        | 12.3                 | 7.9      | 0.8           | 0.1      | 1.97       | 0.40        |
| 5                             | 7.82      | 26.410   |               | 0.69             | 0.55       | 21.8               | 8.7            | 1.1        | 12.3                 | 8.1      | 0.9           | 0.1      | 1.07       | 0.40        |
| 10                            | 8.10      | 29.580   | 6.42          | 0.69             | 0.55       | 21.3               | 8.7            | 1.1        | 12.1                 | 7.8      | 0.9           | 0.1      | 1.22       | 0.40        |
| 20                            | 8.32      | 31.170   |               | 0.72             | 0.60       | 18.8               | 7.7            | 0.5        | 7.9                  | 7.2      | 0.8           | 0.1      | 1.18       | 0.60        |
| 30                            | 9.65      | 33.440   | 6.21          | 0.69             | 0.60       | 16.8               | 7.6            | 0.3        | 6.0                  | 8.9      | 1.2           | 0.1      | 0.90       | 0.40        |
| 50                            | 9.95      | 34.040   |               | 0.72             | 0.60       | 19.9               | 6.4            | 0.4        | 4.8                  |          |               |          |            | 0.30        |
| 69                            | 9.87      | 34.310   | 6.13          | 0.68             | 0.57       | 14.1               | 5.9            | 0.3        | 4.3                  | 6.4      | 0.7           | 0.1      | 1.42       |             |

### 3.3 Arendal St. 3

| Station: Arendal St. 3 |           |          |               | Date: 16.01.2000 |            | Time (UTC): 08:00  |                | Position: N: 58° 20' |                    | E: 8° 54' |               |          |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|----------------------|--------------------|-----------|---------------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 260 |                |                      | Secchidepth (m): 6 |           | Secchicolour: |          |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM)           | SiO3 (µM)          | POC (µM)  | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 4.32      | 29.630   | 7.47          |                  | 0.25       |                    | 8.2            |                      | 9.0                |           |               |          |            | 0.50        |
| 5                      | 4.34      | 29.786   | 7.42          |                  | 0.54       |                    | 8.3            |                      | 8.6                |           |               |          |            | 0.40        |
| 10                     | 5.31      | 32.383   | 7.13          |                  | 0.52       |                    | 7.0            |                      | 5.6                |           |               |          |            | 0.60        |
| 20                     | 5.84      | 33.200   | 6.99          |                  | 0.52       |                    | 6.6            |                      | 5.0                |           |               |          |            | 0.40        |
| 30                     | 6.68      | 33.812   | 6.77          |                  | 0.54       |                    | 6.2            |                      | 4.6                |           |               |          |            | 0.30        |
| 50                     | 6.69      | 34.037   | 6.73          |                  | 0.56       |                    | 6.2            |                      | 4.6                |           |               |          |            | 0.30        |
| 75                     | 6.71      | 34.063   | 6.77          |                  | 0.55       |                    | 6.1            |                      | 4.6                |           |               |          |            |             |
| 100                    | 6.84      | 34.171   | 6.70          | 0.74             | 0.56       | 15.5               | 5.7            |                      | 4.6                | 11.5      | 1.5           | 0.1      | 1.58       |             |
| 125                    | 7.21      | 34.539   | 6.74          | 0.68             | 0.56       | 15.9               | 5.9            |                      | 4.5                |           |               |          |            |             |
| 150                    | 7.57      | 34.702   | 6.51          | 0.67             | 0.54       | 16.2               | 5.8            |                      | 4.6                |           |               |          |            |             |
| 200                    | 7.60      | 34.901   | 6.37          | 0.68             | 0.56       | 15.2               | 6.5            |                      | 4.0                | 10.6      | 1.3           | 0.1      | 1.75       |             |
| 240                    | 7.61      | 34.903   | 6.36          | 0.71             | 0.58       | 16.3               | 6.8            |                      | 4.0                |           |               |          |            |             |

| Station: Arendal St. 3 |           |          |               | Date: 13.02.2000 |            | Time (UTC): 18:00  |                | Position: N: 58° 20' |                  | E: 8° 54' |               |          |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|----------------------|------------------|-----------|---------------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 260 |                |                      | Secchidepth (m): |           | Secchicolour: |          |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM)           | SiO3 (µM)        | POC (µM)  | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 5.24      | 33.279   | 7.03          |                  | 0.47       |                    | 7.8            |                      | 6.3              |           |               |          |            | 0.40        |
| 5                      | 5.25      | 33.278   | 7.01          |                  | 0.57       |                    | 8.0            |                      | 6.3              |           |               |          |            | 0.40        |
| 10                     | 5.26      | 33.277   | 6.98          |                  | 0.57       |                    | 7.9            |                      | 6.3              |           |               |          |            | 0.40        |
| 20                     | 5.27      | 33.278   | 7.00          |                  | 0.58       |                    | 7.8            |                      | 6.4              |           |               |          |            | 0.40        |
| 30                     | 5.27      | 33.275   | 7.00          |                  | 0.57       |                    | 8.0            |                      | 6.4              |           |               |          |            | 0.40        |
| 50                     | 5.29      | 33.295   | 6.99          |                  | 0.59       |                    | 8.0            |                      | 6.4              |           |               |          |            | 0.40        |
| 75                     | 5.97      | 34.264   | 6.95          |                  | 0.56       |                    | 6.9            |                      | 5.3              |           |               |          |            |             |
| 100                    | 6.09      | 34.450   | 6.90          | 0.69             | 0.56       | 13.1               | 6.7            |                      | 4.8              | 4.6       | 0.5           | 0.1      | 2.18       |             |
| 125                    | 6.09      | 34.487   | 6.89          | 0.72             | 0.56       | 13.7               | 6.7            |                      | 4.8              |           |               |          |            |             |
| 150                    | 6.17      | 34.587   | 6.87          | 0.71             | 0.57       | 13.2               | 6.7            |                      | 4.8              |           |               |          |            |             |
| 200                    | 6.28      | 34.662   | 6.83          | 0.79             | 0.57       | 14.4               | 6.9            |                      | 4.6              | 12.6      | 1.2           | 0.1      |            |             |
| 240                    | 6.45      | 34.794   | 6.81          | 1.01             | 0.58       | 16.2               | 7.4            |                      | 4.5              |           |               |          |            |             |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: Arendal St. 3 |           |          |               | Date: 08.03.2000 |            | Time (UTC): 06:00  |                | Position: N: 58° 20' |                    | E: 8° 54' |               |          |            |             |  |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|----------------------|--------------------|-----------|---------------|----------|------------|-------------|--|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 260 |                |                      | Secchidepth (m): 6 |           | Secchicolour: |          |            |             |  |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM)           | SiO3 (µM)          | POC (µM)  | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |  |
| 0                      | 3.96      | 31.083   | 7.41          |                  | 0.39       |                    | 9.6            |                      | 7.7                |           |               |          |            | 1.60        |  |
| 5                      | 4.12      | 31.409   | 7.37          |                  | 0.47       |                    | 9.6            |                      | 7.2                |           |               |          |            | 1.40        |  |
| 10                     | 4.35      | 31.899   | 7.28          |                  | 0.49       |                    | 9.5            |                      | 6.8                |           |               |          |            | 0.70        |  |
| 20                     | 4.45      | 32.106   | 7.23          |                  | 0.50       |                    | 9.3            |                      | 6.6                |           |               |          |            | 1.30        |  |
| 30                     | 5.00      | 33.237   | 7.05          |                  | 0.54       |                    | 8.5            |                      | 5.4                |           |               |          |            | 0.80        |  |
| 50                     | 5.70      | 34.396   | 6.92          |                  | 0.57       |                    | 7.6            |                      | 4.6                |           |               |          |            | 0.50        |  |
| 75                     | 5.83      | 34.576   | 6.86          |                  | 0.59       |                    | 7.2            |                      | 4.6                |           |               |          |            |             |  |
| 100                    | 6.23      | 34.775   | 6.79          | 0.71             | 0.62       | 16.6               | 8.1            |                      | 4.3                | 4.5       | 0.6           | 0.0      | 2.10       |             |  |
| 125                    | 6.48      | 34.916   | 6.72          | 0.75             | 0.63       | 16.3               | 8.4            |                      | 4.3                |           |               |          |            |             |  |
| 150                    | 6.42      | 34.925   | 6.72          | 0.74             | 0.63       | 16.6               | 8.3            |                      | 4.3                |           |               |          |            |             |  |
| 200                    | 6.43      | 34.936   | 6.72          | 0.77             | 0.64       | 16.8               | 7.9            |                      | 4.3                | 6.9       | 0.8           | 0.1      | 3.98       |             |  |
| 240                    | 6.60      | 34.998   | 6.72          | 0.76             | 0.65       | 16.8               | 8.5            |                      | 4.3                |           |               |          |            |             |  |

| Station: Arendal St. 3 |           |          |               | Date: 12.04.2000 |            | Time (UTC): 12:28  |                | Position: N: 58° 20' |                    | E: 8° 54' |               |          |            |             |  |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|----------------------|--------------------|-----------|---------------|----------|------------|-------------|--|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 260 |                |                      | Secchidepth (m): 9 |           | Secchicolour: |          |            |             |  |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM)           | SiO3 (µM)          | POC (µM)  | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |  |
| 0                      | 4.91      | 23.570   |               |                  |            |                    |                |                      |                    |           |               |          |            |             |  |
| 5                      | 4.91      | 23.596   |               |                  |            |                    |                |                      |                    |           |               |          |            |             |  |
| 10                     | 4.14      | 27.293   |               |                  |            |                    |                |                      |                    |           |               |          |            |             |  |
| 20                     | 4.44      | 31.406   |               |                  |            |                    |                |                      |                    |           |               |          |            |             |  |
| 30                     | 4.76      | 32.956   |               |                  |            |                    |                |                      |                    |           |               |          |            |             |  |
| 50                     | 5.81      | 34.455   |               |                  |            |                    |                |                      |                    |           |               |          |            |             |  |
| 75                     | 6.26      | 34.895   |               |                  |            |                    |                |                      |                    |           |               |          |            |             |  |
| 100                    | 6.50      | 35.029   | 6.53          | 0.74             | 0.67       | 17.7               | 9.2            |                      | 5.0                | 7.1       | 0.9           | 0.1      | 0.75       |             |  |
| 125                    | 6.52      | 35.038   | 6.53          | 0.80             | 0.67       | 19.9               | 9.5            |                      | 5.1                |           |               |          |            |             |  |
| 150                    | 6.55      | 35.054   | 6.54          | 0.80             | 0.65       | 20.0               | 9.3            |                      | 5.2                |           |               |          |            |             |  |
| 200                    | 6.58      | 35.064   | 6.52          | 0.78             | 0.67       | 18.3               | 9.6            |                      | 5.2                | 6.6       | 0.9           | 0.1      | 0.86       |             |  |
| 240                    | 6.63      | 35.082   | 6.45          | 0.74             | 0.69       | 17.4               | 9.6            |                      | 4.9                |           |               |          |            |             |  |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: Arendal St. 3 |           |          |               | Date: 17.05.2000 |            | Time (UTC): 07:00  |                | Position: N: 58° 20' |                    | E: 8° 54' |               |          |            |             |  |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|----------------------|--------------------|-----------|---------------|----------|------------|-------------|--|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 260 |                |                      | Secchidepth (m): 5 |           | Secchicolour: |          |            |             |  |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM)           | SiO3 (µM)          | POC (µM)  | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |  |
| 0                      | 13.30     | 17.948   | 7.17          |                  | 0.01       |                    | 0.1            |                      | 1.7                |           |               |          |            | 1.50        |  |
| 5                      | 12.31     | 19.349   | 7.80          |                  | 0.01       |                    | 0.1            |                      | 1.6                |           |               |          |            | 2.10        |  |
| 10                     | 9.88      | 30.921   | 8.37          |                  | 0.03       |                    | 1.0            |                      | 1.0                |           |               |          |            | 4.70        |  |
| 20                     | 6.55      | 33.742   | 7.10          |                  | 0.18       |                    | 3.9            |                      | 2.2                |           |               |          |            | 1.00        |  |
| 30                     | 6.57      | 34.422   | 7.02          |                  | 0.28       |                    | 2.4            |                      | 1.5                |           |               |          |            | 0.40        |  |
| 50                     | 6.38      | 34.598   | 6.77          |                  | 0.41       |                    | 4.2            |                      | 2.6                |           |               |          |            | 0.20        |  |
| 75                     | 7.05      | 34.837   | 6.43          |                  | 0.65       |                    | 8.8            |                      | 4.2                |           |               |          |            |             |  |
| 100                    | 6.83      | 35.015   | 6.34          | 0.83             | 0.69       | 18.5               | 9.6            |                      | 4.5                | 12.7      | 1.1           | 0.0      | 0.48       |             |  |
| 125                    | 6.86      | 35.090   | 6.30          | 0.94             | 0.74       | 17.4               | 10.1           |                      | 5.1                |           |               |          |            |             |  |
| 150                    | 6.88      | 35.133   | 6.23          | 0.87             | 0.77       | 16.7               | 10.6           |                      | 5.7                |           |               |          |            |             |  |
| 200                    | 6.90      | 35.165   | 6.20          | 0.92             | 0.78       | 20.4               | 10.7           |                      | 6.2                | 8.4       | 1.2           | 0.0      | 0.51       |             |  |
| 240                    | 6.90      | 35.172   | 6.22          | 0.97             | 0.79       | 20.4               | 10.5           |                      | 7.0                |           |               |          |            |             |  |

| Station: Arendal St. 3 |           |          |               | Date: 10.06.2000 |            | Time (UTC): 07:00  |                | Position: N: 58° 20' |                    | E: 8° 54' |               |          |            |             |  |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|----------------------|--------------------|-----------|---------------|----------|------------|-------------|--|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 260 |                |                      | Secchidepth (m): 4 |           | Secchicolour: |          |            |             |  |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM)           | SiO3 (µM)          | POC (µM)  | PON (µM)      | POP (µM) | TSM (mg/l) | Chla (µg/l) |  |
| 0                      | 14.28     | 22.909   | 6.89          |                  | 0.01       |                    | 0.6            |                      | 2.4                |           |               |          |            | 2.90        |  |
| 5                      | 14.28     | 24.333   | 6.97          |                  | 0.02       |                    | 0.1            |                      | 1.0                |           |               |          |            | 3.60        |  |
| 10                     | 12.10     | 28.693   | 6.56          |                  | 0.01       |                    | 1.9            |                      | 0.9                |           |               |          |            | 5.30        |  |
| 20                     | 9.93      | 32.785   | 6.16          |                  | 0.06       |                    | 2.2            |                      | 1.7                |           |               |          |            | 0.60        |  |
| 30                     | 9.34      | 34.302   | 6.26          |                  | 0.16       |                    | 0.9            |                      | 0.9                |           |               |          |            | 0.30        |  |
| 50                     | 8.28      | 34.595   | 6.31          |                  | 0.31       |                    | 2.4            |                      | 2.4                |           |               |          |            | 0.20        |  |
| 75                     | 8.17      | 34.713   | 6.49          |                  | 0.29       |                    | 1.4            |                      | 0.9                |           |               |          |            |             |  |
| 100                    | 7.21      | 34.944   | 6.14          | 0.76             | 0.66       | 16.4               | 7.6            |                      | 3.2                | 3.9       | 0.5           | 0.0      | 3.40       |             |  |
| 125                    | 6.91      | 35.017   | 6.24          | 0.81             | 0.65       | 17.3               | 9.6            |                      | 3.8                |           |               |          |            |             |  |
| 150                    | 7.05      | 35.118   | 6.27          | 0.85             | 0.72       | 17.2               | 10.6           |                      | 4.5                |           |               |          |            |             |  |
| 200                    | 6.90      | 35.122   | 6.21          | 0.85             | 0.75       | 18.8               | 11.3           |                      | 4.6                | 5.1       | 0.7           | 0.1      | 0.57       |             |  |
| 240                    | 6.91      | 35.148   | 6.14          | 0.98             | 0.80       | 20.9               | 11.5           |                      | 5.4                |           |               |          |            |             |  |



Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: Arendal St. 3 |           |          |               | Date: 04.07.2000 |            | Time (UTC): 07:00  |                | Position: N: 58° 20' |                    | E: 8° 54' |          |               |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|----------------------|--------------------|-----------|----------|---------------|------------|-------------|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 260 |                |                      | Secchidepth (m): 8 |           |          | Secchicolour: |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM)           | SiO3 (µM)          | POC (µM)  | PON (µM) | POP (µM)      | TSM (mg/l) | Chla (µg/l) |
| 0                      | 14.81     | 28.287   | 6.31          |                  | 0.01       |                    | 1.0            |                      | 0.6                |           |          |               |            | 1.10        |
| 5                      | 14.74     | 28.492   | 6.21          |                  | 0.01       |                    | 1.2            |                      | 0.5                |           |          |               |            | 1.30        |
| 10                     | 14.61     | 29.540   | 6.30          |                  | 0.01       |                    | 1.5            |                      | 0.3                |           |          |               |            | 1.70        |
| 20                     | 11.66     | 32.952   | 5.68          |                  | 0.20       |                    | 2.4            |                      | 1.1                |           |          |               |            | 0.30        |
| 30                     | 9.94      | 34.306   | 5.89          |                  | 0.17       |                    | 1.4            |                      | 1.1                |           |          |               |            | 0.30        |
| 50                     | 9.45      | 34.754   | 6.04          |                  | 0.23       |                    | 0.7            |                      | 0.9                |           |          |               |            | 0.30        |
| 75                     | 8.61      | 34.903   | 6.04          |                  | 0.35       |                    | 1.6            |                      | 1.4                |           |          |               |            |             |
| 100                    | 7.97      | 35.004   | 5.94          | 0.67             | 0.62       | 13.6               | 3.5            |                      | 2.4                | 5.0       | 0.7      | 0.0           | 0.32       |             |
| 125                    | 7.24      | 35.040   | 6.07          | 0.82             | 0.67       | 17.1               | 7.5            |                      | 3.8                |           |          |               |            |             |
| 150                    | 7.10      | 35.061   | 5.87          | 0.88             | 0.72       | 16.4               | 8.6            |                      | 4.4                |           |          |               |            |             |
| 200                    | 7.03      | 35.078   | 5.97          | 0.90             | 0.74       | 17.4               | 9.3            |                      | 4.7                | 8.7       | 1.3      | 0.0           | 0.75       |             |
| 240                    | 6.98      | 35.094   | 5.94          | 0.95             | 0.77       | 19.3               | 9.5            |                      | 4.8                |           |          |               |            |             |

| Station: Arendal St. 3 |           |          |               | Date: 14.08.2000 |            | Time (UTC): 08:40  |                | Position: N: 58° 20' |                    | E: 8° 54' |          |               |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|----------------------|--------------------|-----------|----------|---------------|------------|-------------|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 260 |                |                      | Secchidepth (m): 8 |           |          | Secchicolour: |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM)           | SiO3 (µM)          | POC (µM)  | PON (µM) | POP (µM)      | TSM (mg/l) | Chla (µg/l) |
| 0                      | 15.66     | 29.498   | 6.55          |                  | 0.10       |                    | 0.2            |                      | 0.3                |           |          |               |            |             |
| 5                      | 15.81     | 29.936   | 6.00          |                  | 0.04       |                    | 0.1            |                      | 0.6                |           |          |               |            |             |
| 10                     | 15.50     | 31.585   | 6.06          |                  | 0.04       |                    | 0.1            |                      | 0.4                |           |          |               |            |             |
| 20                     | 13.49     | 33.018   | 5.82          |                  | 0.09       |                    | 0.2            |                      | 1.5                |           |          |               |            |             |
| 30                     | 11.47     | 34.107   | 5.23          |                  | 0.17       |                    | 1.3            |                      | 4.5                |           |          |               |            |             |
| 50                     | 9.70      | 34.990   | 5.45          |                  | 0.22       |                    | 1.1            |                      | 2.5                |           |          |               |            |             |
| 75                     | 7.61      | 35.033   | 5.56          |                  | 0.57       |                    | 6.3            |                      | 3.7                |           |          |               |            |             |
| 100                    | 7.33      | 35.057   | 5.62          | 0.83             | 0.65       | 16.1               | 7.6            |                      | 4.1                | 5.2       | 0.6      | 0.1           | 0.64       |             |
| 125                    | 7.22      | 35.100   | 5.69          | 0.99             | 0.78       | 21.1               | 10.8           |                      | 5.6                |           |          |               |            |             |
| 150                    | 7.20      | 35.103   | 5.67          | 1.00             | 0.80       | 21.4               | 11.3           |                      | 5.8                |           |          |               |            |             |
| 200                    | 7.17      | 35.112   | 5.68          | 0.99             | 0.82       | 20.2               | 11.7           |                      | 6.0                | 9.8       | 1.0      | 0.1           | 0.69       |             |
| 240                    | 7.16      | 35.140   | 5.81          | 0.98             | 0.79       | 19.7               | 11.2           |                      | 5.3                |           |          |               |            |             |

## Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: <b>Arendal St. 3</b> |           | Date: 11.09.2000 |               | Time (UTC): 06:57 |            | Position: N: 58° 20' |                | E: 8° 54'           |           |               |          |          |            |             |
|-------------------------------|-----------|------------------|---------------|-------------------|------------|----------------------|----------------|---------------------|-----------|---------------|----------|----------|------------|-------------|
| Ship: G.M.Dannevig            |           |                  |               | Institute: HFF    |            | Echodepth (m): 260   |                | Secchidepth (m): 10 |           | Secchicolour: |          |          |            |             |
| Depth                         | Temp (°C) | Salinity         | Oxygen (ml/l) | TotP (µM)         | Po4-P (µM) | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM)          | SiO3 (µM) | POC (µM)      | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                             | 14.94     | 28.315           | 5.95          |                   | 0.06       |                      | 0.3            |                     | 0.9       |               |          |          |            | 2.00        |
| 5                             | 15.26     | 29.272           | 5.85          |                   | 0.15       |                      | 0.1            |                     | 1.3       |               |          |          |            | 2.50        |
| 10                            | 15.34     | 30.088           | 5.81          |                   | 0.06       |                      | 0.1            |                     | 1.4       |               |          |          |            | 2.10        |
| 20                            | 15.13     | 31.387           | 5.64          |                   | 0.08       |                      | 0.1            |                     | 1.4       |               |          |          |            | 0.90        |
| 30                            | 14.48     | 32.547           | 4.91          |                   | 0.09       |                      | 0.6            |                     | 1.7       |               |          |          |            | 0.20        |
| 50                            | 11.46     | 34.190           | 4.84          |                   | 0.27       |                      | 2.8            |                     | 4.0       |               |          |          |            | 0.20        |
| 75                            | 9.00      | 34.943           | 5.02          |                   | 0.48       |                      | 5.3            |                     | 5.1       |               |          |          |            |             |
| 100                           | 7.99      | 35.041           | 5.29          | 0.74              | 0.61       | 15.3                 | 7.8            |                     | 4.9       | 8.5           | 1.0      | 0.1      | 0.56       |             |
| 125                           | 7.62      | 35.086           | 5.36          | 0.86              | 0.67       | 18.7                 | 8.7            |                     | 4.9       |               |          |          |            |             |
| 150                           | 7.46      | 35.099           | 5.36          | 0.90              | 0.70       | 18.3                 | 9.2            |                     | 4.8       |               |          |          |            |             |
| 200                           | 7.46      | 35.118           | 5.12          | 0.88              | 0.74       | 16.6                 | 9.9            |                     | 5.3       | 5.9           | 0.7      | 0.1      | 1.74       |             |
| 240                           | 7.38      | 35.129           |               | 0.93              | 0.75       | 16.5                 | 10.3           |                     | 5.4       |               |          |          |            |             |

| StaJan Magnusson/Niva, |           | Date: 21.10.2000 |               | Time (UTC): 07:25 |            | Position: N: 58° 20' |                | E: 8° 54'          |           |               |          |          |            |             |
|------------------------|-----------|------------------|---------------|-------------------|------------|----------------------|----------------|--------------------|-----------|---------------|----------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           |                  |               | Institute: HFF    |            | Echodepth (m): 260   |                | Secchidepth (m): 6 |           | Secchicolour: |          |          |            |             |
| Depth                  | Temp (°C) | Salinity         | Oxygen (ml/l) | TotP (µM)         | Po4-P (µM) | Tot-N (µM)           | NO3+NO2-N (µM) | NH4-N (µM)         | SiO3 (µM) | POC (µM)      | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 12.45     | 23.658           | 6.51          |                   | 0.17       |                      | 1.2            |                    | 3.2       |               |          |          |            | 1.90        |
| 5                      | 12.47     | 23.693           | 6.52          |                   | 0.17       |                      | 1.0            |                    | 2.9       |               |          |          |            | 2.20        |
| 10                     | 12.78     | 24.403           | 6.42          |                   | 0.08       |                      | 1.1            |                    | 3.0       |               |          |          |            | 1.50        |
| 20                     | 13.92     | 32.088           | 5.61          |                   | 0.27       |                      | 1.4            |                    | 2.1       |               |          |          |            | 0.30        |
| 30                     | 14.25     | 33.238           | 5.57          |                   | 0.26       |                      | 1.0            |                    | 1.8       |               |          |          |            | 0.20        |
| 50                     | 14.29     | 33.908           | 5.49          |                   | 0.24       |                      | 1.4            |                    | 2.6       |               |          |          |            | 0.20        |
| 75                     | 14.22     | 34.259           | 5.51          |                   | 0.25       |                      | 1.9            |                    | 3.7       |               |          |          |            |             |
| 100                    | 11.11     | 34.609           | 4.74          | 0.54              | 0.42       | 13.3                 | 5.1            |                    | 5.2       | 7.9           | 1.0      | 0.1      | 0.22       |             |
| 125                    | 8.52      | 34.997           | 5.00          | 0.71              | 0.56       | 17.4                 | 7.3            |                    | 5.2       |               |          |          |            |             |
| 150                    | 7.60      | 35.095           | 5.38          | 0.85              | 0.72       | 18.1                 | 9.9            |                    | 5.3       |               |          |          |            |             |
| 200                    | 7.21      | 35.160           | 5.66          | 0.97              | 0.84       | 19.2                 | 10.3           |                    | 6.2       | 10.3          | 1.5      | 0.1      | 0.35       |             |
| 240                    | 7.16      | 35.173           | 5.68          | 0.94              | 0.86       | 20.6                 | 10.6           |                    | 7.0       |               |          |          |            |             |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: Arendal St. 3 |           |          |               | Date: 02.11.2000 |            | Time (UTC): 15:27  |                | Position: N: 58° 20' |           | E: 8° 54'     |          |          |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|----------------------|-----------|---------------|----------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 260 |                | Secchidepth (m): 5   |           | Secchicolour: |          |          |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM)           | SiO3 (µM) | POC (µM)      | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 12.03     | 29.825   |               |                  |            |                    |                |                      |           |               |          |          |            |             |
| 5                      | 12.56     | 31.493   |               |                  |            |                    |                |                      |           |               |          |          |            |             |
| 10                     | 13.28     | 32.744   |               |                  |            |                    |                |                      |           |               |          |          |            |             |
| 20                     | 13.43     | 33.068   |               |                  |            |                    |                |                      |           |               |          |          |            |             |
| 30                     | 13.45     | 33.323   |               |                  |            |                    |                |                      |           |               |          |          |            |             |
| 50                     | 12.99     | 33.837   |               |                  |            |                    |                |                      |           |               |          |          |            |             |
| 75                     | 12.99     | 34.601   |               |                  |            |                    |                |                      |           |               |          |          |            |             |
| 100                    | 12.35     | 34.668   | 5.74          | 0.54             | 0.35       | 10.0               | 1.8            |                      | 2.7       | 7.1           | 0.8      | 0.1      | 1.73       |             |
| 125                    | 11.88     | 34.713   | 5.61          | 0.57             | 0.38       | 16.9               | 2.8            |                      | 3.3       |               |          |          |            |             |
| 150                    | 11.10     | 34.770   | 5.38          | 0.68             | 0.49       | 14.7               | 4.8            |                      | 4.4       |               |          |          |            |             |
| 200                    | 8.40      | 35.022   | 5.07          | 0.96             | 0.79       | 16.5               | 9.9            |                      | 6.7       | 5.8           | 0.6      | 0.1      | 1.44       |             |
| 240                    | 7.82      | 35.092   | 5.16          | 1.03             | 0.88       | 19.3               | 11.3           |                      | 7.4       |               |          |          |            |             |

| Station: Arendal St. 3 |           |          |               | Date: 04.12.2000 |            | Time (UTC): 08:20  |                | Position: N: 58° 20' |           | E: 8° 54'     |          |          |            |             |
|------------------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|----------------------|-----------|---------------|----------|----------|------------|-------------|
| Ship: G.M.Dannevig     |           |          |               | Institute: HFF   |            | Echodepth (m): 260 |                | Secchidepth (m): 6   |           | Secchicolour: |          |          |            |             |
| Depth                  | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM)           | SiO3 (µM) | POC (µM)      | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0                      | 8.89      | 27.660   | 6.71          |                  | 0.39       |                    | 5.9            |                      | 7.7       |               |          |          |            | 0.74        |
| 5                      | 9.03      | 27.880   | 6.66          |                  | 0.49       |                    | 6.4            |                      | 7.4       |               |          |          |            | 0.56        |
| 10                     | 9.45      | 29.999   | 6.52          |                  | 0.51       |                    | 6.7            |                      | 7.4       |               |          |          |            | 0.37        |
| 20                     | 10.28     | 33.295   | 6.16          |                  | 0.51       |                    | 5.8            |                      | 4.5       |               |          |          |            | 0.28        |
| 30                     | 11.26     | 34.200   | 6.00          |                  | 0.52       |                    | 5.2            |                      | 4.3       |               |          |          |            | 0.24        |
| 50                     | 10.87     | 34.427   | 6.06          |                  | 0.49       |                    | 3.6            |                      | 3.2       |               |          |          |            | 0.24        |
| 75                     | 10.62     | 34.522   | 6.06          |                  | 0.47       |                    | 3.7            |                      | 2.9       |               |          |          |            |             |
| 100                    | 10.35     | 34.698   | 5.77          | 0.74             | 0.53       | 12.6               | 4.8            |                      | 4.1       | 8.0           | 1.2      | 0.1      | 1.30       |             |
| 125                    | 9.64      | 34.865   | 5.47          | 0.76             | 0.60       | 14.6               | 6.9            |                      | 4.9       |               |          |          |            |             |
| 150                    | 8.92      | 34.949   | 5.32          | 0.90             | 0.71       | 16.6               | 8.7            |                      | 6.0       |               |          |          |            |             |
| 200                    | 7.17      | 35.183   | 5.69          | 1.09             | 0.90       | 18.5               | 12.1           |                      | 6.9       | 5.7           | 0.5      | 0.0      | 0.58       |             |
| 240                    | 7.14      | 35.188   | 5.67          | 1.15             | 0.92       | 21.8               | 12.3           |                      | 7.5       |               |          |          |            |             |

## 3.4 Lista

| Station: Lista |           |          |               | Date: 13.01.2000 |            | Time (UTC): 14:45  |                | Position: N: 58° 1' |           | E: 6° 32'     |          |          |            |             |
|----------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|---------------------|-----------|---------------|----------|----------|------------|-------------|
| Ship: Brekne   |           |          |               | Institute: HFF   |            | Echodepth (m): 310 |                | Secchidepth (m): 10 |           | Secchicolour: |          |          |            |             |
| Depth          | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM)          | SiO3 (µM) | POC (µM)      | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0              | 7.07      | 32.675   |               | 0.78             | 0.41       | 17.3               | 6.2            |                     | 4.8       | 36.3          | 2.5      | 0.2      |            | 0.20        |
| 5              | 7.22      | 32.947   |               | 0.64             | 0.46       | 13.4               | 5.9            |                     | 4.8       | 4.0           | 0.5      | 0.1      |            | 0.20        |
| 10             | 7.53      | 33.701   |               | 0.65             | 0.47       | 12.5               | 5.6            |                     | 4.6       | 4.1           | 0.6      | 0.1      |            | 0.10        |
| 20             | 7.85      | 34.189   |               | 0.66             | 0.49       | 13.3               | 5.2            |                     | 3.6       | 5.2           | 0.7      | 0.1      |            | 0.10        |
| 30             | 8.42      | 34.544   |               | 0.64             | 0.50       | 11.7               | 5.0            |                     | 4.1       | 4.6           | 0.5      | 0.1      |            | 0.10        |
| 50             | 7.28      | 34.481   |               | 0.65             | 0.48       | 11.5               | 4.6            |                     | 4.1       |               |          |          |            | 0.10        |
| 75             | 7.39      | 34.570   |               | 0.66             | 0.49       | 11.0               | 4.4            |                     | 4.1       |               |          |          |            |             |
| 100            | 7.76      | 34.688   |               | 0.65             | 0.50       | 11.1               | 4.4            |                     | 4.1       |               |          |          |            |             |
| 150            | 7.95      | 34.774   |               | 0.67             | 0.51       | 11.2               | 4.6            |                     | 4.1       |               |          |          |            |             |
| 200            | 7.80      | 34.767   |               | 0.66             | 0.43       | 11.5               | 4.0            |                     | 4.1       | 5.5           | 0.7      | 0.1      |            |             |
| 300            | 8.18      | 34.950   |               | 0.64             | 0.50       | 12.2               | 6.2            |                     | 3.7       | 8.0           | 0.6      |          |            |             |

| Station: Lista |           |          |               | Date: 16.02.2000 |            | Time (UTC): 15:47  |                | Position: N: 58° 1' |           | E: 6° 32'     |          |          |            |             |
|----------------|-----------|----------|---------------|------------------|------------|--------------------|----------------|---------------------|-----------|---------------|----------|----------|------------|-------------|
| Ship: Brekne   |           |          |               | Institute: HFF   |            | Echodepth (m): 310 |                | Secchidepth (m): 8  |           | Secchicolour: |          |          |            |             |
| Depth          | Temp (°C) | Salinity | Oxygen (ml/l) | TotP (µM)        | Po4-P (µM) | Tot-N (µM)         | NO3+NO2-N (µM) | NH4-N (µM)          | SiO3 (µM) | POC (µM)      | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0              | 5.38      | 33.461   |               | 0.80             | 0.59       | 18.7               | 7.6            |                     | 5.4       | 18.9          | 1.6      | 0.1      |            | 0.50        |
| 5              | 5.38      | 33.484   |               | 0.69             | 0.57       | 13.7               | 7.3            |                     | 5.5       | 4.9           | 0.5      | 0.1      |            | 0.50        |
| 10             | 5.38      | 33.488   |               | 0.68             | 0.56       | 14.2               | 7.3            |                     | 5.5       | 3.9           | 0.4      | 0.0      |            | 0.50        |
| 20             | 5.43      | 33.537   |               | 0.69             | 0.58       | 14.0               | 7.4            |                     | 5.5       | 4.8           | 0.5      | 0.0      |            | 0.50        |
| 30             | 5.54      | 33.648   |               | 0.68             | 0.57       | 14.7               | 7.3            |                     | 5.4       | 5.8           | 0.5      | 0.0      |            | 0.40        |
| 50             | 5.98      | 34.087   |               | 0.66             | 0.58       | 14.9               | 7.3            |                     | 5.4       |               |          |          |            | 0.30        |
| 75             | 6.03      | 34.180   |               | 0.67             | 0.59       | 14.2               | 7.1            |                     | 5.2       |               |          |          |            |             |
| 100            | 6.05      | 34.235   |               | 0.69             | 0.61       | 14.2               | 7.1            |                     | 5.2       |               |          |          |            |             |
| 150            | 6.07      | 34.353   |               | 0.67             | 0.62       | 14.2               | 7.1            |                     | 5.3       |               |          |          |            |             |
| 200            | 6.31      | 34.487   |               | 0.65             | 0.60       | 14.0               | 7.2            |                     | 4.8       | 4.7           | 0.4      | 0.0      |            |             |
| 300            | 7.34      | 34.884   |               | 0.68             | 0.64       | 14.8               | 8.3            |                     | 4.7       |               |          |          |            |             |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjem. Datarapport 2000. (TA-1878/2002)

| Station: Lista |           | Date: 09.03.2000 | Time (UTC): 07:45  | Position: N: 58° 1' | E: 6° 32'     |            |                |            |           |          |          |          |            |             |
|----------------|-----------|------------------|--------------------|---------------------|---------------|------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|
| Ship: Brekne   |           | Institute: HFF   | Echodepth (m): 310 | Secchidepth (m): 8  | Secchicolour: |            |                |            |           |          |          |          |            |             |
| Depth          | Temp (°C) | Salinity         | Oxygen (ml/l)      | TotP (µM)           | Po4-P (µM)    | Tot-N (µM) | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0              | 5.80      | 34.160           |                    | 0.71                | 0.61          | 14.1       | 7.1            |            | 5.3       | 4.7      | 0.3      | 0.1      |            | 0.30        |
| 5              | 5.83      | 34.176           |                    | 0.65                | 0.60          | 13.6       | 7.1            |            | 5.3       | 3.6      | 0.3      | 0.0      |            | 0.20        |
| 10             | 5.85      | 34.184           |                    | 0.66                | 0.60          | 13.2       | 7.2            |            | 5.3       | 3.0      | 0.2      | 0.0      |            | 0.20        |
| 20             | 5.99      | 34.399           |                    | 0.66                | 0.60          | 12.7       | 7.0            |            | 5.3       | 3.1      | 0.3      | 0.0      |            | 0.20        |
| 30             | 6.25      | 34.574           |                    | 0.66                | 0.63          | 13.5       | 6.9            |            | 5.3       | 3.1      | 0.2      | 0.0      |            | 0.20        |
| 50             | 6.16      | 34.614           |                    | 0.68                | 0.63          | 13.4       | 6.8            |            | 5.2       |          |          |          |            | 0.10        |
| 75             | 6.20      | 34.637           |                    | 0.68                | 0.64          | 13.3       | 6.9            |            | 5.0       |          |          |          |            |             |
| 100            | 6.43      | 34.734           |                    | 0.65                | 0.62          | 13.3       | 6.9            |            | 4.8       |          |          |          |            |             |
| 150            | 6.92      | 34.938           |                    | 0.68                | 0.67          | 13.4       | 8.2            |            | 4.6       |          |          |          |            |             |
| 200            | 7.05      | 35.024           |                    | 0.70                | 0.67          | 14.8       | 8.6            |            | 4.7       | 4.9      | 0.1      | 0.0      |            |             |
| 300            | 7.15      | 35.093           |                    | 0.74                | 0.70          | 14.6       | 9.4            |            | 5.0       | 2.3      | 0.1      |          |            |             |

| Station: Lista |           | Date: 07.04.2000 | Time (UTC): 17:00  | Position: N: 58° 1' | E: 6° 32'     |            |                |            |           |          |          |          |            |             |
|----------------|-----------|------------------|--------------------|---------------------|---------------|------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|
| Ship: Brekne   |           | Institute: HFF   | Echodepth (m): 310 | Secchidepth (m): 10 | Secchicolour: |            |                |            |           |          |          |          |            |             |
| Depth          | Temp (°C) | Salinity         | Oxygen (ml/l)      | TotP (µM)           | Po4-P (µM)    | Tot-N (µM) | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0              | 4.87      | 32.132           |                    | 0.45                | 0.05          | 14.7       | 2.7            |            | 2.5       | 18.8     | 3.0      | 0.2      |            | 5.60        |
| 5              | 4.72      | 32.237           |                    | 0.46                | 0.08          | 14.7       | 2.5            |            | 2.5       | 16.1     | 2.6      | 0.2      |            | 6.00        |
| 10             | 4.68      | 32.277           |                    | 0.43                | 0.12          | 14.5       | 2.5            |            | 2.6       | 14.5     | 2.5      | 0.3      |            | 5.90        |
| 20             | 4.64      | 32.384           |                    | 0.41                | 0.20          | 16.0       | 3.7            |            | 2.9       | 8.4      | 1.3      | 0.2      |            | 3.20        |
| 30             | 4.67      | 32.488           |                    | 0.52                | 0.33          | 15.8       | 5.0            |            | 3.2       | 4.6      | 0.6      | 0.1      |            | 1.50        |
| 50             | 5.88      | 34.567           |                    | 0.71                | 0.62          | 16.2       | 8.1            |            | 4.5       |          |          |          |            | 0.50        |
| 75             | 6.63      | 34.906           |                    | 0.72                | 0.64          | 16.1       | 8.6            |            | 4.4       |          |          |          |            |             |
| 100            | 6.86      | 35.066           |                    | 0.77                | 0.68          | 16.7       | 9.1            |            | 4.5       |          |          |          |            |             |
| 150            | 6.82      | 35.112           |                    | 0.71                | 0.69          | 16.7       | 9.3            |            | 4.7       |          |          |          |            |             |
| 200            | 6.84      | 35.124           |                    | 0.75                | 0.68          | 17.5       | 9.3            |            | 4.8       | 5.2      | 0.3      | 0.1      |            |             |
| 300            | 6.88      | 35.140           |                    | 0.73                | 0.70          | 17.6       | 9.6            |            | 5.1       | 3.0      | 0.2      |          |            |             |

## Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: Lista |           | Date: 08.05.2000 | Time (UTC): 17:00  | Position: N: 58° 1' | E: 6° 32'     |            |                |            |           |          |          |          |            |             |
|----------------|-----------|------------------|--------------------|---------------------|---------------|------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|
| Ship: Brekne   |           | Institute: HFF   | Echodepth (m): 310 | Secchidepth (m): 11 | Secchicolour: |            |                |            |           |          |          |          |            |             |
| Depth          | Temp (°C) | Salinity         | Oxygen (ml/l)      | TotP (µM)           | Po4-P (µM)    | Tot-N (µM) | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0              | 13.53     | 21.087           |                    | 0.35                | 0.01          | 18.3       | 0.5            |            | 3.7       | 21.9     | 2.1      | 0.2      |            | 1.50        |
| 5              | 10.40     | 21.745           |                    | 0.29                | 0.01          | 15.3       | 0.3            |            | 3.1       | 10.6     | 1.4      | 0.1      |            | 1.20        |
| 10             | 8.61      | 23.966           |                    | 0.33                | 0.01          | 15.3       | 0.3            |            | 3.0       | 12.0     | 1.8      | 0.1      |            | 1.50        |
| 20             | 6.25      | 31.021           |                    | 0.31                | 0.13          | 15.0       | 3.3            |            | 2.7       | 7.0      | 0.8      | 0.1      |            | 1.00        |
| 30             | 4.99      | 32.785           |                    | 0.46                | 0.31          | 15.2       | 4.8            |            | 2.9       | 4.8      | 0.6      | 0.0      |            | 0.40        |
| 50             | 6.21      | 34.449           |                    | 0.69                | 0.59          | 16.1       | 7.9            |            | 3.9       |          |          |          |            | 0.10        |
| 75             | 7.04      | 34.923           |                    | 0.77                | 0.67          | 16.7       | 8.6            |            | 4.2       |          |          |          |            |             |
| 100            | 6.87      | 34.978           |                    | 0.76                | 0.68          | 16.9       | 8.7            |            | 4.5       |          |          |          |            |             |
| 150            | 6.80      | 35.044           |                    | 0.79                | 0.73          | 16.3       | 9.4            |            | 4.9       |          |          |          |            |             |
| 200            | 6.80      | 35.070           |                    | 0.80                | 0.73          | 18.0       | 9.5            |            | 4.9       | 1.8      | 0.2      | 0.0      |            |             |
| 300            | 6.80      | 35.110           |                    | 0.79                | 0.72          | 16.7       | 9.7            |            | 5.0       | 2.6      | 0.3      |          |            |             |

| Station: Lista |           | Date: 06.06.2000 | Time (UTC): 17:50  | Position: N: 58° 1' | E: 6° 32'     |            |                |            |           |          |          |          |            |             |
|----------------|-----------|------------------|--------------------|---------------------|---------------|------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|
| Ship: Brekne   |           | Institute: HFF   | Echodepth (m): 310 | Secchidepth (m): 6  | Secchicolour: |            |                |            |           |          |          |          |            |             |
| Depth          | Temp (°C) | Salinity         | Oxygen (ml/l)      | TotP (µM)           | Po4-P (µM)    | Tot-N (µM) | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0              | 12.52     | 25.719           |                    | 0.41                | 0.11          | 18.9       | 0.2            |            | 0.9       | 29.5     | 3.2      | 0.3      |            | 3.80        |
| 5              | 12.38     | 26.149           |                    | 0.35                | 0.13          | 14.6       | 0.2            |            | 0.9       | 21.7     | 2.6      | 0.2      |            | 3.50        |
| 10             | 12.16     | 26.835           |                    | 0.35                | 0.12          | 15.0       | 0.7            |            | 1.1       | 20.8     | 2.8      | 0.3      |            | 3.00        |
| 20             | 11.15     | 29.121           |                    | 0.32                | 0.12          | 14.8       | 1.8            |            | 1.3       | 13.3     | 1.6      | 0.2      |            | 2.00        |
| 30             | 10.45     | 30.386           |                    | 0.34                | 0.13          | 14.8       | 2.4            |            | 2.0       | 10.9     | 1.5      | 0.2      |            | 1.40        |
| 50             | 9.02      | 33.442           |                    | 0.33                | 0.16          | 14.4       | 2.5            |            | 1.6       |          |          |          |            | 1.10        |
| 75             | 7.36      | 34.368           |                    | 0.43                | 0.29          | 14.2       | 3.8            |            | 2.2       |          |          |          |            |             |
| 100            | 6.81      | 34.589           |                    | 0.55                | 0.32          | 14.5       | 5.3            |            | 3.0       |          |          |          |            |             |
| 150            | 6.65      | 34.880           |                    | 0.58                | 0.36          | 15.6       | 5.7            |            | 3.0       |          |          |          |            |             |
| 200            | 6.81      | 35.031           |                    | 0.78                | 0.68          | 16.6       | 9.4            |            | 4.7       | 1.8      | 0.2      | 0.0      |            |             |
| 300            | 6.87      | 35.161           |                    | 0.84                | 0.75          | 17.7       | 10.1           |            | 5.8       | 3.4      | 0.3      |          |            |             |



## Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: Lista |           | Date: 06.07.2000 | Time (UTC): 08:15  | Position: N: 58° 1' | E: 6° 32'     |            |                |            |           |          |          |          |            |             |
|----------------|-----------|------------------|--------------------|---------------------|---------------|------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|
| Ship: Brekne   |           | Institute: HFF   | Echodepth (m): 310 | Secchidepth (m): 7  | Secchicolour: |            |                |            |           |          |          |          |            |             |
| Depth          | Temp (°C) | Salinity         | Oxygen (ml/l)      | TotP (µM)           | Po4-P (µM)    | Tot-N (µM) | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0              | 14.67     | 29.494           |                    | 0.34                | 0.07          | 16.1       | 1.1            |            | 0.5       | 19.8     | 2.2      | 0.2      |            | 0.40        |
| 5              | 14.37     | 30.272           |                    | 0.32                | 0.06          | 15.5       | 1.0            |            | 0.4       | 16.4     | 2.0      | 0.2      |            | 1.30        |
| 10             | 11.29     | 32.464           |                    | 0.35                | 0.10          | 17.6       | 4.4            |            | 0.2       | 13.4     | 1.6      | 0.1      |            | 1.00        |
| 20             | 9.88      | 33.424           |                    | 0.37                | 0.25          | 16.0       | 6.7            |            | 3.4       | 7.6      | 0.8      | 0.1      |            | 0.10        |
| 30             | 9.08      | 34.167           |                    | 0.46                | 0.33          | 17.7       | 5.1            |            | 3.0       | 5.1      | 0.5      | 0.1      |            | 0.10        |
| 50             | 8.64      | 34.688           |                    | 0.45                | 0.32          | 16.9       | 3.2            |            | 2.1       |          |          |          |            | 0.20        |
| 75             | 7.91      | 34.886           |                    | 0.55                | 0.27          | 17.7       | 3.8            |            | 2.2       |          |          |          |            |             |
| 100            | 7.22      | 34.946           |                    | 0.77                | 0.55          | 14.9       | 8.0            |            | 3.1       |          |          |          |            |             |
| 150            | 7.09      | 35.049           |                    | 0.74                | 0.60          | 20.4       | 9.0            |            | 3.6       |          |          |          |            |             |
| 200            | 6.99      | 35.099           |                    | 0.76                | 0.71          | 15.9       | 10.0           |            | 4.3       | 7.1      | 1.1      | 0.0      |            |             |
| 300            | 6.87      | 35.166           |                    | 0.85                | 0.74          | 16.9       | 10.6           |            | 5.8       | 3.7      | 0.3      |          |            |             |

| Station: Lista |           | Date: 06.08.2000 | Time (UTC): 08:00  | Position: N: 58° 1' | E: 6° 32'     |            |                |            |           |          |          |          |            |             |
|----------------|-----------|------------------|--------------------|---------------------|---------------|------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|
| Ship: Brekne   |           | Institute: HFF   | Echodepth (m): 310 | Secchidepth (m): 8  | Secchicolour: |            |                |            |           |          |          |          |            |             |
| Depth          | Temp (°C) | Salinity         | Oxygen (ml/l)      | TotP (µM)           | Po4-P (µM)    | Tot-N (µM) | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0              | 16.02     | 30.392           |                    | 0.36                | 0.05          | 13.3       | 0.3            |            | 0.5       | 28.2     | 2.3      | 0.2      |            | 2.20        |
| 5              | 15.95     | 30.541           |                    | 0.35                | 0.05          | 12.9       | 0.2            |            | 0.3       | 22.2     | 2.0      | 0.2      |            | 2.30        |
| 10             | 15.01     | 31.711           |                    | 0.30                | 0.05          | 10.8       | 0.2            |            | 0.9       | 13.5     | 1.2      | 0.1      |            | 1.20        |
| 20             | 12.82     | 32.948           |                    | 0.28                | 0.06          | 9.8        | 0.5            |            | 1.7       | 14.2     | 1.1      | 0.1      |            | 1.60        |
| 30             | 11.86     | 33.667           |                    | 0.33                | 0.14          | 10.3       | 2.1            |            | 2.2       | 5.9      | 0.6      | 0.1      |            | 0.60        |
| 50             | 10.73     | 34.352           |                    | 0.36                | 0.14          | 10.6       | 2.0            |            | 2.7       |          |          |          |            | 0.60        |
| 75             | 9.63      | 34.726           |                    | 0.45                | 0.32          | 11.1       | 4.7            |            | 2.8       |          |          |          |            |             |
| 100            | 8.95      | 34.935           |                    | 0.53                | 0.39          | 11.1       | 5.2            |            | 3.0       |          |          |          |            |             |
| 150            | 7.22      | 35.074           |                    | 0.80                | 0.39          | 16.2       | 5.1            |            | 3.0       |          |          |          |            |             |
| 200            | 6.97      | 35.135           |                    | 0.81                | 0.73          | 16.2       | 10.5           |            | 5.1       | 2.9      | 0.3      | 0.0      |            |             |
| 300            | 6.89      | 35.178           |                    | 0.89                | 0.78          | 20.4       | 11.1           |            | 6.4       | 4.4      | 0.4      |          |            |             |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemii. Datarapport 2000. (TA-1878/2002)

| Station: Lista |           | Date: 05.09.2000 | Time (UTC): 17:30  | Position: N: 58° 1' | E: 6° 32'     |            |                |            |           |          |          |          |            |             |
|----------------|-----------|------------------|--------------------|---------------------|---------------|------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|
| Ship: Brekne   |           | Institute: HFF   | Echodepth (m): 310 | Secchidepth (m): 7  | Secchicolour: |            |                |            |           |          |          |          |            |             |
| Depth          | Temp (°C) | Salinity         | Oxygen (ml/l)      | TotP (µM)           | Po4-P (µM)    | Tot-N (µM) | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0              | 15.69     | 30.259           |                    | 0.65                | 0.13          | 14.2       | 0.1            |            | 0.5       | 23.4     | 3.6      | 0.5      |            | 1.10        |
| 5              | 15.55     | 30.464           |                    | 0.49                | 0.13          | 13.9       | 0.1            |            | 0.6       | 19.1     | 2.8      | 0.2      |            | 0.70        |
| 10             | 15.51     | 30.515           |                    | 0.30                | 0.07          | 11.5       | 0.1            |            | 0.6       | 15.8     | 2.2      | 0.1      |            | 1.00        |
| 20             | 15.54     | 30.930           |                    | 0.32                | 0.12          | 11.5       | 0.1            |            | 0.9       | 14.8     | 1.7      | 0.1      |            | 1.00        |
| 30             | 15.34     | 31.567           |                    | 0.25                | 0.10          | 10.9       | 0.2            |            | 1.2       | 10.4     | 1.1      | 0.1      |            | 0.70        |
| 50             | 9.97      | 34.799           |                    | 0.32                | 0.23          | 9.8        | 2.5            |            | 2.8       |          |          |          |            | 0.20        |
| 75             | 8.10      | 35.017           |                    | 0.55                | 0.51          | 12.3       | 6.7            |            | 3.8       |          |          |          |            |             |
| 100            | 7.54      | 35.089           |                    | 0.72                | 0.65          | 12.4       | 9.4            |            | 4.4       |          |          |          |            |             |
| 150            | 7.11      | 35.150           |                    | 0.81                | 0.77          | 13.3       | 10.9           |            | 5.0       |          |          |          |            |             |
| 200            | 7.04      | 35.169           |                    | 0.82                | 0.77          | 16.5       | 11.0           |            | 5.1       | 2.9      | 0.2      | 0.0      |            |             |
| 300            | 6.95      | 35.191           |                    | 0.83                | 0.82          | 16.9       | 11.2           |            | 6.1       | 2.5      | 0.1      |          |            |             |

| Station: Lista |           | Date: 03.10.2000 | Time (UTC): 17:10  | Position: N: 58° 1' | E: 6° 32'     |            |                |            |           |          |          |          |            |             |
|----------------|-----------|------------------|--------------------|---------------------|---------------|------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|
| Ship: Brekne   |           | Institute: HFF   | Echodepth (m): 310 | Secchidepth (m): 8  | Secchicolour: |            |                |            |           |          |          |          |            |             |
| Depth          | Temp (°C) | Salinity         | Oxygen (ml/l)      | TotP (µM)           | Po4-P (µM)    | Tot-N (µM) | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0              | 13.74     | 25.693           |                    | 0.48                | 0.11          | 20.2       | 0.3            |            | 0.9       | 31.9     | 2.6      | 0.3      |            | 2.90        |
| 5              | 13.75     | 25.698           |                    | 0.40                | 0.12          | 14.2       | 0.2            |            | 0.9       | 16.5     | 1.7      | 0.2      |            | 1.90        |
| 10             | 13.73     | 25.881           |                    | 0.46                | 0.13          | 14.7       | 0.2            |            | 0.9       | 14.8     | 1.5      | 0.1      |            | 1.80        |
| 20             | 13.77     | 28.066           |                    | 0.34                | 0.14          | 13.2       | 0.2            |            | 0.8       | 11.8     | 1.5      | 0.1      |            | 1.40        |
| 30             | 13.92     | 31.847           |                    | 0.33                | 0.11          | 10.7       | 0.3            |            | 1.3       | 6.8      | 0.9      | 0.1      |            | 0.80        |
| 50             | 13.82     | 33.626           |                    | 0.33                | 0.12          | 11.9       | 0.4            |            | 1.8       |          |          |          |            | 0.70        |
| 75             | 13.05     | 34.342           |                    | 0.31                | 0.18          | 9.0        | 1.6            |            | 2.5       |          |          |          |            |             |
| 100            | 7.67      | 35.087           |                    | 0.68                | 0.59          | 13.6       | 7.9            |            | 4.3       |          |          |          |            |             |
| 150            | 7.22      | 35.156           |                    | 0.87                | 0.76          | 16.3       | 10.8           |            | 4.9       |          |          |          |            |             |
| 200            | 7.02      | 35.187           |                    | 0.88                | 0.80          | 18.5       | 11.3           |            | 5.3       | 3.7      | 0.5      | 0.2      |            |             |
| 300            | 7.00      | 35.221           |                    | 0.90                | 0.85          | 18.3       | 11.9           |            | 7.7       | 4.3      | 0.5      |          |            |             |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

| Station: Lista |           | Date: 10.11.2000 | Time (UTC): 12:00  | Position: N: 58° 1' | E: 6° 32'     |            |                |            |           |          |          |          |            |             |
|----------------|-----------|------------------|--------------------|---------------------|---------------|------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|
| Ship: Brekne   |           | Institute: HFF   | Echodepth (m): 310 | Secchidepth (m): 8  | Secchicolour: |            |                |            |           |          |          |          |            |             |
| Depth          | Temp (°C) | Salinity         | Oxygen (ml/l)      | TotP (µM)           | Po4-P (µM)    | Tot-N (µM) | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0              | 11.64     | 30.885           |                    | 0.71                | 0.43          | 16.0       | 4.0            |            | 4.6       | 10.7     | 1.6      | 0.2      |            | 1.10        |
| 5              | 11.74     | 31.272           |                    | 0.86                | 0.47          | 14.2       | 3.9            |            | 4.3       | 6.5      | 0.8      | 0.1      |            | 0.50        |
| 10             | 11.94     | 31.695           |                    | 0.60                | 0.47          | 13.7       | 3.8            |            | 4.0       | 6.6      | 0.8      | 0.1      |            | 0.20        |
| 20             | 12.67     | 32.739           |                    | 0.54                | 0.45          | 12.8       | 3.6            |            | 3.4       | 8.0      | 0.7      | 0.1      |            | 0.20        |
| 30             | 13.00     | 33.386           |                    | 0.56                | 0.44          | 11.9       | 3.4            |            | 3.2       | 3.8      | 0.5      | 0.1      |            | 0.20        |
| 50             | 12.87     | 34.027           |                    | 0.56                | 0.45          | 11.4       | 3.2            |            | 3.2       |          |          |          |            | 0.20        |
| 75             | 12.98     | 34.294           |                    | 0.56                | 0.46          | 10.1       | 3.0            |            | 3.0       |          |          |          |            |             |
| 100            | 12.70     | 34.584           |                    | 0.52                | 0.44          | 10.8       | 3.0            |            | 3.0       |          |          |          |            |             |
| 150            | 7.38      | 35.135           |                    | 0.88                | 0.80          | 16.0       | 9.9            |            | 5.2       |          |          |          |            |             |
| 200            | 7.07      | 35.184           |                    | 0.96                | 0.88          | 17.4       | 11.7           |            | 6.4       | 3.2      | 0.3      | 0.0      |            |             |
| 300            | 7.05      | 35.183           |                    | 0.98                | 0.92          | 17.2       | 12.1           |            | 6.7       | 3.4      | 0.3      |          |            |             |

| Station: Lista |           | Date: 11.12.2000 | Time (UTC): 14:15  | Position: N: 58° 1' | E: 6° 32'     |            |                |            |           |          |          |          |            |             |
|----------------|-----------|------------------|--------------------|---------------------|---------------|------------|----------------|------------|-----------|----------|----------|----------|------------|-------------|
| Ship: Brekne   |           | Institute: HFF   | Echodepth (m): 310 | Secchidepth (m): 7  | Secchicolour: |            |                |            |           |          |          |          |            |             |
| Depth          | Temp (°C) | Salinity         | Oxygen (ml/l)      | TotP (µM)           | Po4-P (µM)    | Tot-N (µM) | NO3+NO2-N (µM) | NH4-N (µM) | SiO3 (µM) | POC (µM) | PON (µM) | POP (µM) | TSM (mg/l) | Chla (µg/l) |
| 0              | 9.44      | 30.267           |                    | 0.76                | 0.52          | 16.9       | 6.6            |            | 6.2       | 6.2      | 0.7      | 0.1      |            | 0.40        |
| 5              | 9.45      | 30.287           |                    | 0.73                | 0.53          | 17.2       | 7.2            |            | 6.2       | 5.8      | 0.6      | 0.0      |            | 0.30        |
| 10             | 9.46      | 30.313           |                    | 0.73                | 0.53          | 16.8       | 7.3            |            | 6.1       | 4.5      | 0.5      | 0.0      |            | 0.30        |
| 20             | 9.55      | 31.247           |                    | 0.75                | 0.54          | 17.5       | 7.5            |            | 5.9       | 5.8      | 0.5      | 0.0      |            | 0.30        |
| 30             | 11.24     | 33.070           |                    | 0.73                | 0.53          | 14.7       | 5.7            |            | 4.6       | 3.0      | 0.3      | 0.0      |            | 0.10        |
| 50             | 11.79     | 34.238           |                    | 0.62                | 0.50          | 11.6       | 4.6            |            | 3.9       |          |          |          |            | 0.10        |
| 75             | 11.58     | 34.438           |                    | 0.62                | 0.49          | 14.0       | 4.5            |            | 3.7       |          |          |          |            |             |
| 100            | 10.79     | 34.613           |                    | 0.62                | 0.57          | 11.2       | 4.4            |            | 4.0       |          |          |          |            |             |
| 150            | 8.94      | 34.922           |                    | 0.68                | 0.64          | 15.2       | 7.7            |            | 5.3       |          |          |          |            |             |
| 200            | 7.52      | 35.084           |                    | 0.88                | 0.76          | 18.6       | 10.0           |            | 5.9       | 2.9      | 0.2      | 0.0      |            |             |
| 300            | 7.11      | 35.122           |                    | 0.95                | 0.83          | 15.2       | 11.5           |            | 6.7       | 2.7      | 0.2      |          |            |             |

### 3.5 Jomfrulandsrennen

|                            |           |          |                  |                     |                        |                            |
|----------------------------|-----------|----------|------------------|---------------------|------------------------|----------------------------|
| Station: Jomfrulandsrennen |           |          | Date: 25.01.2000 | Time (UTC): 09:10   | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 24   | Secchidepth (m): 8.5   | Secchicolour: Yellow/green |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)          |                        |                            |
| 0                          | 1.55      | 21.289   | 0.52             | 31.1                |                        |                            |
| Station: Jomfrulandsrennen |           |          | Date: 09.02.2000 | Time (UTC): 08:43   | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 24.5 | Secchidepth (m): 9     | Secchicolour: Green        |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)          |                        |                            |
| 0                          | 4.31      | 27.824   | 0.55             | 27.8                |                        |                            |
| Station: Jomfrulandsrennen |           |          | Date: 22.02.2000 | Time (UTC): 12:10   | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 24   | Secchidepth (m): 9     | Secchicolour: Grey/green   |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)          |                        |                            |
| 0                          | 1.52      | 22.831   | 0.52             | 25.7                |                        |                            |
| Station: Jomfrulandsrennen |           |          | Date: 16.03.2000 | Time (UTC): 13:15   | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Hugin                |           |          | Institute: NIVA  | Echodepth (m): 22   | Secchidepth (m): 8.5   | Secchicolour: Grey/green   |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)          |                        |                            |
| 0                          | 3.97      | 29.694   | 0.55             | 20.0                |                        |                            |
| Station: Jomfrulandsrennen |           |          | Date: 29.03.2000 | Time (UTC): 10:20   | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Hugin                |           |          | Institute: NIVA  | Echodepth (m): 23   | Secchidepth (m): 11    | Secchicolour: Green        |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)          |                        |                            |
| 0                          | 3.32      | 22.221   | 0.36             | 26.8                |                        |                            |

|                            |                  |                     |                        |                            |
|----------------------------|------------------|---------------------|------------------------|----------------------------|
| Station: Jomfrulandsrennen | Date: 25.01.2000 | Time (UTC): 09:10   | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                | Institute: NIVA  | Echodepth (m): 24   | Secchidepth (m): 8.5   | Secchicolour: Yellow/green |
| Depth                      | Temp (°C)        | Salinity            | TotP (µM)              | Tot-N (µM)                 |
| 0                          | 1.55             | 21.289              | 0.52                   | 31.1                       |
| Station: Jomfrulandsrennen | Date: 09.02.2000 | Time (UTC): 08:43   | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                | Institute: NIVA  | Echodepth (m): 24.5 | Secchidepth (m): 9     | Secchicolour: Green        |
| Depth                      | Temp (°C)        | Salinity            | TotP (µM)              | Tot-N (µM)                 |
| 0                          | 4.31             | 27.824              | 0.55                   | 27.8                       |
| Station: Jomfrulandsrennen | Date: 22.02.2000 | Time (UTC): 12:10   | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                | Institute: NIVA  | Echodepth (m): 24   | Secchidepth (m): 9     | Secchicolour: Grey/green   |
| Depth                      | Temp (°C)        | Salinity            | TotP (µM)              | Tot-N (µM)                 |
| 0                          | 1.52             | 22.831              | 0.52                   | 25.7                       |
| Station: Jomfrulandsrennen | Date: 16.03.2000 | Time (UTC): 13:15   | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Hugin                | Institute: NIVA  | Echodepth (m): 22   | Secchidepth (m): 8.5   | Secchicolour: Grey/green   |
| Depth                      | Temp (°C)        | Salinity            | TotP (µM)              | Tot-N (µM)                 |
| 0                          | 3.97             | 29.694              | 0.55                   | 20.0                       |
| Station: Jomfrulandsrennen | Date: 29.03.2000 | Time (UTC): 10:20   | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Hugin                | Institute: NIVA  | Echodepth (m): 23   | Secchidepth (m): 11    | Secchicolour: Green        |
| Depth                      | Temp (°C)        | Salinity            | TotP (µM)              | Tot-N (µM)                 |
| 0                          | 3.32             | 22.221              | 0.36                   | 26.8                       |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

|                            |                  |                   |                        |                           |
|----------------------------|------------------|-------------------|------------------------|---------------------------|
| Station: Jomfrulandsrennen | Date: 11.04.2000 | Time (UTC): 11:24 | Position: N: 58° 53.5' | E: 9° 37'                 |
| Ship: Hugin                | Institute: NIVA  | Echodepth (m): 22 | Secchidepth (m): 13.5  | Secchicolour: Light green |
| Depth                      | Temp (°C)        | Salinity          | TotP (µM)              | Tot-N (µM)                |
| 0                          | 5.29             | 21.648            | 0.19                   | 19.3                      |
| Station: Jomfrulandsrennen | Date: 26.04.2000 | Time (UTC): 09:40 | Position: N: 58° 53.5' | E: 9° 37'                 |
| Ship: Munin                | Institute: NIVA  | Echodepth (m): 25 | Secchidepth (m): 8.5   | Secchicolour: Grey/green  |
| Depth                      | Temp (°C)        | Salinity          | TotP (µM)              | Tot-N (µM)                |
| 0                          | 7.91             | 16.258            | 0.19                   | 20.7                      |
| Station: Jomfrulandsrennen | Date: 08.05.2000 | Time (UTC): 12:35 | Position: N: 58° 53.5' | E: 9° 37'                 |
| Ship: Hugin                | Institute: NIVA  | Echodepth (m): 22 | Secchidepth (m): 8.5   | Secchicolour: Grey/green  |
| Depth                      | Temp (°C)        | Salinity          | TotP (µM)              | Tot-N (µM)                |
| 0                          | 13.96            | 15.049            | 0.29                   | 27.8                      |
| Station: Jomfrulandsrennen | Date: 01.06.2000 | Time (UTC): 16:36 | Position: N: 58° 53.5' | E: 9° 37'                 |
| Ship: Munin                | Institute: NIVA  | Echodepth (m): 25 | Secchidepth (m): 4.5   | Secchicolour: Green       |
| Depth                      | Temp (°C)        | Salinity          | TotP (µM)              | Tot-N (µM)                |
| 0                          | 12.22            | 23.378            | 0.39                   | 23.9                      |
| Station: Jomfrulandsrennen | Date: 20.06.2000 | Time (UTC): 08:00 | Position: N: 58° 53.5' | E: 9° 37'                 |
| Ship: Munin                | Institute: NIVA  | Echodepth (m): 25 | Secchidepth (m): 9     | Secchicolour: Green       |
| Depth                      | Temp (°C)        | Salinity          | TotP (µM)              | Tot-N (µM)                |
| 0                          | 14.01            | 26.908            | 0.16                   | 16.1                      |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

|                            |           |          |                  |                   |                        |                            |
|----------------------------|-----------|----------|------------------|-------------------|------------------------|----------------------------|
| Station: Jomfrulandsrennen |           |          | Date: 10.07.2000 | Time (UTC): 00:38 | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 24 | Secchidepth (m):       | Secchicolour:              |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                            |
| 0                          | 16.39     | 24.662   | 0.19             | 13.6              |                        |                            |
| Station: Jomfrulandsrennen |           |          | Date: 26.07.2000 | Time (UTC): 08:00 | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 25 | Secchidepth (m): 6     | Secchicolour: Green        |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                            |
| 0                          | 17.61     | 23.154   | 0.32             | 25.7              |                        |                            |
| Station: Jomfrulandsrennen |           |          | Date: 09.08.2000 | Time (UTC): 09:45 | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 23 | Secchidepth (m): 8     | Secchicolour: Yellow/green |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                            |
| 0                          | 16.70     | 23.446   | 0.39             | 18.6              |                        |                            |
| Station: Jomfrulandsrennen |           |          | Date: 22.08.2000 | Time (UTC): 06:55 | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 24 | Secchidepth (m): 6.5   | Secchicolour: Yellow/green |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                            |
| 0                          | 16.66     | 21.436   | 0.55             | 20.6              |                        |                            |
| Station: Jomfrulandsrennen |           |          | Date: 06.09.2000 | Time (UTC):       | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 24 | Secchidepth (m): 6     | Secchicolour: Green        |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                            |
| 0                          |           |          | 0.29             | 17.5              |                        |                            |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

|                            |           |          |                  |                     |                        |                           |
|----------------------------|-----------|----------|------------------|---------------------|------------------------|---------------------------|
| Station: Jomfrulandsrennen |           |          | Date: 27.09.2000 | Time (UTC):         | Position: N: 58° 53.5' | E: 9° 37'                 |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 24   | Secchidepth (m): 7.5   | Secchicolour: Brown/green |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)          |                        |                           |
| 0                          |           |          | 0.39             | 19.3                |                        |                           |
| Station: Jomfrulandsrennen |           |          | Date: 13.11.2000 | Time (UTC): 13:15   | Position: N: 58° 53.5' | E: 9° 37'                 |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 23   | Secchidepth (m): 3.5   | Secchicolour: Yellow      |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)          |                        |                           |
| 0                          |           |          | 0.52             | 26.1                |                        |                           |
| Station: Jomfrulandsrennen |           |          | Date: 29.11.2000 | Time (UTC): 10:54   | Position: N: 58° 53.5' | E: 9° 37'                 |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 24.5 | Secchidepth (m): 2.5   | Secchicolour: Brown/green |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)          |                        |                           |
| 0                          | 7.59      | 15.784   | 0.52             | 26.8                |                        |                           |
| Station: Jomfrulandsrennen |           |          | Date: 19.12.2000 | Time (UTC): 10:20   | Position: N: 58° 53.5' | E: 9° 37'                 |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 25   | Secchidepth (m): 3.5   | Secchicolour: Brown       |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)          |                        |                           |
| 0                          | 5.71      | 19.445   | 0.58             | 24.3                |                        |                           |
| Station: Jomfrulandsrennen |           |          | Date: 11.04.2000 | Time (UTC): 11:24   | Position: N: 58° 53.5' | E: 9° 37'                 |
| Ship: Hugin                |           |          | Institute: NIVA  | Echodepth (m): 22   | Secchidepth (m): 13.5  | Secchicolour: Light green |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)          |                        |                           |
| 0                          | 5.29      | 21.648   | 0.19             | 19.3                |                        |                           |



Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

|                            |           |          |                  |                   |                        |                          |
|----------------------------|-----------|----------|------------------|-------------------|------------------------|--------------------------|
| Station: Jomfrulandsrennen |           |          | Date: 26.04.2000 | Time (UTC): 09:40 | Position: N: 58° 53.5' | E: 9° 37'                |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 25 | Secchidepth (m): 8.5   | Secchicolour: Grey/green |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                          |
| 0                          | 7.91      | 16.258   | 0.19             | 20.7              |                        |                          |
| Station: Jomfrulandsrennen |           |          | Date: 08.05.2000 | Time (UTC): 12:35 | Position: N: 58° 53.5' | E: 9° 37'                |
| Ship: Hugin                |           |          | Institute: NIVA  | Echodepth (m): 22 | Secchidepth (m): 8.5   | Secchicolour: Grey/green |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                          |
| 0                          | 13.96     | 15.049   | 0.29             | 27.8              |                        |                          |
| Station: Jomfrulandsrennen |           |          | Date: 01.06.2000 | Time (UTC): 16:36 | Position: N: 58° 53.5' | E: 9° 37'                |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 25 | Secchidepth (m): 4.5   | Secchicolour: Green      |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                          |
| 0                          | 12.22     | 23.378   | 0.39             | 23.9              |                        |                          |
| Station: Jomfrulandsrennen |           |          | Date: 20.06.2000 | Time (UTC): 08:00 | Position: N: 58° 53.5' | E: 9° 37'                |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 25 | Secchidepth (m): 9     | Secchicolour: Green      |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                          |
| 0                          | 14.01     | 26.908   | 0.16             | 16.1              |                        |                          |
| Station: Jomfrulandsrennen |           |          | Date: 10.07.2000 | Time (UTC): 00:38 | Position: N: 58° 53.5' | E: 9° 37'                |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 24 | Secchidepth (m):       | Secchicolour:            |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                          |
| 0                          | 16.39     | 24.662   | 0.19             | 13.6              |                        |                          |

|                            |           |          |                  |                   |                        |                            |
|----------------------------|-----------|----------|------------------|-------------------|------------------------|----------------------------|
| Station: Jomfrulandsrennen |           |          | Date: 26.07.2000 | Time (UTC): 08:00 | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 25 | Secchidepth (m): 6     | Secchicolour: Green        |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                            |
| 0                          | 17.61     | 23.154   | 0.32             | 25.7              |                        |                            |
| Station: Jomfrulandsrennen |           |          | Date: 09.08.2000 | Time (UTC): 09:45 | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 23 | Secchidepth (m): 8     | Secchicolour: Yellow/green |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                            |
| 0                          | 16.70     | 23.446   | 0.39             | 18.6              |                        |                            |
| Station: Jomfrulandsrennen |           |          | Date: 22.08.2000 | Time (UTC): 06:55 | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 24 | Secchidepth (m): 6.5   | Secchicolour: Yellow/green |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                            |
| 0                          | 16.66     | 21.436   | 0.55             | 20.6              |                        |                            |
| Station: Jomfrulandsrennen |           |          | Date: 06.09.2000 | Time (UTC):       | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 24 | Secchidepth (m): 6     | Secchicolour: Green        |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                            |
| 0                          |           |          | 0.29             | 17.5              |                        |                            |
| Station: Jomfrulandsrennen |           |          | Date: 27.09.2000 | Time (UTC):       | Position: N: 58° 53.5' | E: 9° 37'                  |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 24 | Secchidepth (m): 7.5   | Secchicolour: Brown/green  |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)        |                        |                            |
| 0                          |           |          | 0.39             | 19.3              |                        |                            |

Langtidsovervåking av miljøkvaliteten i kystområdene av Norge. Hydrografi/hydrokjemi. Datarapport 2000. (TA-1878/2002)

|                            |           |          |                  |                     |                        |                           |
|----------------------------|-----------|----------|------------------|---------------------|------------------------|---------------------------|
| Station: Jomfrulandsrennen |           |          | Date: 13.11.2000 | Time (UTC): 13:15   | Position: N: 58° 53.5' | E: 9° 37'                 |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 23   | Secchidepth (m): 3.5   | Secchicolour: Yellow      |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)          |                        |                           |
| 0                          |           |          | 0.52             | 26.1                |                        |                           |
| Station: Jomfrulandsrennen |           |          | Date: 29.11.2000 | Time (UTC): 10:54   | Position: N: 58° 53.5' | E: 9° 37'                 |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 24.5 | Secchidepth (m): 2.5   | Secchicolour: Brown/green |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)          |                        |                           |
| 0                          | 7.59      | 15.784   | 0.52             | 26.8                |                        |                           |
| Station: Jomfrulandsrennen |           |          | Date: 19.12.2000 | Time (UTC): 10:20   | Position: N: 58° 53.5' | E: 9° 37'                 |
| Ship: Munin                |           |          | Institute: NIVA  | Echodepth (m): 25   | Secchidepth (m): 3.5   | Secchicolour: Brown       |
| Depth                      | Temp (°C) | Salinity | TotP (µM)        | Tot-N (µM)          |                        |                           |
| 0                          | 5.71      | 19.445   | 0.58             | 24.3                |                        |                           |



**Statens forurensningstilsyn (SFT)**

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|  |                                   |                              |
|--|-----------------------------------|------------------------------|
| Utførende institusjon<br>Norsk institutt for vannforskning | Kontaktperson SFT<br>Karen Fjøsne | ISBN-nummer<br>82-577-4192-2 |
|--|-----------------------------------|------------------------------|

|  |                       |                        |
|--|-----------------------|------------------------|
|  | Avdeling i SFT<br>OMI | TA-nummer<br>1878/2002 |
|--|-----------------------|------------------------|

|  |            |                |                                |
|--|------------|----------------|--------------------------------|
| Oppdragstakers prosjektansvarlig<br>Frithjof Moy | År<br>2000 | Sidetall<br>41 | SFTs kontraktnummer<br>2001092 |
|--|------------|----------------|--------------------------------|

|  |  |
|--|--|
| Utgiver<br>Norsk institutt for vannforskning<br>NIVA-rapport 4538-02 | Prosjektet er finansiert av<br>Statens forurensningstilsyn |
|--|--|

|   |
|---|
| Tittel<br><br>Langtidsovervåking av miljøkvaliteten i kystområdene av Norge.<br>Hydrografi/hydrokjemii. Datarapport 2000.   |
| Sammendrag<br><br>Rapporten gjengir hydrografiske/hydrokjemiske observasjoner fra 4 stasjoner i kystvannet mellom svenskegrensen og Lista i 2000.<br><br>Det er gjennomført 18 tokt til Jomfruland, 21 tokt til Arendal St. 2 og 12 tokt til Arendal St. 3 og Lista, jevnt fordelt over året. |

|   |  |
|---|--|
| 4 emneord<br>Langtidsovervåking<br>Trofiutvikling<br>Norskekysten<br>Hydrografi/hydrokjemii | 4 subject words<br>Long-term monitoring<br>Eutrophication<br>Norwegian Coast<br>Hydrography/hydrochemistry |
|---|--|