



Norwegian Pollution
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Report 623/95

Paris Convention

Annual report on direct and riverine
inputs to Norwegian coastal waters during
the year 1994

A Principles, results and discussions

B Data report



The National Environmental
Monitoring Programme

Paris Convention

Annual report on direct and riverine inputs to
Norwegian coastal waters during the year 1994

- A Principles, results and discussion**
- B Data report**

Oslo, October 1995

Project manager: Gjertrud Holtan

Co-workers: Dag Berge
Hans Holtan
Terje Hopen

NIVA - REPORT

Norwegian Institute for Water Research  NIVA

Report No.: O-90001	Sub-No.:
Serial No.: 3361	Limited distrib.:

Main Office P.O. Box 173, Kjelsås N-0411 Oslo Norway Phone (47) 22 18 51 00 Telefax (47) 22 18 52 00	Regional Office, Sørlandet Televeien 1 N-4890 Grimstad Norway Phone (47) 37 04 30 33 Telefax (47) 37 04 45 13	Regional Office, Østlandet Rute 866 N-2312 Ottestad Norway Phone (47) 62 57 64 00 Telefax (47) 62 57 66 53	Regional Office, Vestlandet Thormøhlensgt 55 N-5008 Bergen Norway Phone (47) 55 32 56 40 Telefax (47) 55 32 88 33	Akvaplan-NIVA A/S Søndre Tollbugate 3 N-9000 Tromsø Norway Phone (47) 77 68 52 80 Telefax (47) 77 68 05 09
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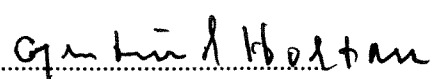
Report Title: Paris Convention Annual report on direct and riverine inputs to Norwegian coastal waters during the year 1994. A. Principles, results and discussion. B. Data report.	Date: 25.10.1995	Printed: NIVA 1995
Author(s): Gjertrud Holtan Dag Berge Hans Holtan Terje Hopen	Geographical area: Norway	Pages: 136
	Edition: 175	

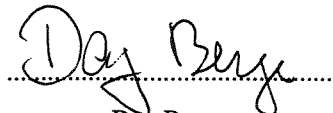
Client(s): Norwegian Pollution Control Authority (SFT)	Client ref.:
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Abstract:
Riverine inputs of nutrients, selected heavy metals and organic micropollutants to Norwegian coastal waters from 10 main and 145 tributary rivers have been monitored during 1994. The inputs from rivers not monitored as well as direct discharges to marine waters along the coast from Sweden to Russia have been estimated. According to the results, total annual nutrient load to coastal waters from landbased sources, is approximately 4100 tonnes of phosphorus and 98100 tonnes of nitrogen. About 30 per cent of the phosphorus and 60 per cent of the nitrogen are inputs from the monitored rivers and tributaries. Most inputs of heavy metals are low, especially the riverine inputs of Cd, Pb and Hg. A few values of Cd and Pb are below the detection limits of the specific analysis, and about 50 % of the Hg-analyses except for the "Skagerrak-rivers", where more than 60 % of the Hg-values were above the detection limit. Most values of the different congeners of PCB were below the detection limit. The pesticide lindane is detected in most analyses in small amounts. Total load of this compound is estimated to about 89 kg. The largest yields from heavy metals comprise copper and zinc, with input estimates of 237 and 905 tonnes, respectively. Retention in the fjords is not included in the above mentioned values, which in several cases would reduce the actual load to open marine waters considerably.

- 4 keywords, Norwegian
1. Forurensningstilførsler
 2. Norske kystområder
 3. Elvetilførsler
 4. Direkte tilførsler

- 4 keywords, English
1. Pollution inputs
 2. Norwegian coastal waters
 3. Riverine inputs
 4. Direct discharges

Project manager

Gjertrud Holtan

For the Administration

Dag Berge

82-577-2862-4

PREFACE

The report presents the data from the 1994 monitoring of waterborne pollutants, both riverine and direct discharges, to the Norwegian coastal waters. The study is part of a joint monitoring programme under the "Paris Convention for the prevention of Marine Pollution from Landbased Sources". The Norwegian contribution is administered by the Norwegian Pollution Control Authority (SFT) which has contracted the Norwegian Institute for Water Research (NIVA) to perform the actual investigations.

The 1994-investigation lasted from January throughout December. This report is the Norwegian part of the 1994 study, divided into two parts:

A: Principles - Results and Discussion

B: Data Report.

The Programme Committee has consisted of Dag Rosland (SFT), Dag Berge and Hans Holtan (NIVA). The practical investigation is coordinated, and performed by Gjertrud Holtan (NIVA). The calculations of all data has been performed by Terje Hopen (NIVA). The names of all participants are given in paragraph 5.

We would like to express our gratitude to all participants of the investigation, especially to the local fieldworkers for the collection and transport of the samples. The contact persons at the County Environmental Agencies and at the Municipalities of Oslo and Bærum are acknowledged for continuous support and goodwill. The contact persons at the Norwegian Water Resources and Energy Administration (NVE) and The Norwegian Meteorological Institute (DNMI), Per Lofsberg and Stein Kristiansen, are acknowledged for their kind cooperation.

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Report B:

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SUMMARY AND CONCLUSIONS

In 1988, the Paris Commission decided to launch a comprehensive annual monitoring programme covering inputs of selected pollutants to Convention Waters. The programme was to commence in 1990, and continue the following years (PARCOM, 10/3/2-E).

The purpose is to provide the Commission, in accordance with Article 17(B) of the Paris Convention, with an assessment of the waterborne inputs to Convention waters. Another objective of the programme is to control the fulfillment of The Ministerial Declaration of the North Sea.

In 1987 the ministers of the environment from 9 North Sea states agreed to "take effective national steps in order to reduce nutrient inputs into areas where these inputs are likely, directly or indirectly, to cause pollution, and to achieve a substantial reduction (of the order of 50%) in inputs of phosphorous and nitrogen to these areas between 1985 and 1995".

This Declaration applies for the coastal zone from the Norwegian-Swedish border to Lindesnes (the southern most point of Norway). Further discharges of selected micropollutants to the whole North Sea area are to be reduced by 50-70% depending on the micropollutant in question.

In this report the results (1994) are given for riverine inputs of 10 main rivers and 145 tributaries. Thus the active monitoring programme covers drainage from 75 per cent of the main land areas. For discharges entering directly into marine recipients, i.e. sewage and industrial effluents, estimates are based on numbers from effluent control programmes. Area runoff of Total phosphorus, Total nitrogen, phosphates, nitrates and ammonia from these coastal zones are estimated by use of area specific runoff coefficients.

Greatest emphasis with regard to accuracy has been given to the input estimate of the Skagerrak region, as this is considered the most susceptible part of the North Sea. The Skagerrak reception of Norway's total loads are 22 per cent of the phosphorus and 41 per cent of the nitrogen yield. In this region where 90 per cent of the area is river-monitored, more than 60 per cent of the P- and 75 per cent of the N-loads, are found in the riverine inputs.

According to the results of the 1994 investigation total annual nutrient loads to coastal waters from landbased sources in Norway are approximately 4100 tonnes of phosphorus and 98100 tonnes of nitrogen. Respectively 30 and 60 per cent of the grand total inputs of phosphorus and nitrogen are monitored in the main and tributary rivers. Riverine inputs of metals and micropollutants are low. A few of the concentrations found for Cd and Pb are lower than the detection limit requested from PARCOM. Therefore, two quantities have been estimated: one assuming that the true concentration is zero and the other assuming that the true concentration is the limit of detection. This provides maximum and minimum concentrations between which lies the true estimate. When evaluating inputs these data provide a basis for upper and lower estimates.

Inputs of cadmium are thus measured/calculated to be between 9.0 and 9.3 tonnes, mercury between 355 and 443 kg. The "below detection limit problem" also applies for the inputs of PCBs which are measured to be between 37.1 and 72.8 kg. The pesticide lindane was found in all analyses, but in small amounts. Assumably, lindane contamination in Norwegian rivers is mostly due to long range air pollution. Total load is estimated to about 89 kg. The largest share of heavy metals comprise copper and zinc, with input estimates of 237 and 905 tonnes, of which 79 and 85 % respectively, is river-monitored.

Retention of nutrients and micropollutants in the many threshold fjords of Norway is not included in the above given input figures. Estimates of retention of these substances would presumably reduce the actual input to open marine waters.

For most Norwegian rivers the input to the sea, show large annual variations due to differences in water discharge. In order to use the data as a control of the fulfillment of the Ministerial Declaration of the North Sea, the chemical data from 1994 are in addition "normalized", i.e. 1994 chemical concentrations in river water have been multiplied with normal annual runoff (LTA) in the period 1961-90 (main rivers) and 1931-60 (tributary rivers).

1. INTRODUCTION

At the eighth meeting of the Paris Commission (Madrid, June 1986) it was decided to carry out a pilot project to test methods for estimating transport of pollutants from rivers to marine areas. The Norwegian part of the pilot study comprised the two rivers Glomma and Skienselva (Fig. 1). The project was carried out from August 1986 till August 1987, and reported in October 1987 (Lingsten, 1987).

At the Tenth Meeting of the Paris Commission (Lisbon, June 1988) the principles for the comprehensive study on riverine inputs were accepted. It was then decided to commence the study with measurements carried out in 1990, and continue the work in the following years (PARCOM, 10/3/2-E).

The purpose is to provide the Commission, in accordance with Article 17(B) of the Paris Convention, with an assessment of the waterborne inputs to Convention waters. Besides riverine inputs, the information sought also relates to direct discharges.

The objectives of this study are the following:

- To give a quantitative assessment, as accurately as possible, of all riverborne and direct inputs of selected pollutants to Convention waters on an annual basis;
- to report these data annually to the Paris Commission and review them periodically with regard to determining trends;
- for each country, to aim at monitoring on a regular basis 90% of the inputs of each selected pollutant;
- to control that the objectives of the Ministerial Declaration* for reducing the loads of heavy metals, organic micropollutants and nutrients to the North Sea in an order of 50 per cent, between 1985 and 1995, are fulfilled.

The study is to be completed for each calendar year and submitted to PARCOM by the autumn following the year to which the data relate.

*

In 1987 the ministers of the environment from 9 North Sea states agreed to "take effective national steps in order to reduce nutrient inputs into areas where these inputs are likely, directly or indirectly, to cause pollution, and to achieve a substantial reduction (of the order of 50%) in inputs of phosphorous and nitrogen to these areas between 1985 and 1995".

This Declaration applies for the coastal zone from the Norwegian-Swedish border to Lindesnes (the southern most point of Norway). Further discharges of selected micropollutants to the whole North Sea area are to be reduced by 50-70% depending on the micropollutant in question.

2. RIVERSYSTEMS INCLUDED IN THE STUDY

2.1 General aspects

The length of the Norwegian mainland coast line including fjords and bays is 21347 km, and the length of the islands' coast line is 35662 km. (Table 1). Because of the length of the coast line, the great numbers of rivers, and retention processes in the fjords, in- and out-washing areas, monitoring of riverborne pollutants in Norway faces quite a few problems with respect to assessing their impact on coastal waters. Further, to measure 90 % of the load from the Norwegian rivers, a great number of rivers would have to be included, which would be extremely expensive. It was therefore decided that 8 of the major load bearing rivers should be monitored in accordance with the objectives of the comprehensive study. Further it was decided that 2 "unpolluted" rivers should be monitored at a reduced, but appropriate frequency. In these 10 rivers a number of investigations have been carried out during many years, and they have all been included in the National Monitoring Programme of Watercourses (SFT, 1980 - 1994).

These investigations have mainly concentrated on nutrients. Hence data on the load of the nutrients are satisfactory, while the data on heavy metals and organic micropollutants are rather insufficient. In addition to the ten rivers it was decided to estimate the load of 145 other rivers (tributaries) based on other 1994-monitoring programmes, and existing knowledge of the river systems concerned, supplemented with random samples taken in 1994.

The total drainage area of these monitored rivers is 229152 km², while the total area of mainland Norway is 323878 km² (Table 1). Totally 306747 km² of the drainage area is included in the investigation, of which 75 per cent is river monitored (Tables 4 and 5). It was of special importance to estimate the major loads to Skagerrak. In this region the monitored rivers and tributaries cover 94 per cent of the total area, whereof the main rivers alone 80 per cent.

The coastline is divided into subareas/-regions, comprising the drainage basins of the ten main rivers with tributaries, as shown in Fig. 1. Each subarea relates to one of the four discharge-/sub-regions (Fig. 1 and I.I-I.IV (Appendix I, Report B)) which are divided as follows (see also Table 4):

Barents Sea : From the Russian border (about 70⁰30"N, 70⁰30"E),
to about 70⁰30"N, 21⁰E

Norwegian Sea: Southwards of 70⁰30"N, to about 62⁰ N

North Sea : Southwards of 62⁰ N, to the Swedish border

- Skagerrak : From Lindesnes (the southernmost point of Norway),
about 57⁰44"N to Sweden about 58⁰58"N, 11⁰E.

Some key information about Norway and the adjacent oceans is given in Table 1.

Table 1. Norway: Population, areas and length of coastline.

Population	4.2 million
<u>Area:</u>	
- Mainland Norway	323878 km ²
- The whole country incl. Svalbard and Jan Mayen	386958 km ²
<u>Coastline:</u>	
- Length of the continental coastline	21347 km
- Not including fjords and bays	2650 km
- Length of the islands' coastline	35662 km

2.2 Riversystems monitored

The rivers chosen for the comprehensive study are the same as in 1990-1993 and presented in Table 2 and Fig. 1. The rivers marked 1 to 5, represent the major load bearing rivers in Norway. As mentioned in chapter 2.1, it was of special importance to estimate the major loads to Skagerrak (Fig. I.I, Appendix I, Report B) which is an important part of the North Sea, and considered to be most susceptible to pollutions. The five rivers (No 1 to 5) drain into the Skagerrak area. River Suldalslågen (No 7) and river Alta (No 10) are "unpolluted" riversystems where actual measurements have been carried out at a reduced frequency.

Orreelva (No 6) is draining the most intensive agriculture area in Norway especially concerning domestic animals (milk and meat production). Discharges from manure stores and silos together with area runoff from heavily manured fields are causing great problems (eutrophication, including toxic algal blooms) both in Orreelva and in the other water bodies in this area.

Orkla (No 8) is also draining agriculture area, but farming in this part of the country is rather extensive compared to the Orre area. More important in this area is the abandoned mines even if situated in the upper part of the watercourse. Several other rivers in this area also receive waste -water from abandoned mines (heavy metals).

Vefsna (No 9) is a watercourse where the runoff in periods is carrying quite a lot of suspended solids and as such is comparable with other rivers in this part of the country.

Fig. 1.
Norway. Main rivers and tributaries with drainage basins, the whole country divided into four discharge regions.

Source: Norwegian water resources and energy administration.
Design: NIVA.

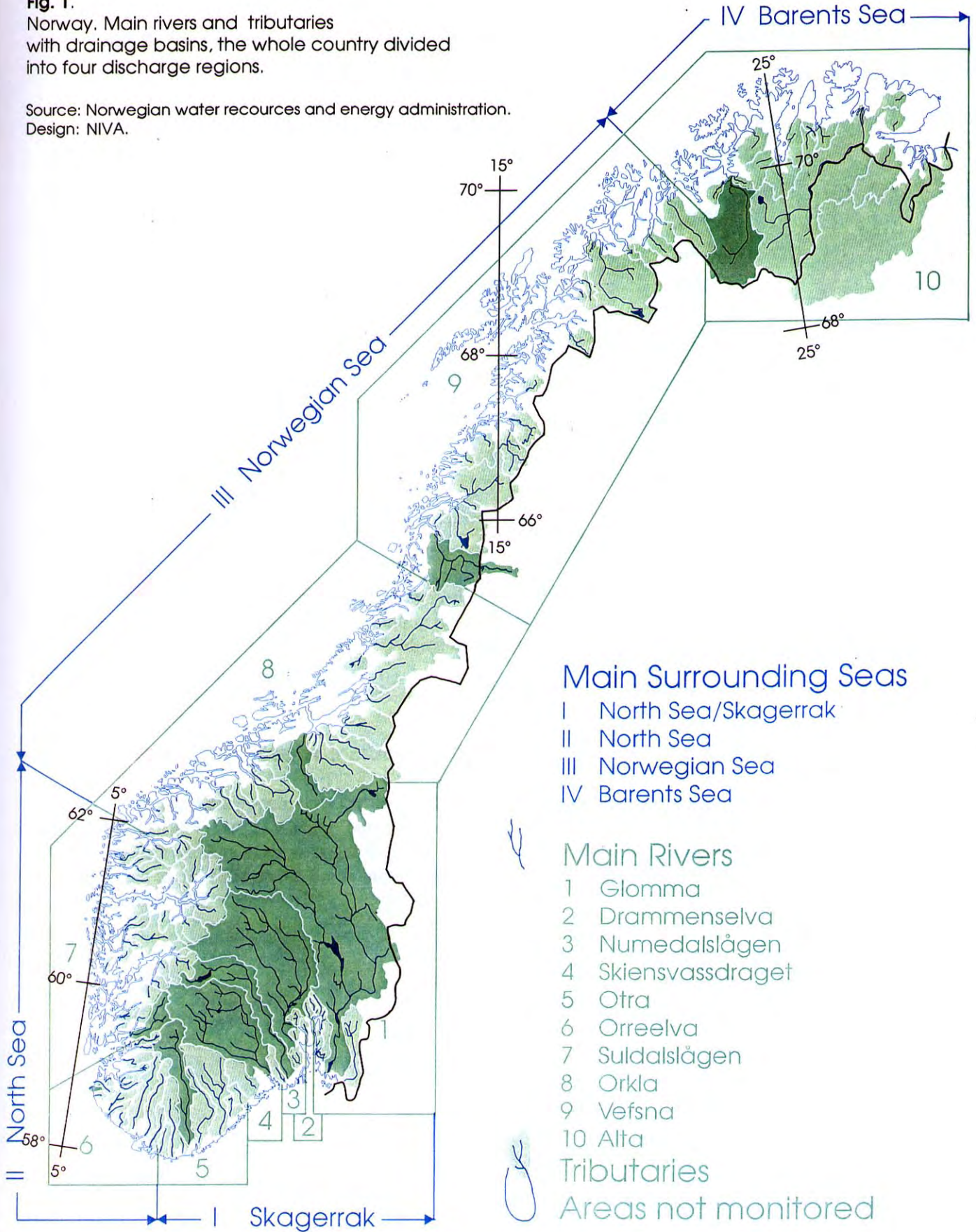


Table 2. The main rivers with catchment areas and long term average flow (LTA) 1961-90.

No	River	Catchment area, km ² (at outlet)	LTA 1000 m ³ /day (at outlet)
1	Glomma	41.918	61350
2	Drammenselva	17.034	28850
3	Numedalslågen	5.577	10200
4	Skienselva	10.772	23535
5	Otra	3.738	12870
6	Orreelva	105	335
8	Orkla	3.053	5710
9	Vefsna	4.122	15655
7	Suldalslågen	1.457	7420
10	Alta	7.373	7495
Total		95.149	

The ten water courses are all representing typical river systems in different parts of the country. As such they are very useful when estimating loads of comparable rivers, i.e corrections and adjustments in the estimates of load of tributaries, which are based on fewer data than the main rivers.

All these watercourses except Orreelva are regulated for hydroelectric power production.

2.3 Other riversystems included (tributaries)

In addition to the ten main rivers, it was determined to assess inputs from the same 145 river systems as in 1990 - 1993 (Fig. 1) using "best estimates" of concentrations and flows. In total all Norwegian rivers with catchment areas larger than 500 km², and several of the minor rivers (streams) also are included in the 1994 study. Some information about these rivers are shown in Tables 8.1-8.10 (Appendix VIII, Report B).

3. METHODOLOGY

3.1 Methodology for assessment of riverine inputs

In carrying out the Survey, the methodology described in the Commissions Document "Principles of the Comprehensive Study on Riverine Inputs" (1988 and 1993) and in the 1990-Report from Norway (Holtan et al., 1991*), was followed.

*In this document hereafter referred to as "The 1990-Report".

As for "Site selection" we refer to the abovementioned documents, but have chosen to repeat most of the text concerning "Sampling strategy and frequency", only with necessary adjustments.

Compared with the years 1990-1992 the programme was reduced in 1993, and also in 1994.

In all main rivers, except Suldalslågen and Alta it has been taken 12 samples at regular monthly intervals during the sampling period from January till December 1994 as prescribed in PARCOM 10/3/2/E.

For the "unpolluted" rivers Suldalslågen (No 7) and Alta (No 10), where, on the basis of existing knowledge, the concentration levels are very low, the requirement of 12 data sets per annum was found too stringent. These rivers were therefore sampled 4 times per annum. This sampling strategy should be sufficient enough to obtain a reliable estimate of the pollution load for these two rivers.

For the other rivers (tributaries), the concentrations are partly based on samples taken at the "standard" frequency (12, i.e. monthly, or more data sets per annum), which is the case in most rivers in the Skagerrak region. As for most rivers draining to the Norwegian Sea and the Barents Sea, the concentrations are based on measurements of samples taken at random (at least once) and compared with measurements from the last decade. With regard to the rest of the rivers, about 10 in the Orkla area, and nearly all draining to the Orre- and Suldalslågen areas, most data are from samples gathered in 1993.

For all main rivers except Suldalslågen and Alta the parameters lindane and PCBs have been monitored three times in 1994, in Suldalslågen and Alta, twice. For the other rivers these parameters and also Hg have been analyzed once in samples from the tributaries draining to the Skagerrak and up north from river Børselva in the Orkla area to river Grense Jacobselv in the Alta area (Appendix VIII, Report B). For the rest of the rivers the concentrations of lindane, PCBs and Hg are estimated on the basis of knowledge about the activity in the different drainage areas, the findings from the main rivers and samples/analyses from these areas in 1994 (paragraph 3.2.1).

The sample frequency for the main rivers is shown in Table 3.

Table 3. Sampling sites and frequency of the main rivers.

River/Location	J	F	M	A	M	J	J	A	S	O	N	D
Glomma at Sarpsfoss	x	x	x	x	x	x	x	x	x	x	x	x
Drammenselva upstr. outl.	x	x	x	x	x	x	x	x	x	x	x	x
Numedalslågen at Bommestad	x	x	x	x	x	x	x	x	x	x	x	x
Skienselva at Klosterf.	x	x	x	x	x	x	x	x	x	x	x	x
Otra upstream outlet	x	x	x	x	x	x	x	x	x	x	x	x
Orre upstream outlet	x	x	x	x	x	x	x	x	x	x	x	x
Orkla at Vormstad	x	x	x	x	x	x	x	x	x	x	x	x
Vefsna upstream Mosjøen	x	x	x	x	x	x	x	x	x	x	x	x
Suldalslågen upstream outlet		x				x		x		x		
Alta upstream Alta			x			x		x		x		

In 1994 the water samples were taken by local persons as in 1990 - 1993. The persons were carefully instructed in advance. The samples were sent to the laboratory at NIVA immediately after sampling, usually arriving a NIVA within 24 to 36 hours later.

3.2 Parameters monitored and analytical methods

3.2.1 Chemical parameters - detection limits and analytical methods

In 1994 the following parameters were monitored in accordance with the mandate: 4 nutrients (total phosphorus, orthophosphates, total nitrogen, ammonia and nitrates), 5 metals (copper, zinc, cadmium, lead and mercury), 1 pesticide (lindane) and a general parameter (suspended particulate matter, S.P.M.). PCBs were to be monitored on a voluntary basis for the 7 congeners (IUPAC numbers 28, 52, 101, 118, 138, 153 and 180).

As detailed information on methodology and obtainable limits of detection for all measured parameters were given in the 1990-Report, only new or improved methods will be described in this report.

As informed in the 1990-Report, the detection limits of the parameters Cd and Pb at the NIVA laboratory were above those requested from PARCOM. All Cd-, Pb- and also Cu- and Zn-samples from 1992 therefore have been analyzed at the Norwegian Institute for Air Research (NILU) where metal determinations are performed on an ICP-MS-instrument (NILU, 1990). On this instrument the recommended detection limits from Parcom (Cd: 10 ng/l, Pb: 0.1 µg/l) are obtainable.

According to PARCOM (10/3/2-E) it was necessary to choose an analytical method which would give at least 70 % of positive findings (i.e. above the detection limit).

As for Cd when determined on ICP-MS, more than 70 % of the findings in samples from the main rivers were positive (from 75 to 100%) and correspondingly in all main rivers for Pb (in 8 rivers 100%). As for the tributaries more than 70 % were above the detection limits both in the Cd- and Pb-samples.

From 1993 the limit of detection has been lowered from 2-1 ng/l (mercury) and from 0.05-0.03 ng/l (PCBs). This is a result of refinement and optimization of the methods. As for mercury more than 70% of the findings in the 1994-samples from three of the main rivers were above the detection limit, Glomma and Numedalslågen (83%) and Alta (75%). As for the findings from tributary rivers in the

Skagerrak area 17 of 25 river samples were higher than the detection limit (68%). As for the other main and tributary rivers, although better, we still had problems to obtain representative values for mercury, which during most of the investigation period were below the detection limit. This was also the case with PCBs. For these parameters most of the measured concentrations were extremely low, and certainly below "PARCOM-detection limits" (Appendix VII - VIII, Report B).

However, we assume that these difficulties do not affect the main results and conclusions of the 1994-study. In those cases where the results recorded were less than the limits of detection, two load quantities have been estimated, one assuming that the true concentration is zero and the other assuming that the true concentration is the limit of detection. This provides maximum and minimum concentrations within which the true estimate will fall. When used to evaluate inputs these data provide upper and lower boundaries for the estimate.

Occasionally on a voluntary basis, the metals arsenic, total chromium and nickel have been determined in some of the samples from the main and tributary rivers and are stipulated for others (Report B). These parameters also were determined on ICP-MS at NILU.

3.2.2 Method used to estimate flow rate

For the period 1931-60 the annual specific runoff from the total area of Norway is estimated at 42.9 l/s km². Expressed in volumetric units this amounts to 438 km³ water, which distributed over the whole country equals a mean runoff of 1350 mm. Mean annual runoff in Norway and from the sub-regions to the main surrounding seas for the period 1931-60 are shown in Table 4. For the main rivers mean annual runoff for the last LTA-period (1961-90) have been estimated. These values are preliminary and will be adjusted when edited and published by NVE, probably next year. For the main rivers mean annual runoff (1931-60 and 1961-90) together with annual runoff for the years 1985, 1990-1994 are shown in Fig. 2, mean annual and annual precipitation for the same stations and periods in Fig. 3. As for precipitation, normals for Norway based on the LTA-period 1961-90 were published in 1993 (DNMI, 1993).

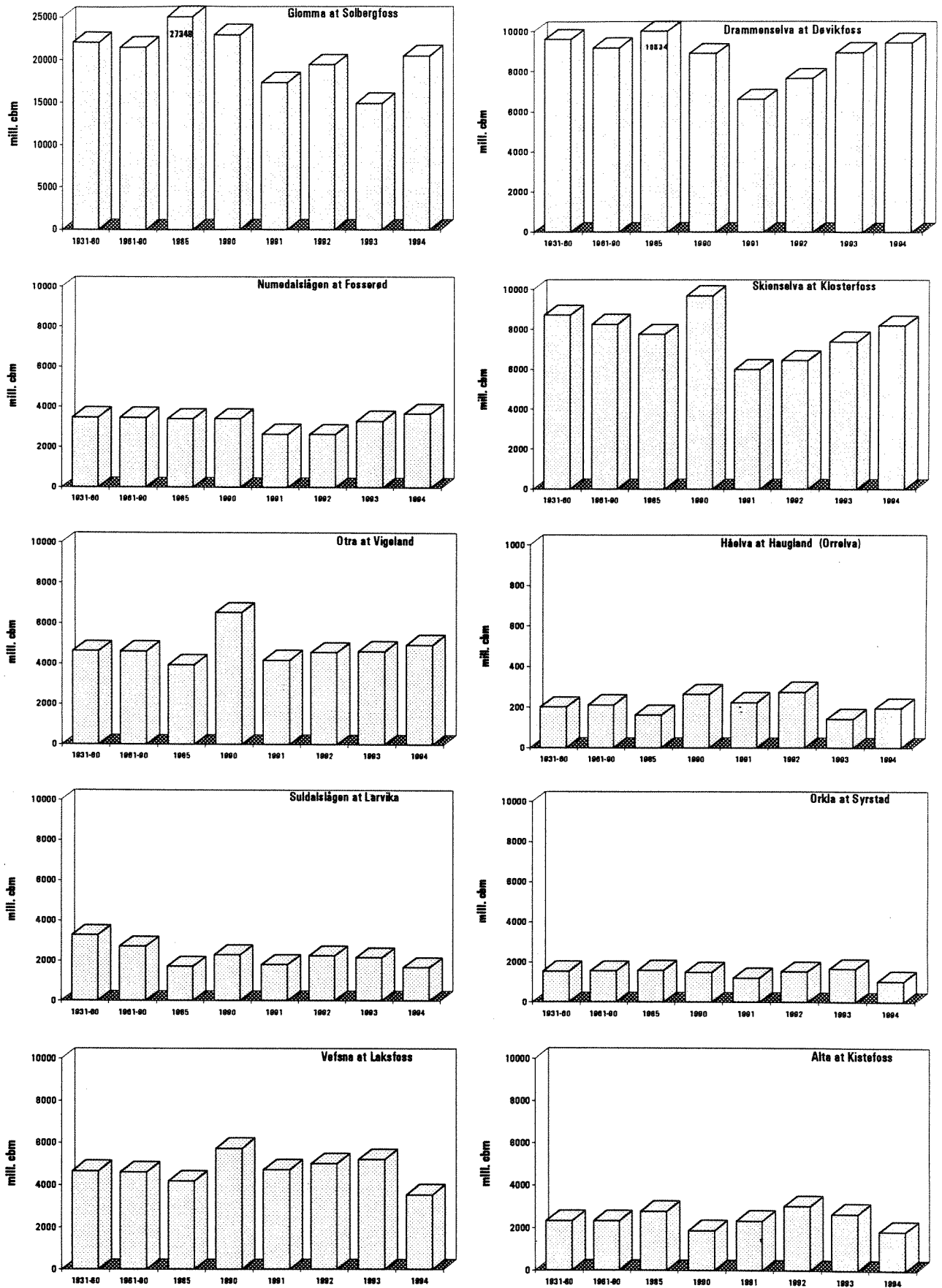
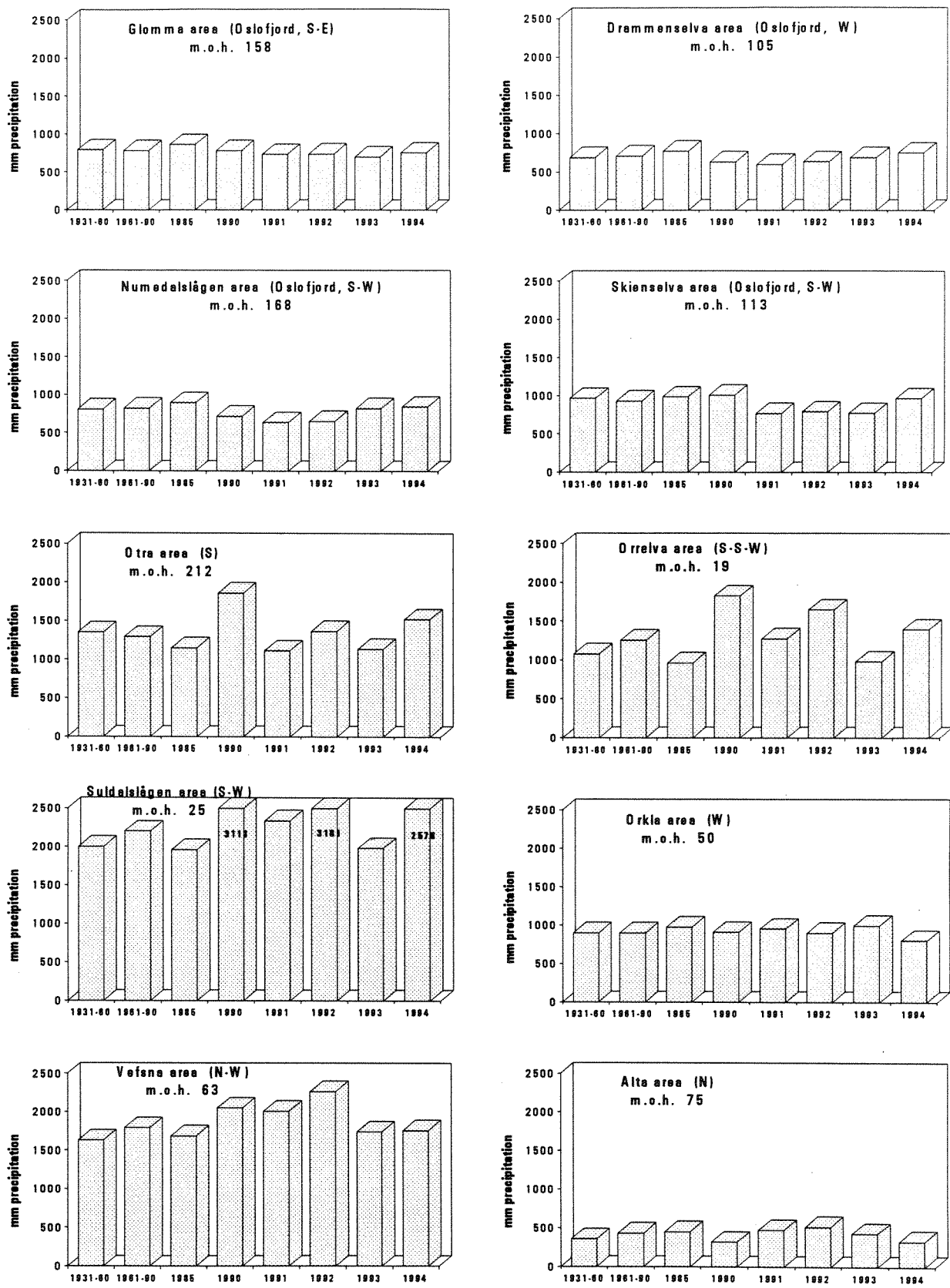


Fig. 2 Main Rivers. Mean Annual Runoff (1931-60 and 1961-90) and Annual Runoff for the Years 1985, 1990 - 1994 (mill.cbm.).

Source: Norwegian Water Resources and Energy Administration



S = South E = East W = West N = North

Fig. 3 Main Rivers. Mean Annual Precipitation (1931-60 and 1961-90) at Stations near Outlet and Annual Precipitation in the Years 1985, 1990 - 1994 (mm/year).
Source: The Norwegian Meteorological Institute

Table 4. Mean annual runoff (1931-60) from the subregions to the main surrounding seas.
(Fig. 1 and Appendix I, Report B).

Subregions	Main Seas	Drainage area, km ²	Runoff, mill. m ³
The Swedish border - Lindesnes	Skagerrak	98699	57934.47
Lindesnes - Stad	North Sea	138902	164875.88
Stad - the border of Finnmark	Norwegian Sea	94704	231928.67
Finnmark - the border of Sovjet	Barents Sea	73141	41462.90
Total		306747*	438267.45

* The difference between the total area and the area given in Table 1 is due to rivers which drain into the neighbouring countries (Sweden).

At a given location the runoff will change from one year to another and throughout the year. In natural river basins the seasonal variations will depend mostly on the distance from the coast, the altitude and the latitude, and on variations in precipitation. The mean discharge is determined both by the precipitation and the catchment area. Along the coast of Southern and Western Norway the summer low flows are usually dominant together with high runoff in autumn and winter. Thus although Western Norway has much more precipitation than Eastern Norway, its smaller catchment areas lead to much less absolute discharge in western rivers. In the central part of Southern Norway and in the Northern part of the country low water flows are typical both in summer and winter, whereas periods of higher runoff will appear during the snow melting period (spring and early summer). In late summer and in autumn the flow depends on the precipitation and may therefore vary considerably.

In all main rivers continuous observations of the rate of flow are collected. For most rivers these stations are located upstream the sampling stations (NVE, 1995). The additional water supplied is estimated using measured rainfall data from the local catchment areas (DNMI, 1995).

With regard to the river Orkla the runoff station was changed from Vormstad to Syrstad in 1993 as we were recommended by NVE to do so. According to NVE this station is more reliable than Vormstad.

For all main rivers, seasonal changes in runoff in the period 1961- 90, together with mean runoff in 1994, are shown in Fig. 4. In Fig. 5 monthly precipitation for the same period together with mean precipitation in 1994, are shown.

For the other rivers (tributaries) the runoff data partly are from continuous observations as the case is for most rivers in the Skagerrak area, and also for many of the rivers draining to the remaining North Sea. For the rest of the rivers mean runoff data (1931-60) and measured rainfall data (1994) are used for flow estimates.

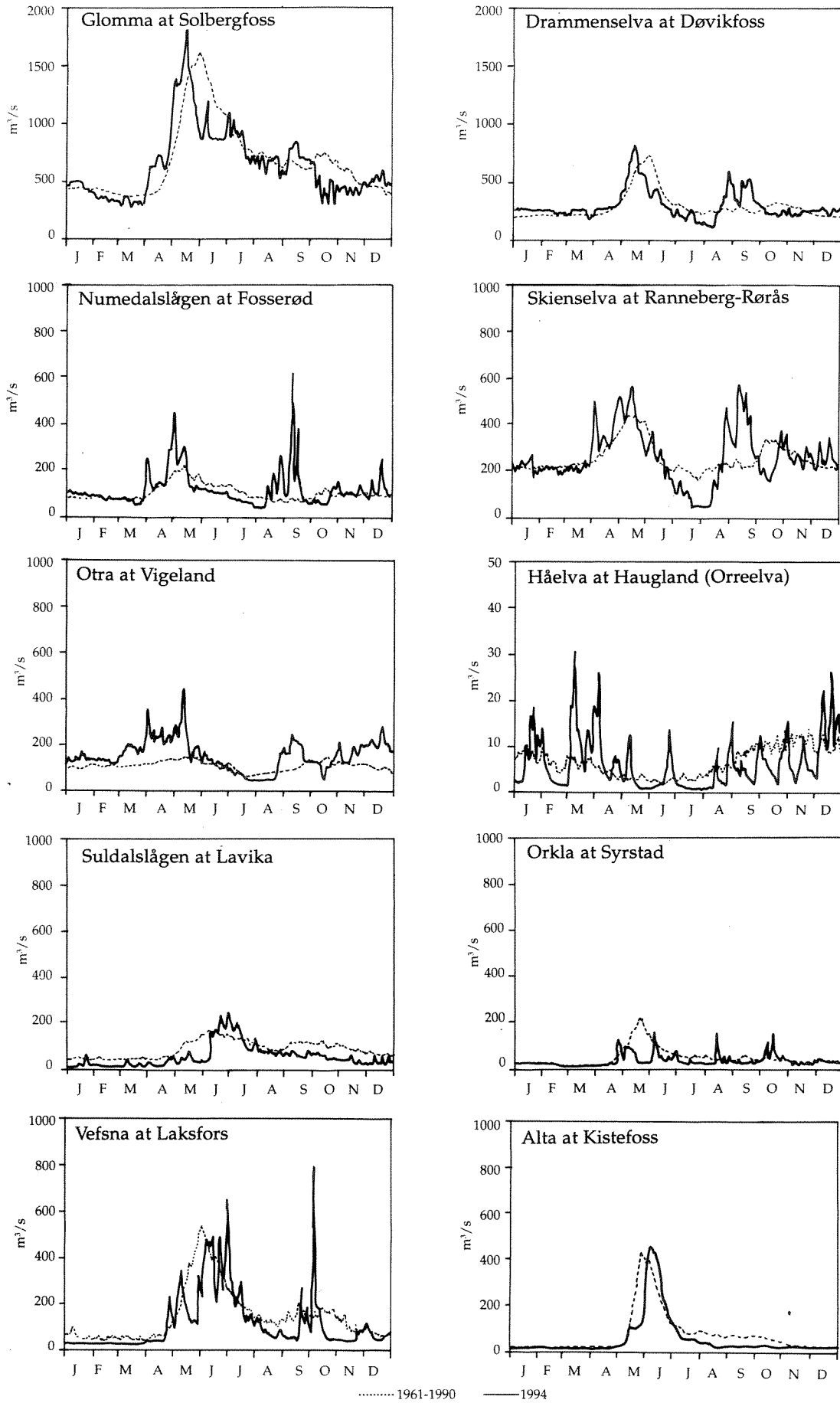
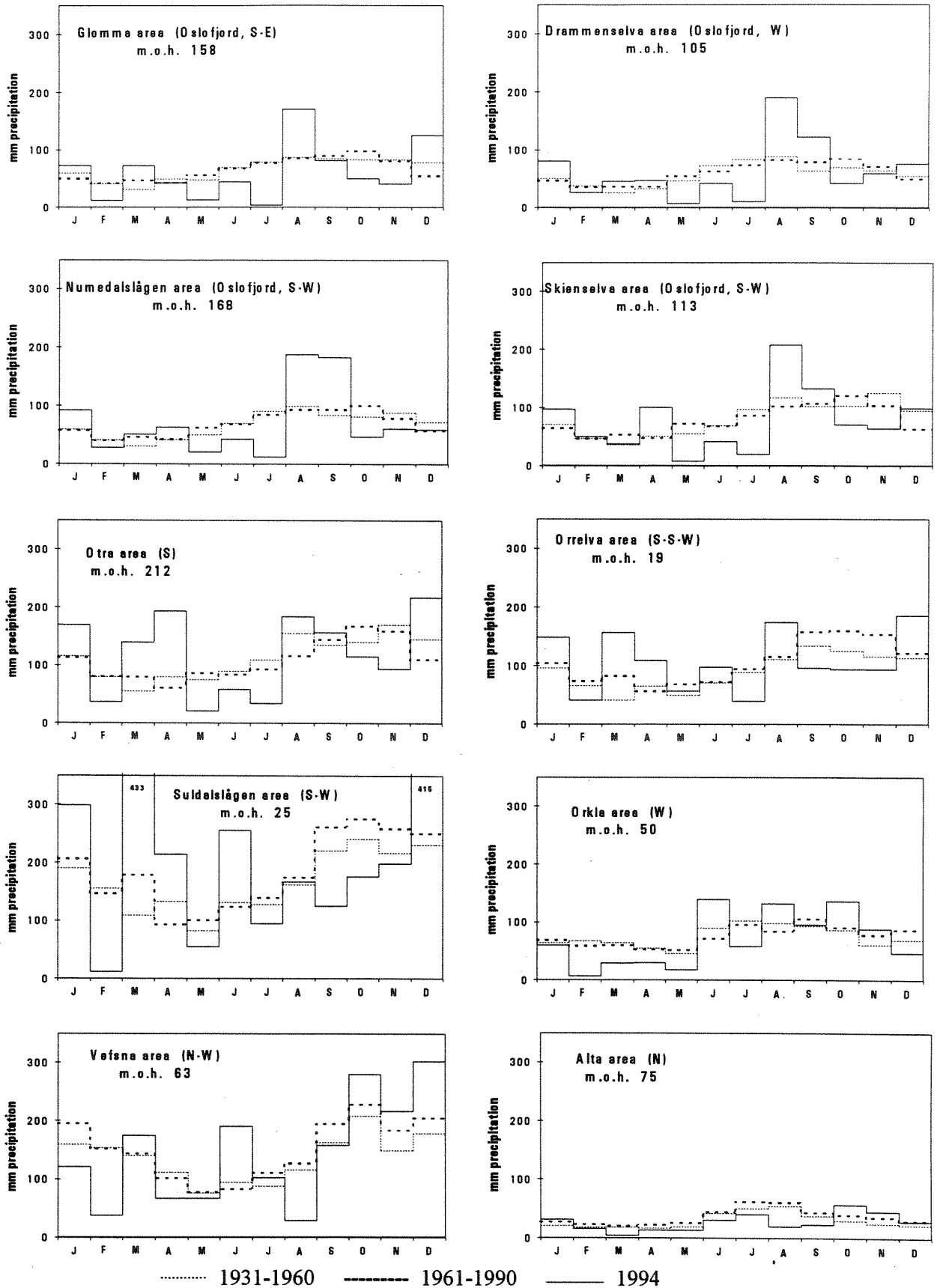


Fig. 4 Seasonal Changes in Daily Runoff (m³/s).
 Source: Norwegian Water Resources and Energy Administration



..... 1931-1960 - - - - 1961-1990 ——— 1994

S = South E = East W = West N = North

Fig. 5 Monthly Changes in Precipitation (mm/month).
 (m.o.h. = meters above sea level)
 Source: The Norwegian Meteorological Institute

3.2.3 Calculation of annual load

The first of the 2 formulas given in the Paris Commission document and the 1990-Report (Holtan et al., 1991) was used for calculating loads for all main rivers and most of the larger rivers. The second formula was used where continuous records were not available.

For the other rivers, which have been monitored only once, the best available estimates of flow (catchment area multiplied by specific runoff adjusted for deviations from normal precipitation) and flow-weighted concentrations have been used to estimate contaminant loads.

Drainage basins to the different areas and regions (km² and per cent) is shown in Table 5.

Table 5. Drainage areas of monitored main and tributary rivers and Down Stream areas (km² and per cent monitored/estimated in each subarea and subregion). (Fig. 1, Figs. I.I-I.V, Report B)

Sub-regions	Sub-areas	Drainage area of monitored rivers km ²		Down Stream areas km ²	Total km ²	Monitored %
		Main	Tributary			
Skagerrak	No 1: Glomma	41218	2389	2416	46023	94.8
	" 1: Inner Oslofiord		959	342	1301	73.7
	No 2: Drammenselva	17028	226	320	17614	98.2
	No 3: Numedalslågen	5513	1043	631	7187	91.2
	No 4: Skienselva	10348	1200	1283	12831	90.0
	No 5: Otra	3730	9109	904	13743	93.4
Total		77837	14966	5896	98699	94.0
The remaining North Sea	No 6: Orre	105	7233	2513	9851	74.5
	No 7: Suldalslågen	1466	16205	12681	30352	58.2
Total		1571	23438	15194	40203	62.2
The Norwegian Sea	No 8: Orkla	2680	28118	17036	47834	64.4
	No 9: Vefsna	4113	23907	18850	46870	59.8
Total		6793	52025	35886	94704	62.1
The Barents Sea	No 10: Alta	7367	45155	20619	73141	71.8
Total		93568	135584	77595	306747	74.7

3.3 Methodology for assessment of direct discharges to marine waters

As the methodology for assessing direct discharges to marine waters is outlined in the 1990-Report (Holtan et al., 1991), and the same procedure is adopted for 1994, we refer to the above mentioned document for further information on this matter.

3.3.1 Waste water treatment plants/sewage effluents

The Central Bureau of Statistics (SSB) and SFT have jointly initiated annual registration of data from all waste water treatment plants in the country with a capacity of more than 50 population units (p.u.*). The data are updated each year by the County Environmental Agencies. The data program SSB-AVLØP has been installed at all county governors' environmental agencies, which are responsible for collecting data from the municipalities. The county environmental agencies then send the data to SSB on disc. Since 1994 onwards, the reporting system SSB-AVLØP has been extended also to include data on scattered settlements. Discharge figures from SSB-AVLØP are reported to NIVA. NIVA uses these figures in the model "TEOTIL" to calculate the total discharges of phosphorus and nitrogen to Norwegian coastal waters. The figures take into account retention in fjords and watercourses.

In Eastern and Southern Norway a large share of the municipal waste water is purified in "high grade" plants. These areas, as well as Sør-Trøndelag, are also the areas with the highest hydraulic capacity per inhabitant. For example, the plants serving Oslo/Akershus have a capacity of more than 1.5 p.u. per inhabitant. In Hordaland and northwards along the coast the greater part of the waste water is purified mechanically. Of a total of 1822 plants that were registered at the end of 1993, 16 had a hydraulic capacity of more than 50000 p.u. These plants account for almost half the total registered hydraulic capacity and load. Only 2 of these large plants are based on mechanical purification. Fjords are the recipients of the discharges from about 65 per cent of the total capacity of the plants (SSB, 1995).

Preferably, the annual loads from sewage effluents have been estimated as the product of annual flow and flow-weighted concentrations, which previously in particular has been the case for the sewage plants situated in the Skagerrak area (i.e. the area involved in the North Sea Agreement), but from 1994 has come into force for most plans.

For the rest of the municipal wastewater, the loads were estimated by multiplying the number of people with the coefficients listed.

For crude (untreated) sewage discharges, PARCOM (10/3/2-E, 1988), has recommended the following derived per capita loads to be used for nutrients:

	PARCOM:			NORWAY:		
BOD	0.063	kg	O/person/day	0.046	kg	O/person/day
COD				0.094	kg	O/person/day
TOC				0.023	kg	/person/day
SPM	0.063	kg	/person/day	0.042	kg	/person/day
Total N	0.009	kg	N/person/day	0.012	kg	N/person/day
Total P	0.0027	kg	P/person/day	0.0017	kg	P/person/day

* p.u. (population units) is the number of permanent residents plus the number of population equivalents (next page) in an area.

The Norwegian coefficients are based on recent studies of Norwegian sewerage districts. These data are also used to calculate pollutional loads from the different treatment plants, reduced by the removal efficiency of the treatment plants. Municipal sewage also includes a portion of industrial effluents. The fraction of the total person equivalents (p.e.) is proportioned between sewage and industrial wastewater according to the number of persons and the size of industrial effluents connected to each treatment plant.

For metals in sewage discharges the calculated loads are based on measured concentrations and flows in larger treatment plants in the Oslo part of the Glomma area. Metal inputs from the rest of the country are estimated from local knowledge (*) as follows:

Substance	Cu	Zn	Cd	Pb	Cr-T	Ni	Hg
mg/person-equivalent/day (p.e.)	30	35	0.2	1.0	2.9	5.0	0.10

The coefficients used in 1994 are the same as those used for calculations in 1992 and 1993. The coefficients are based on the results of an investigation on this topic launched by SFT (1993), i.e. monitoring at different types of treatment plants especially in the Oslo part of the Glomma area. Measured/estimated loads from sewage are shown in Appendix II, Report B.

Sources: Knutzen and Øren (1983), Myhrstad (1985), OVA (1995), SFT (1993), VEAS (1995),

3.3.2 Industrial effluents

Sampling frequency for industrial wastewater varies from weekly mixed samples to samples taken at random, but at least twice a year. Measured and estimated loads from industrial activities in the different areas are shown in Appendix III, Report B. According to SFT about 90 per cent of the industrial discharges (i.e. of the substances in question) are included in the total, and probably more for Total-P and Total-N.

3.3.3 Other inputs

(nutrients in area runoff from "Down Stream areas" of main and tributary rivers and rivers not monitored)

The pollution load model calculates the load from each pollution source by using area and activity specific load coefficients multiplied by areas (in square kilometres) of different categories and activity numbers, eg. population (Holtan and Åstebøl, 1990). The coefficients used are prepared according to precipitation, climate, vegetation and soil in the different areas.

To estimate load from agricultural land area runoff, coefficients in the range of 50-200 kg Total-P and 2000-6500 kg Total-N km²/year are used depending on point sources, location of the agricultural land in relation to major tributaries, and agricultural production intensity. Load from upland (remote unpolluted) areas were estimated by using export coefficients in the range of 4-6 kg Total-P and 200-600 kg Total-N km²/year. The highest values were used in areas most affected by long range pollution (acid rain) along the Southern and Western coast. The coefficients are based on mean annual runoff for the period 1931-60.

Total direct nutrient discharges (Down stream areas) are shown in Table I (Appendix I, Report B), in the different subareas (1-10) in Appendix VI, Report B. Direct discharge areas (km²) are shown in Table 5.

4. RESULTS AND DISCUSSION

4.1 Pollutants

Norwegian watercourses, coastal fjords and sea areas are recipients of various substances discharged from many different sources. The discharges may have widely different impacts of varying severity. SFT (Rensvik, 1990) considers that the most serious problems are connected to eutrophication (nutrient effluents and runoff), discharges of metals and organic micropollutants and acidification of water and soil.

In this investigation riverine and direct inputs of nutrients (P- and N-compounds), heavy metals, lindane and PCBs are measured or estimated. In addition to these contaminants the water is polluted by dissolved organic matter, especially from the pulp and paper industry and from municipal sewage, which also has been taken into account in this investigation.

SFT (Rensvik, 1990) has given first priority to eliminating the effluents of 13 of the substances classified as micropollutants, which are in use in Norway, as quickly as possible. Most of this pollution comes from industry, but other sources are municipal sewage, landfill leachate, and pesticide residues from agriculture.

Pollution by heavy metals is either due to discharges from industry, discharges from existing and abandoned mines, leaching from landfills polluted ground or atmospheric fallout. The municipal sewage is the source of several heavy metals. Long- range transboundary air pollution is another source of pollution both with respect to heavy metals and organic micropollutants.

Polychlorinated biphenyls (PCBs) are present in different industrial effluents and also released from discarded electrical equipment containing PCBs (e.g. transformer oil), when such equipment is unsatisfactorily stored or destroyed by incineration. There is no enterprise in Norway discharging PCBs regularly.

Major sources of phosphorus and nitrogen pollution are considered to be municipal sewage, agriculture and to a less degree, industry.

4.2 1994-results and discussion

The results given for riverine inputs (main rivers and tributaries) and discharges entering directly into marine recipients, are mainly based on monitoring data/direct measurements (paragraph 3.3).

Measured concentrations of the chemical parameters of the ten main rivers (1994), mean values, standard deviation and range are listed in Appendix VII, Report B. In the case of Cd, Pb, Hg and the different congeners of PCBs, where most of the rivers had concentrations below the respective detection limits, the concentrations are statistically treated as "limit-values". Total annual loads of the main rivers 1994 are shown in Appendix IV, Report B. Annual loads of nutrients and S.P.M. are also presented in Fig. 6. Total annual loads of the tributaries are shown in Appendix V, Report B. For the whole country, total annual loads (Direct discharges and Riverine inputs) are shown in Table I (Appendix I, Report B) and for the four subregions in Tables 1.1-1.4 (Appendix I, Report B), nutrients and S.P.M. also in Fig. 7.

As in 1990 -1993 the greatest emphasis with regard to accuracy has been given to the input estimate of the Skagerrak region, as this is considered the most susceptible part of the North Sea. The Skagerrak reception of total loads in 1994 were 22 per cent of the phosphorus and 41 per cent of the nitrogen yield.

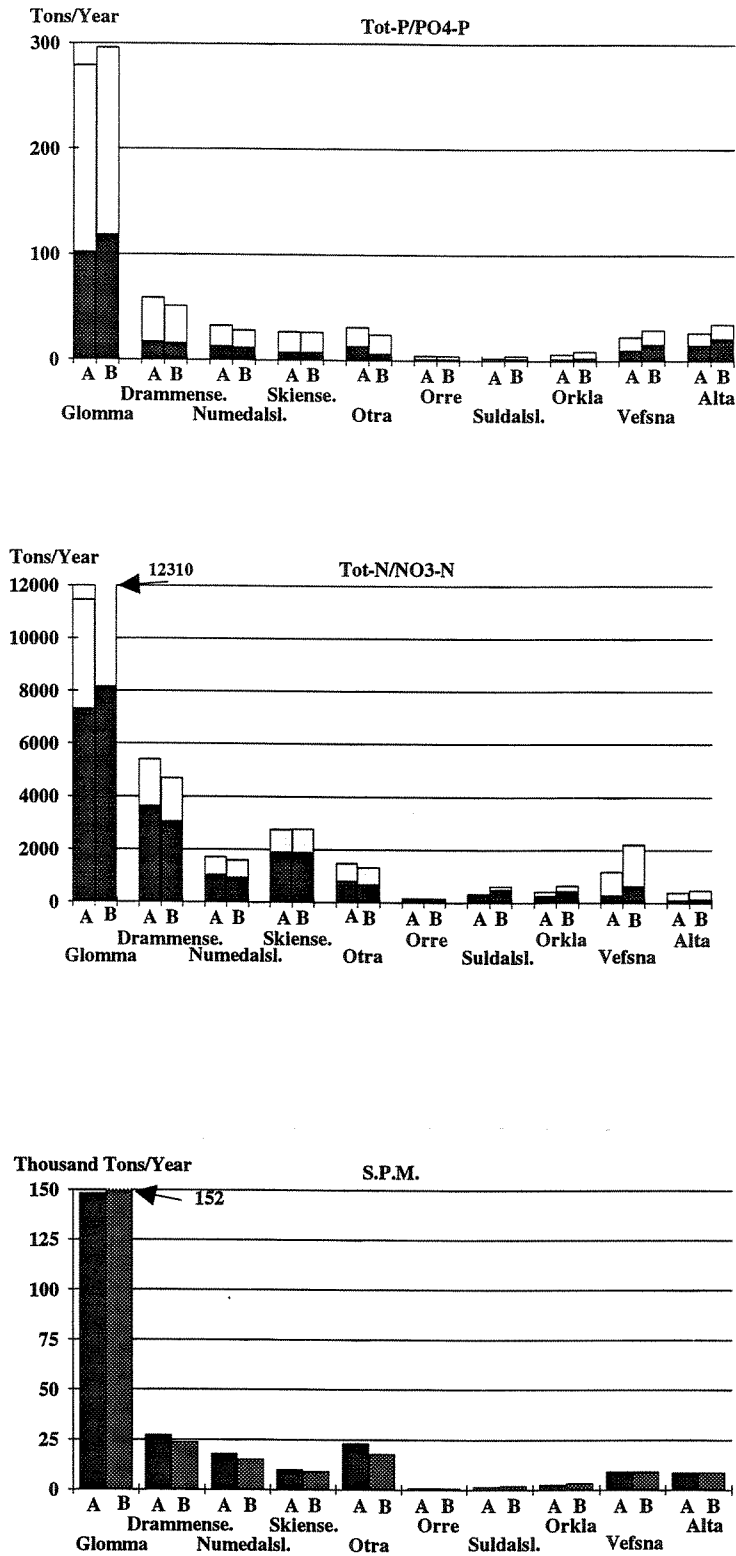


Fig. 6 Main rivers. Nutrients and S.P.M. Total loads 1994 (A) and Total normalized loads (B) in the different rivers.

Whole columns = Total P / N / S.P.M.
 Dark hatching = Phosphates / Nitrates

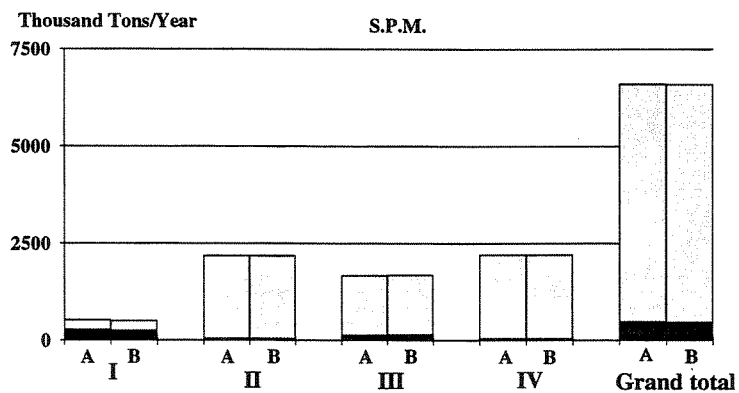
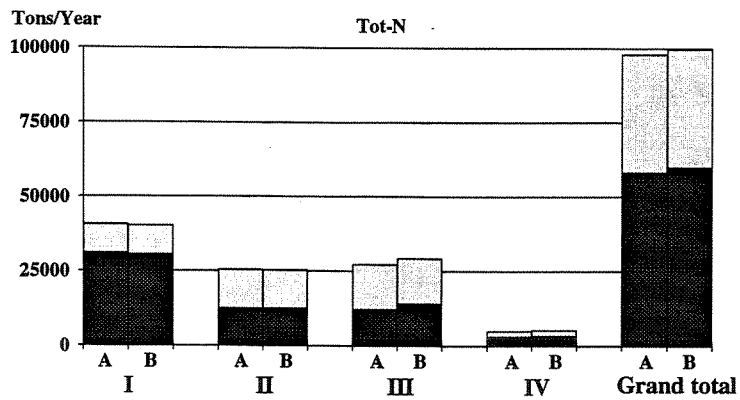
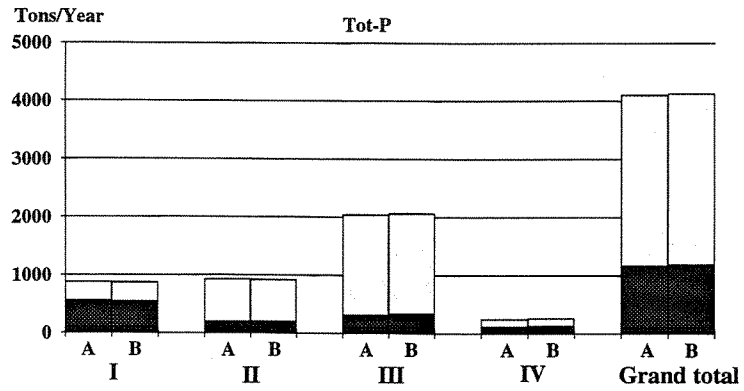


Fig. 7 Nutrients and S.P.M. Total and river discharges 1994 (A) and Total normalized loads (B) from mainland Norway to convention waters and the four subregions: I: Skagerrak, II: The remaining North Sea, III: The Norwegian Sea, IV: The Barents Sea.

Whole columns = Grand total
 Light hatching = Direct discharges
 Dark hatching = Main and tributary rivers

In this region where 94 per cent of the area is river-monitored, more than 60 per cent of the P-load and 75 per cent of the N-load were found in the riverine inputs.

According to the results from the 1994 investigation, total annual nutrient load to coastal waters from landbased Norwegian sources, is approximately 4100 tonnes of phosphorus and 98100 tonnes of nitrogen (Fig. 7). About 30 per cent of the phosphorus and 60 per cent of the nitrogen yield were inputs from the monitored rivers and tributaries. The largest inputs of heavy metals were of copper and zinc, which in 1994 amounted to about 237 and 905 tonnes, of which 79 and 85 per cent respectively, were river monitored (Fig. 8).

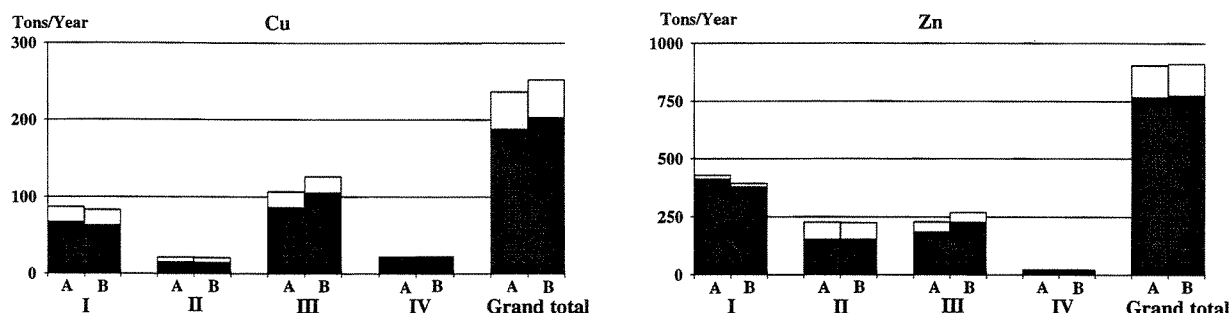


Fig. 8 Cu and Zn. Total and river discharges 1994 (A) and Total normalized loads (B) from mainland Norway to convention waters and the four subregions:
 I: Skagerrak, II: The remaining, North Sea, III: The Norwegian Sea, IV: The Barents Sea
 Whole columns = Grand total
 Light hatching = Direct discharges
 Dark hatching = Main and tributary rivers

Inputs of other metals and micropollutants were low. As the detection limits of the parameters Cd and Pb at the NIVA laboratory were above those requested from PARCOM, all analyses from 1992 and onwards of these substances are analyzed on an ICP-MS-instrument at NILU (paragraph 3.2). Still, a few of the concentrations found for these parameters also in 1994 were below the detection limits. Therefore two quantities have been estimated, one assuming that the true concentration was zero and the other assuming that the true concentration was the limit of detection. This provides maximum and minimum concentrations within which the true estimate will fall. When evaluating inputs these data provide upper and lower boundaries of the estimate.

Inputs of cadmium were measured/calculated to be between 9.0 and 9.3 tonnes, lead between 83.0 and 83.1 tonnes, mercury between 355 and 443 kg. The same "below detection limit problem" applies for the inputs of mercury, and also for PCBs which were measured to be between 37.1 and 72.8 kg. In Fig. 9 the lower and upper loads of these substances in the ten main rivers are presented. The pesticide lindane was found in most analyses, but in small amounts. The findings of this substance in Norwegian rivers are likely due to long range air pollution, as we often find lindane in runoff from areas where the compound has never been used (Olav Lodhe, State Plant Protection Agency, pers. comm.). Total load is estimated to about 89 kg.

In most areas except Skagerrak the riverine inputs, both of Total-P and S.P.M, were a little lower in 1994 than the year before, mainly due to precipitation/runoff-conditions (paragraph 4.3).

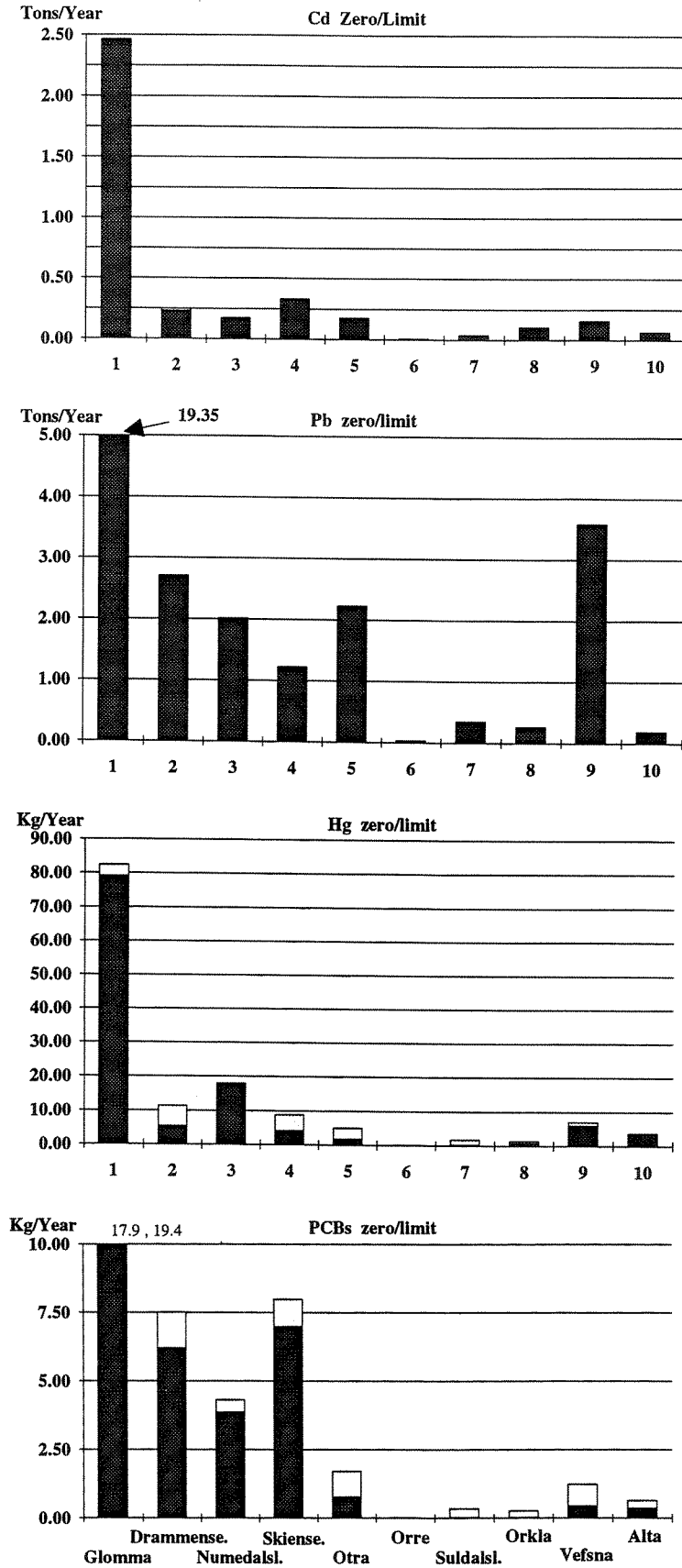


Fig. 9 Main rivers. Cd, Pb, Hg and PCBs. Total loads of the different rivers 1994 (lower and upper boundaries for the estimates).

Whole columns = upper boundary for the estimate
 Dark hatching = lower boundary for the estimate

4.3 Mean annual runoff (1931-60, 1961-90) and "mean load"

As mentioned (3.2.2) mean annual runoff for the last LTA-period (1961-90) has been estimated (fig. 2). For most main rivers the mean runoff 1961-90 is lower or in the same level as the 1931-60-period. However, these values are preliminary and may be adjusted when edited and published by NVE. As for precipitation, new normals were published in 1993.

Compared to Riverine Inputs to Marine Waters in 1990 - 1993, most calculated mean concentrations were in about the same level in 1994. Total flow for all "Skagerrak rivers" and also for Orreelva, and accordingly the calculated loads for most of the substances were higher in 1994 than the year before, except for the loads of total P and S.P.M. of Glomma and Orreelva. One of the reasons is probably fewer samples in 1994 (once monthly) than earlier in the flow period (every second week/weekly). As for the other main rivers, total flow was lower, with lower calculated loads for most substances as a result.

Annual variations in precipitation/runoff, erosion and seasonal activities of man in the drainage basins, strongly influence the mass transport in the watercourses. The transport values may vary considerably from one year to another. These variations are complicating the estimation of "normal transport values" i.e. mass transport in a "normal" year. Fig. 10 illustrates variations in annual runoff for the ten main rivers in 1985, 1990-1994, and annual variations in total discharge, of the nutrients total N and P for the same years.

In order to adjust the 1994 transport values to a "normal year", approximation have been made by multiplying weighted mean concentrations by mean runoff (LTA, 1961-90) - to normalize the concentrations is not possible. "Mean-values" (normals) for the ten main rivers and tributaries are given in Appendix X, Report B, where also total discharges to the sub regions are shown. In Fig. 6 - 7 the "normalized" nutrient transport values are compared with 1994-values.

During a normal winter the upland area of Norway together with the eastern part of the country show very little runoff. The frozen soil and snowcover protect vegetation and surface soil from erosion. But with the mild winters (1990-1993), soil especially in plowed field is exposed to more frequent and larger flood erosion also during the winter (eg. Glomma). As 1994 was a normal winter we suppose this is the main reason for lower concentrations/loads especially in Glomma, but also in Orreelva.

From experience we have learned that the product of weighted concentrations and mean runoff gives a relatively good estimate of the mass-transport in rivers, especially for the large rivers, and those not considerably exposed to erosion-material. In 1994 annual precipitation varied about normal or were a little higher in the Southern and South Western Norway, and a little lower in the rest of the country (Fig 3). On an annual basis also runoff varied about normal or were higher in most of the Southern and South Western Norway, but were somewhat lower in the rest of the country. The river Suldalslågen is recently regulated and has now considerably less annual water discharge than in the normal period (1931-60).

4.4 Nutrient retention in fjords

Both phosphorus and nitrogen retention in watercourses is taken into account in the calculation of the Norwegian contribution to marine pollution, but in a conservative way. However, no corrections are so far made for retention in fjords and other marine areas.

Considering the nutrient input to the open marine waters, one should also take into account retention in fjords, at least in well defined treshold fjords. As a result of high salinity compared to freshwater, marine waters have better conditions for sedimentation than lakes. For example clay settles very poorly

in lakes, but very efficient in fjords. In addition to temperature stratification, fjords also show salinity stratification, with light brackish water on top of heavier, saline waters. Thus the overall stratification in fjords is in most cases stronger than in lakes. This implies that particulate pollutants lost to deep waters by sedimentation have less chance to be brought back to the plankton producing layer than in lakes.

In addition, stronger stratification implies greater chance for oxygen depletion in deep waters, which in fact is seen in many sheltered Norwegian fjords. Theoretically this will improve the conditions for denitrification. However, this greater stability is often reduced by rougher physical conditions in fjords compared to lakes.

Retention in Norwegian fjords is very poorly studied by direct budget measurements. In the Drammensfjord Magnusson and Næss (1986) found that about 60% of the incoming phosphorus was retained in the fjord, while for nitrogen the retention was only about 15%. In the silled Inner Oslofjord preliminary calculations indicate that nitrogen retention is in the order of 30-50% (Baalsrud, K., and B. Bjerkeng, 1991).

Thus, nutrient retention in threshold fjords seems to be of the similar magnitude as we find in lakes, and it is likely to believe that retention can be estimated from the same type of models that applies for lakes. The general lack of calibration data on retention models in fjords implies that we find it too early, at this stage of knowledge, to include these corrections in the Norwegian discharge budget. It should be kept in mind, however, that a significant part of the particulate pollutants, and pollutants with particle affinity, end up in fjord sediments and thus are prevented from reaching the coastal waters.

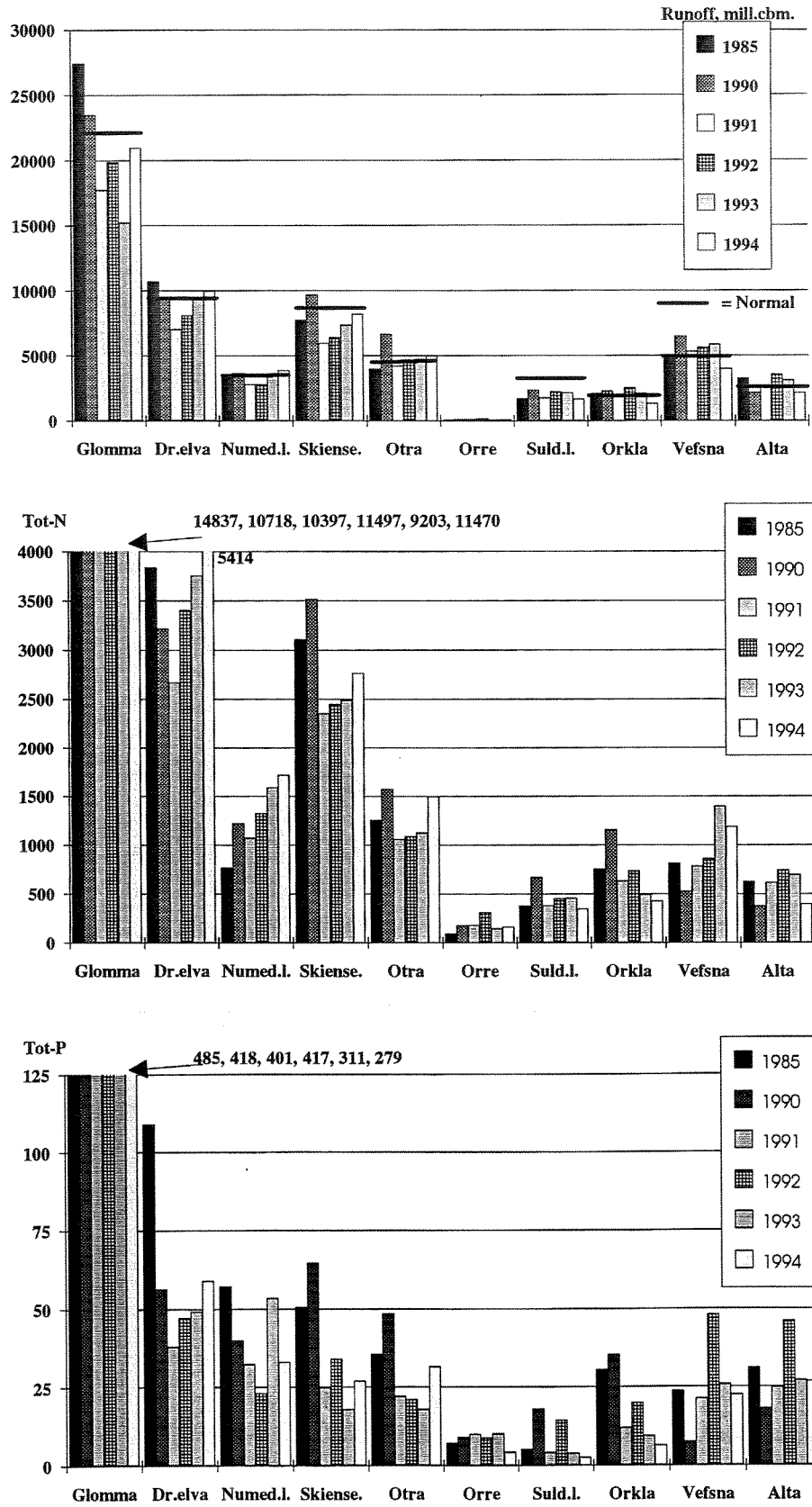


Fig. 10 Main rivers. Annual runoff and nutrient load in 1985, 1990-94.

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5.1 Project Personnel

At NIVA:

Dag Berge: Member of the Programme Committee
 Hans Holtan: Member of the Programme Committee
 Gjertrud Holtan : Project manager

Contact with field workers/field work: G. Holtan, E. Bjercknes, B. Hals, H. Holtan, S. W. Johansen, E. Iversen.

Care of equipment, shipment of samples etc.: E. Bjercknes, B. Hals.

Analysis of PCBs and Lindane: E. Brevik, G. Sigernes, T. Tellefsen.

Analysis of Hg and Heavy Metals: H. Hovind, B. Lauritzen, M. Villø, R. Beba, L. Bryn.

Other chemical analyses: NIVAs Analytical Chemical Laboratory.

Data Collection/evaluation: G. Holtan, M. Grande, H. Holtan.

EDP/calculations/registrations: T. Hopen, L. Henriksen, G. Holtan, A. Lauritzen, T. Tjomsland.

Reporting work: G. Holtan, D. Berge, H. Holtan.

External analyses:

Heavy metals : O. Røyset, M. Vadset. NILU.

FIELD WORKERS:

- | | |
|-----------------------|---|
| (1) GLOMMA: | B. Moen. Fylkeslaboratoriet i Østfold. Moss. |
| (2) DRAMMENSELVA: | E. Iversen. NIVA. Oslo. |
| (3) NUMEDALSLÅGEN: | E. Løve. Næringsmiddeltilsynet. Larvik kommune. |
| (4) SKIENSVASSDRAGET: | A. Andersen. Vannlaboratoriet i Telemark. Skien |
| (5) OTRA: | M. Aadnevik. Ingeniørvesenet. Kr.-sand kommune. |
| (6) ORREELVA: | G. Undheim. Landbrukskontoret. Time kommune. |
| (7) SULDALSLÅGEN: | Ø. Vårvik. Suldal Elveeigarlag. Suldalsosen. |
| (8) ORKLA: | O. Lien. Rennebu. |
| (9) VEFSNA: | B. Hauan. Teknisk etat. Vefsn kommune. Mosjøen. |
| (10) ALTA: | P. Nilsen. Finnmarksforskning. Alta. |

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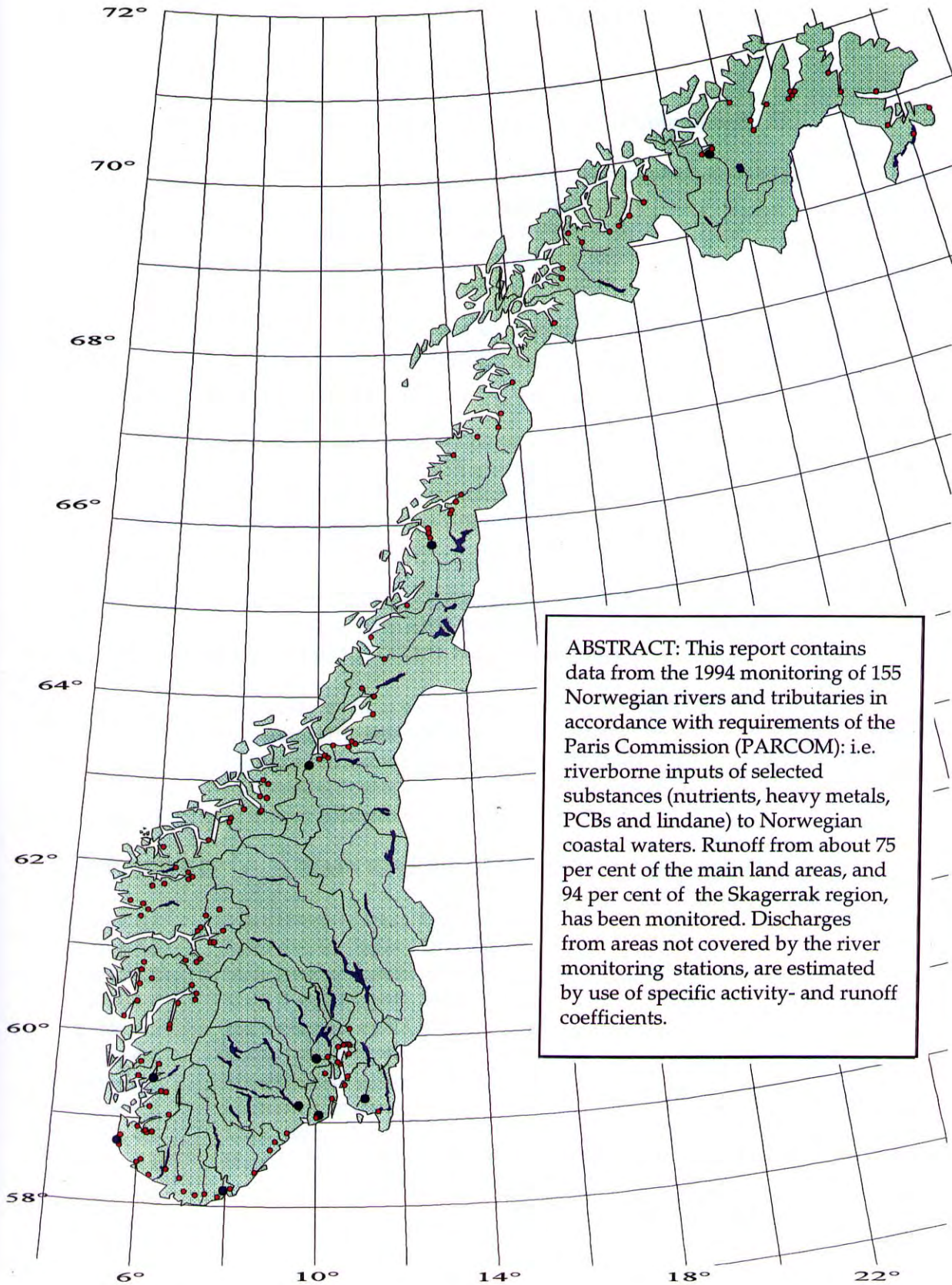
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B Data report



- Main Rivers
- Tributaries

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(3) Numedalslågen "tributaries"	: Sandeelva	- Farriselva
(4) Skienselva "tributary"	: Tokkeelva	
(5) Otra "tributaries"	: Gjerstade.	- Audna
(6) Orreelva "tributaries"	: Lygna	- Ulla
(7) Suldalslågen "tributaries"	: Saudaelva	- Hornindalselva
(8) Orkla "tributaries"	: Ørstaelva	- Salsvatnelva
(9) Vefsna "tributaries"	: Åbjøra	- Reisa
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CONVENTION FOR THE PREVENTION OF MARINE POLLUTION FROM LANDBASED SOURCES
QUESTIONARY ACCORDING TO THE TENTH MEETING OF THE PARIS COMMISSION LISBON 15 - 17 JUNE 1988.

The purpose of this form is to provide the Commission, in accordance with Article 17(B) of the Paris convention, with an assessment of the waterborne inputs to Convention waters.

The form should be completed for each calendar year in retrospect and submitted to the Secretary by June following the year to which the data relate.

The information sought relates to inputs through direct discharges (questions 7 - 13) and riverine inputs (questions 14 - 19).

Some information on discharges other than those mentioned below are also attached (question 20).

Separate forms for the four single areas are filled in.

- (1) **THE COUNTRY IS NORWAY**
- (2) **LENGTH OF COASTLINE INCLUDING FJORDS AND BAYS IS 21347 KM**
- (3) **NATURE OF THE RECEIVING WATER IS COASTAL**

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Paragraph 4: Direct Discharges

Paragraph 5: Riverine Discharges

Paragraph 6: Grand Total

**Table I TOTAL DISCHARGES from MAINLAND NORWAY
to convention waters 1994 (Fig. I).**

Substance:	Area runoff	Direct Discharges	Tributary Inputs	Main Riverine Inputs	Grand Total	
Cadmium		1.2	4.0 *	3.7 *	9.0	tonnes
Cadmium			4.3 **	3.8 **	9.3	tonnes
Mercury		105	132 *	118 *	355	kg
Mercury			199 **	140 **	443	kg
Copper		49	95	92	237	tonnes
Zinc		140	379	386	905	tonnes
Lead		6.3	44.7 *	31.9 *	83.0	tonnes
Lead			44.9 **	31.9 **	83.1	tonnes
Arsenic		0.5	22.1 *	15.2	37.8	tonnes
Arsenic			22.1 **	15.2	37.9	tonnes
Cr-T		6.5	188.6 *	62.1 *	257.1	tonnes
Cr-T			188.6 **	62.1 **	257.2	tonnes
Ni		14.2	88.9 *	45.2 *	148.4	tonnes
Ni			89.0 **	45.2 **	148.4	tonnes
PCBs ***			0.54 *	36.52 *	37.06	kg
PCBs			29.3 **	43.5 **	72.8	kg
gamma-HCH			53	35	89	kg
NH4-N	1637	11263	1721	1143	15764	tonnes
NO3-N	14020	194	17332	15659	47205	tonnes
PO4-P	201	1163	201	180	1745	tonnes
Total N	22364	17783	32584	25374	98106	tonnes
Total P	766	2180	669	492	4107	tonnes
S.P.M.		5675905	216064	248351	6140320	tonnes
TOC		18053	172009	182927	372989	tonnes
COD		215420			215420	tonnes
AOX		210			210	tonnes

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

*** the following congeners: IUPAC Nos. 28,52,101,118,153,138,180

Table 1.1 TOTAL DISCHARGES to The Skagerrak Region 1994 (Fig. I.I).

The Skagerrak Region with main rivers (1) Glomma, (2) Drammenselva, (3) Numedalslågen, (4) Skienselva, (5) Otra

Substance:	Area runoff	Direct Discharges	Tributary Inputs	Main Riverine Inputs	Grand Total	
Cadmium		0.09	0.9 *	3.3 *	4.3	tonnes
Cadmium			0.9 **	3.4 **	4.3	tonnes
Mercury		42.07	12 *	108 *	162	kg
Mercury			18 **	126 **	186	kg
Copper		20.65	9	57	87	tonnes
Zinc		19.07	103	306	429	tonnes
Lead		0.91	7.1 *	27.5 *	35.5	tonnes
Lead			7.1 **	27.5 **	35.5	tonnes
Arsenic		0.28	3.44 *	12.7	16.4	tonnes
Arsenic			3.44 **	12.7	16.4	tonnes
Cr-T		4.38	12.1 *	49.5 *	66.0	tonnes
Cr-T			12.1 **	49.5 **	66.0	tonnes
Ni		10.82	4.8 *	36.4 *	52.1	tonnes
Ni			4.8 **	36.4 **	52.1	tonnes
PCBs ***			0.13 *	35.73 *	35.86	kg
PCBs			3.0 **	40.9 **	43.9	kg
gamma-HCH			11.5	32	44	kg
NH4-N	158	4616	545	1003	6323	tonnes
NO3-N	1560	150	4972	14653	21335	tonnes
PO4-P	18	106	37	152	312	tonnes
Total N	2393	7497	7871	22861	40622	tonnes
Total P	70	265	120	429	885	tonnes
S.P.M.		16466	31456	226229	274151	tonnes
TOC		6838	50798	155354	212990	tonnes
COD		117370			117370	tonnes
AOX		210			210	tonnes

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

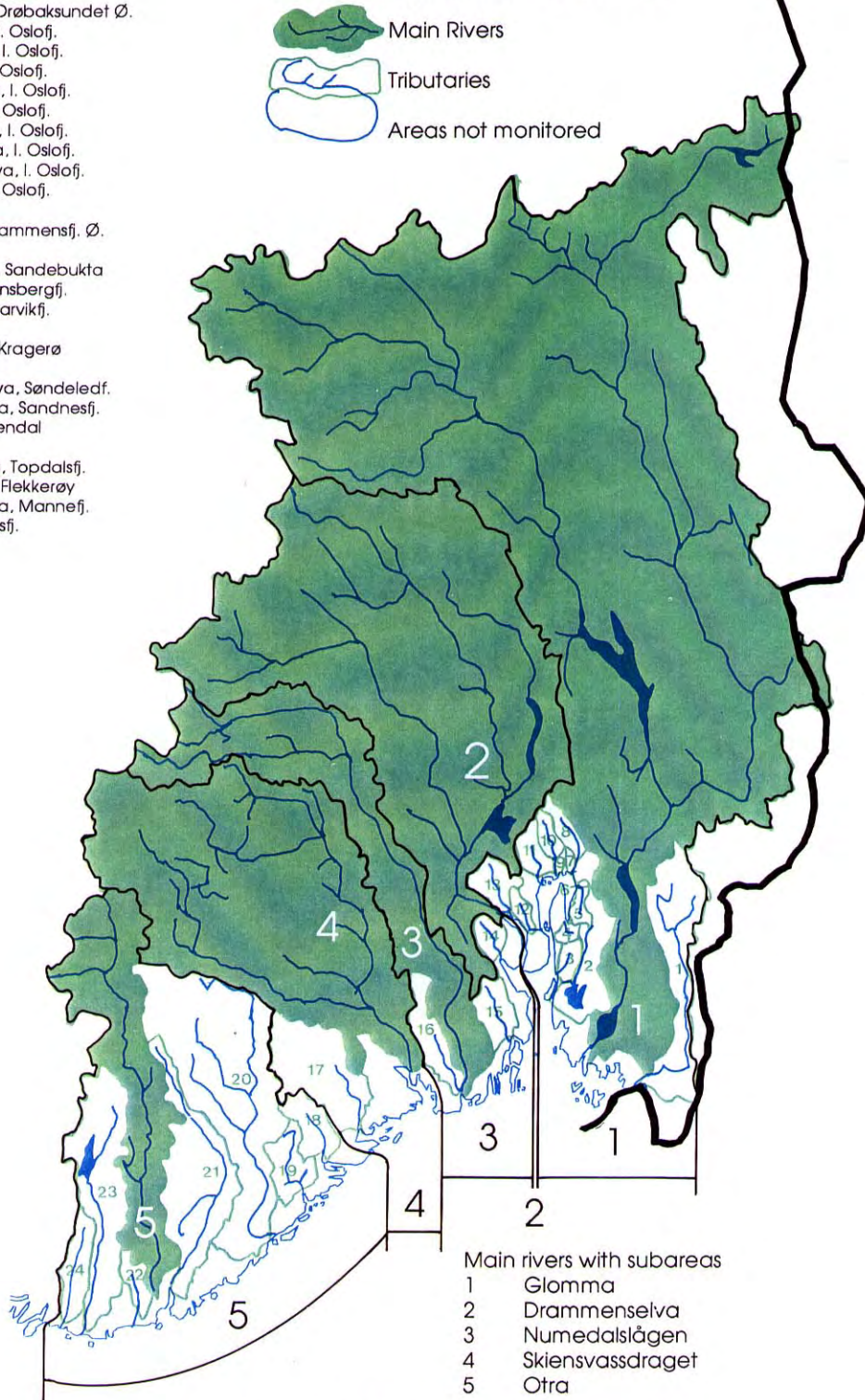
**) Detection limit = Limit

*** the following congeners: IUPAC Nos. 28,52,101,118,153,138,180

- 1 ØSTFOLD**
 1 Tista, Iddefj.
 2 Mosselva, Mossesundet
- OSLO & AKERSHUS**
 3 Hølenelva, Drøbaksundet Ø.
 4 Årungelva, I. Oslofj.
 5 Gjersjøelva, I. Oslofj.
 6 Ljanselva, I. Oslofj.
 7 Loelva/Alna, I. Oslofj.
 8 Akerselva, I. Oslofj.
 9 Frognerelva, I. Oslofj.
 10 Lysakerelva, I. Oslofj.
 11 Sandvikselva, I. Oslofj.
 12 Åroselva, I. Oslofj.
- 2 BUSKERUD**
 13 Lierelva, Drammensfj. Ø.
- 3 VESTFOLD**
 14 Sandeelva, Sandebukta
 15 Aulielva, Tønsbergfj.
 16 Farriselva, Larvikfj.
- 4 TELEMARK**
 17 Tokkeelva, Kragerø
- 5 AUST-AGDER**
 18 Gjerstadelva, Søndeledf.
 19 Vegårsdelva, Sandnesfj.
 20 Nidelva, Arendal
- VEST-AGDER**
 21 Tovdalselva, Topdalsfj.
 22 Søgneelva, Flekkerøy
 23 Mandalselva, Mannefj.
 24 Audna, Sniksfj.

Fig. I.1

Main Rivers and Tributaries draining to
 The Skagerrak Region of The North Sea.



I North Sea/Skagerrak

**Table 1.2 TOTAL DISCHARGES to The Remaining North Sea
1994 (Fig. I.II).**

The North Sea Region with main rivers : (6) Orreelva, (7) Suldalslågen

Substance:	Area runoff	Direct Discharges	Tributary Inputs	Main Riverine Inputs	Grand Total	
Cadmium		0.99	1.2 *	0.0 *	2.3	tonnes
Cadmium			1.3 **	0.0 **	2.3	tonnes
Mercury		42.39	32 *	0 *	75	kg
Mercury			59 **	2 **	103	kg
Copper		6.76	14	1	22	tonnes
Zinc		75.75	147	4	226	tonnes
Lead		4.59	9.6 *	0.4 *	14.6	tonnes
Lead			9.7 **	0.4 **	14.7	tonnes
Arsenic		0.00	5.4 *	0.1	5.6	tonnes
Arsenic			5.5 **	0.1	5.6	tonnes
Cr-T		1.34	39.3 *	2.7 *	43.3	tonnes
Cr-T			39.3 **	2.7 **	43.3	tonnes
Ni		2.19	6.3 *	2.0 *	10.5	tonnes
Ni			6.3 **	2.0 **	10.5	tonnes
PCBs ***			0.0 *	0.0 *	0.0	kg
PCBs			9.7 **	0.4 **	10.1	kg
gamma-HCH			16.4	1	18	kg
NH4-N	579	3103	524	17	4222	tonnes
NO3-N	5161	21	7674	377	13232	tonnes
PO4-P	56	275	56	2	388	tonnes
Total N	8286	4742	11838	506	25373	tonnes
Total P	198	537	188	7	930	tonnes
S.P.M.		2106041	39980	1971	2147992	tonnes
TOC		5287	69618	1399	76304	tonnes
COD		38768			38768	tonnes

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

*** the following congeners: IUPAC Nos. 28,52,101,118,153,138,180

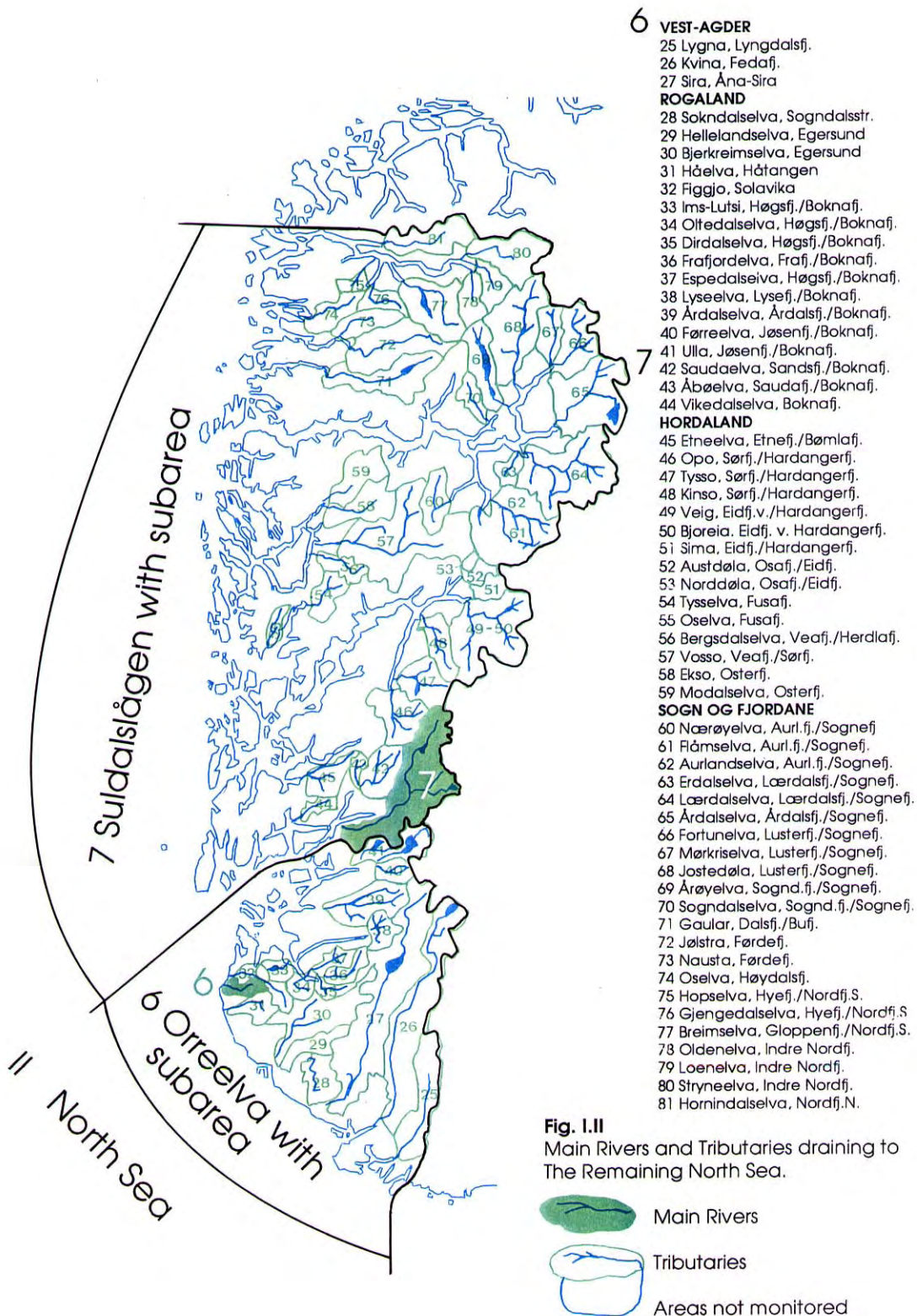


Table 1.3 TOTAL DISCHARGES to The Norwegian Sea 1994 (Fig. I.III).

The Norwegian Sea Region with main rivers (8) Orkla, (9) Vefsna

Substance:	Area runoff	Direct Discharges	Tributary Inputs	Main Riverine Inputs	Grand Total	
Cadmium		0.14	1.8 *	0.3 *	2.2	tonnes
Cadmium			1.9 **	0.3 **	2.3	tonnes
Mercury		19.00	63 *	7 *	88	kg
Mercury			92 **	8 **	120	kg
Copper		21.58	53	32	107	tonnes
Zinc		44.71	110	74	228	tonnes
Lead		0.81	22.6 *	3.8 *	27.2	tonnes
Lead			22.6 **	3.9 **	27.3	tonnes
Arsenic		0.27	10.1 *	1.8	12.2	tonnes
Arsenic			10.1 **	1.8	12.2	tonnes
Cr-T		0.70	96.7 *	7.1	104.5	tonnes
Cr-T			96.7 **	7.1	104.5	tonnes
Ni		1.15	15.3 *	5.1 *	21.6	tonnes
Ni			15.4 **	5.1 **	21.6	tonnes
PCBs ***			0.4 *	0.4 *	0.8	kg
PCBs			13.2 **	1.5 **	14.8	kg
gamma-HCH			21.9	1	23	kg
NH4-N	808	3284	397	110	4599	tonnes
NO3-N	6289	22	4483	534	11328	tonnes
PO4-P	110	755	83	11	959	tonnes
Total N	10004	5195	10304	1612	27115	tonnes
Total P	410	1331	272	29	2041	tonnes
S.P.M.		1421222	113662	11509	1546393	tonnes
TOC		5588	27243	18614	51444	tonnes
COD		57745			57745	tonnes
AOX		1			1	tonnes

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

*** the following congeners: IUPAC Nos. 28,52,101,118,153,138,180

8 MØRE OG ROMSDAL

- 82 Ørstaelva, Ørsta fj.
- 83 Valldøla, Nordalfj./Storfj.
- 84 Rauma, Romsdalsfj./Moldefj.
- 85 Isa, Isfj./Moldefj.
- 86 Eira, Eresfj./Moldefj.
- 87 Littledalselva, Sunndalsfj.
- 88 Driva, Sunnd.fj./Tingvollfj.
- 89 Ulvåa, Ålvundfj.
- 90 Toåa, Todalsfj.
- 91 Surna, Surnadalsfj.
- 92 Bøvra, Hamnesfj./Halsafj.

SØR-TRØNDELAG

- 93 Børselva, Gaulosen/Tr.h.fj.
- 94 Vigda, Gaulosen/Tr.h.fj.
- 95 Gaula, Gaulosen/Tr.h.fj.
- 96 Nidelva, Trondheimsfj.
- 97 Homla, Stjørd.fj./Tr.h.fj.

NORD-TRØNDELAG

- 98 Stjørdalselva, Stjørdalsfj./Tr.h.fj.
- 99 Gråelva, Stjørdalsfj./Tr.h.fj.
- 100 Verdalsvassdr., Tr.h.fj.
- 101 Figga/Leksdalselva, Tr.h.fj.
- 102 Snåsavassdr., Tr.h.fj.
- 103 Årgårdselva, Namsfj.
- 104 Namsen, Namsfj. Ø.
- 105 Salsvatnelva, Folla fj.

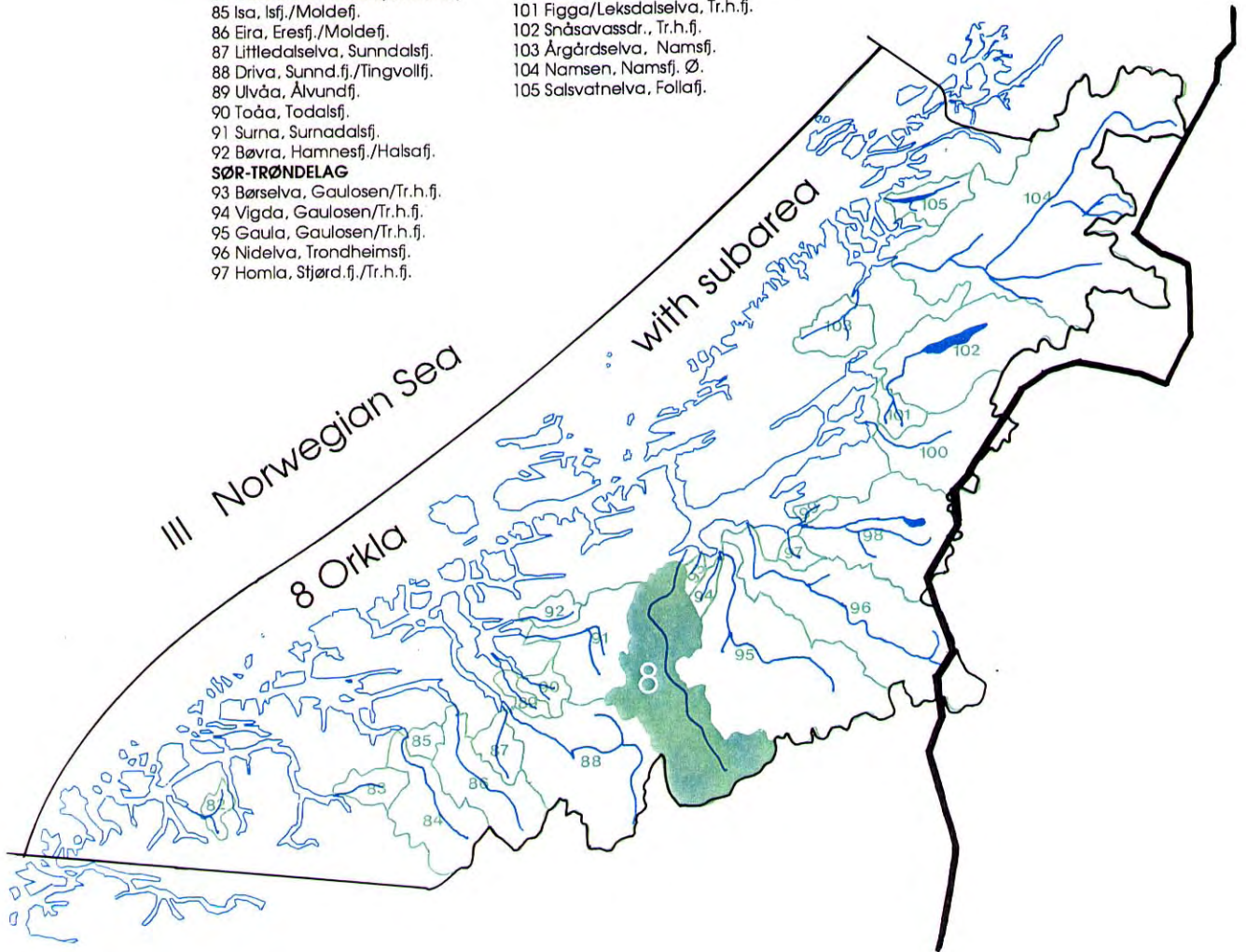
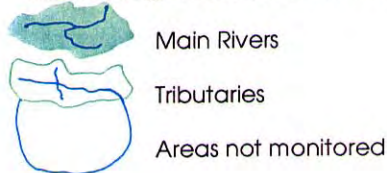


Fig. I.III A

Main Rivers and Tributaries draining to The Norwegian Sea (Southern Part).



III Norwegian Sea

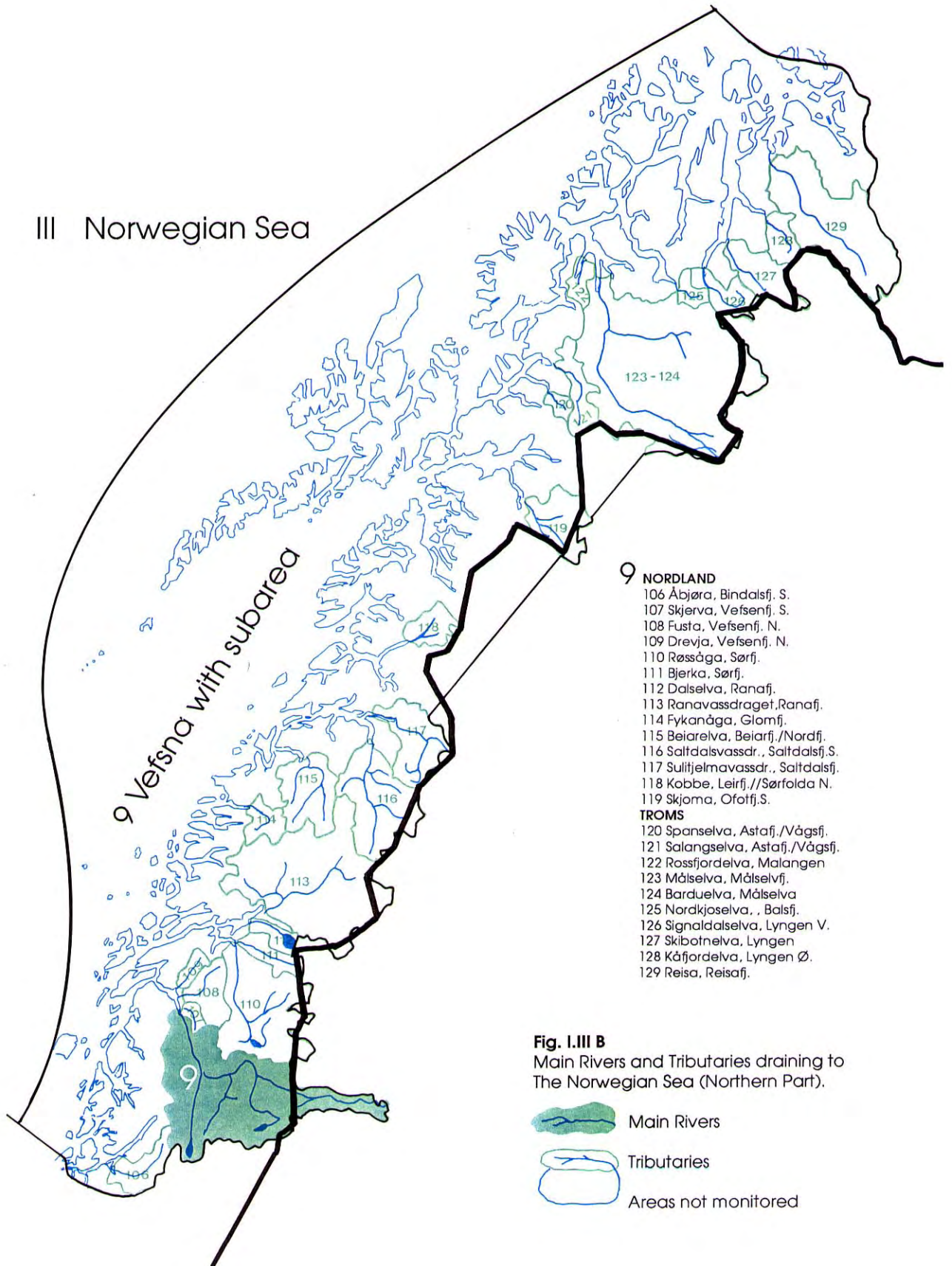


Table 1.4 TOTAL DISCHARGES to The Barents Sea 1994 (Fig. I.IV).

The Barents Sea Region with main river (10) Alta

Substance:	Area runoff	Direct Discharges	Tributary Inputs	Main Riverine Inputs	Grand Total	
Cadmium		0.00	0.2 *	0.06 *	0.2	tonnes
Cadmium			0.2 **	0.07 **	0.3	tonnes
Mercury		1.35	25 *	3.36 *	30	kg
Mercury			30 **	3.80 **	35	kg
Copper		0.37	19	2.82	22	tonnes
Zinc		0.43	20	1.49	22	tonnes
Lead		0.01	5.4 *	0.19 *	5.6	tonnes
Lead			5.4 **	0.19 **	5.6	tonnes
Arsenic		0.00	3.1 *	0.62	3.7	tonnes
Arsenic			3.1 **	0.62	3.7	tonnes
Cr-T		0.04	40.5 *	2.73 *	43.3	tonnes
Cr-T			40.5 **	2.73 **	43.3	tonnes
Ni		0.06	62.4 *	1.74 *	64.2	tonnes
Ni			62.4 **	1.74 **	64.2	tonnes
PCBs ***			0.0 *	0.36 *	0.4	kg
PCBs			3.4 **	0.65 **	4.0	kg
gamma-HCH			3.4	0.11	4	kg
NH4-N	91	260.07	255	13.91	620	tonnes
NO3-N	1010	1.73	202	95.15	1309	tonnes
PO4-P	18	27.56	25	14.84	86	tonnes
Total N	1681	349.25	2571	395.39	4996	tonnes
Total P	88	46.44	89	26.78	251	tonnes
S.P.M.		2132176	30967	8642	2171785	tonnes
TOC		340.44	24351	7560	32251	tonnes
COD		1537.28			1537	tonnes

Measurements below detection limits are treated in two ways :

- *) Detection limit = Zero
- **) Detection limit = Limit

*** the following congeners: IUPAC Nos. 28,52,101,118,153,138,180

IV Barents Sea

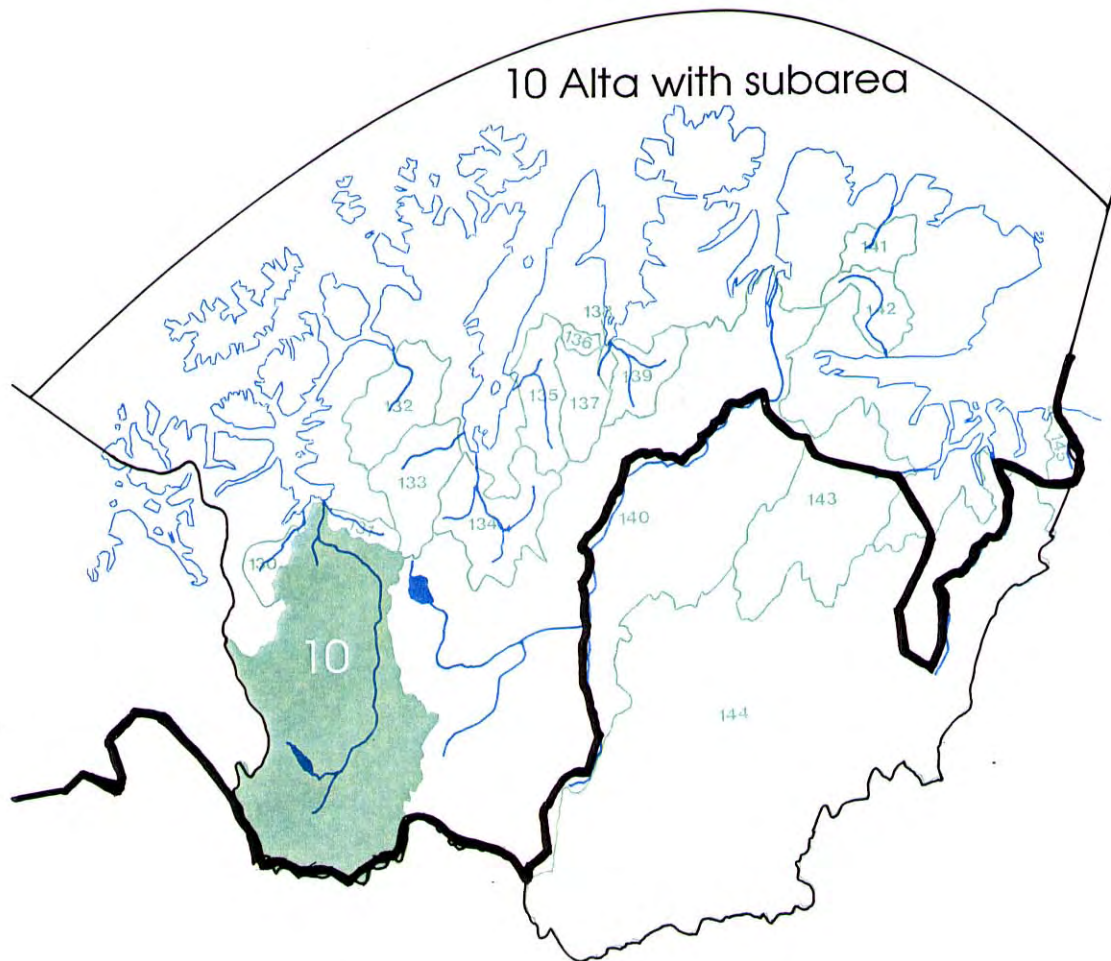


Fig. I.IV
Main Rivers and Tributaries draining to
The Barents Sea.



10 FINNMARK

- 130 Mattiselva, Kåfj./Altafj.
- 131 Tverrelva, Altafj.
- 132 Repparfjordelva, Repparfj.
- 133 Stabburselva, I. Porsangen V.
- 134 Lakselva, I. Porsangen S.
- 135 Børselva, I. Porsangen Ø.
- 136 Mattusjåkka, I. Laksefj. V.
- 137 Storelva, I. Laksefj. V.
- 138 Soussjåkka, I. Laksefj. V.
- 139 Adamselva, I. Laksefj. Ø.
- 140 Tanavassdr., Tanafj. S.
- 141 Vesterelva, Syltefj.
- 142 V. Jakobselv, Y. Varangerfj.
- 143 Neiden Munkf./Varangerfj.
- 144 Passvikelva, Bøkfj./Varangerfj.
- 145 Grense Jakobselv, Varangerfj.

APPENDIX II : SEWAGE EFFLUENTS FROM DOWNSTREAM AREAS OF MAIN AND TRIBUTARY RIVERS AND RIVERS NOT MONITORED 1994 (Paragraph 7 - 8) Page:

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Table 2.4	Sewage effluents to the Barents Sea region	22

Paragraph 7: Sewage effluents ./.

Paragraph 8: Measurements of calculation used - including information on the concentration upon which the measurement is based:

Paragraph 3.3 (Report A, 1991, 1992 - 1995)

Municipal sewage includes a portion of industrial effluents

Table II Sewage Effluents from down stream areas of mainland Norway to convention waters (1994).

Total quantity of substance discharged per year:

Regions:	I	II	III	IV		
	The	The	The	The		
Substance:	Skagerrak	North	Norwegian	Barents	Sum	
	Region	Sea	Sea	Sea		
Cd	74	40	34	2	151	kg
Hg	38	22	19	1	81	kg
Cu	10.8	6.0	5.2	0.4	22.4	tonnes
Zn	16.2	7.0	6.0	0.4	29.7	tonnes
Pb	640	201	172	12	1026	kg
Cr-T	3.1	0.6	0.5	0.0	4.3	tonnes
Ni	6.9	1.0	0.9	0.1	8.8	tonnes
PCBs						kg
gamma-HCH						kg
NH4-N	4616	3103	3284	260	11263	tonnes
NO3-N	150	21	22	2	194	tonnes
PO4-P	106	275	755	28	1163	tonnes
Tot-N	5796	4137	4379	347	14659	tonnes
Tot-P	176	458	1258	46	1938	tonnes
S.P.M.	8317	8233	9908	597	27054	tonnes
TOC	6771	4937	5564	340	17613	tonnes
COD	28853	22171	26002	1537	78564	tonnes

Table 2.1 Sewage Effluents to The Skagerrak Region (1994).

The Skagerrak region with sub-areas: (1) Glomma, (2) Drammenselva,
(3) Numedalslågen, (4) Skienselva, (5) Otra

Sub-areas :	Total quantity of substance discharged per year:					Precision of the estimate of the load	
	1	2	3	4	5		
Substance:							
Cd	42	3	14	3	11	kg	_____ %
Hg	21	2	8	2	6	kg	_____ %
Cu	6.12	0.47	2.09	0.45	1.69	tonnes	_____ %
Zn	10.74	0.55	2.44	0.53	1.97	tonnes	_____ %
Pb	484	16	70	15	56	kg	_____ %
Cr-T	2.62	0.05	0.21	0.05	0.17	tonnes	_____ %
Ni	6.13	0.08	0.35	0.08	0.28	tonnes	_____ %
PCBs						kg	_____ %
gamma-HCH						kg	_____ %
NH4-N	2443	178	472	1048	475	tonnes	_____ %
NO3-N	135	1	3	7	3	tonnes	_____ %
PO4-P	31	10	30	8	26	tonnes	_____ %
Tot-N	2899	238	629	1397	634	tonnes	_____ %
Tot-P	52	17	50	13	43	tonnes	_____ %
S.P.M.	3591	410	1999	361	1956	tonnes	_____ %
TOC	3714	285	1329	248	1195	tonnes	_____ %
COD	15761	1208	5635	1107	5142	tonnes	_____ %

Table 2.2 Sewage Effluents to The Remaining North Sea Region (1994).

The remaining North Sea Region with sub-areas: (6) Orreelva, (7) Suldalslågen

Sub-areas :	Total quantity of substance discharged per year:			Precision of the estimate of the load
	6	7		
Substance:				
Cd	12	28	kg	_____ %
Hg	7	15	kg	_____ %
Cu	1.86	4.18	tonnes	_____ %
Zn	2.17	4.88	tonnes	_____ %
Pb	62	139	kg	_____ %
Cr-T	0.19	0.42	tonnes	_____ %
Ni	0.31	0.70	tonnes	_____ %
PCBs			kg	_____ %
gamma-HCH			kg	_____ %
NH4-N	1015	2088	tonnes	_____ %
NO3-N	7	14	tonnes	_____ %
PO4-P	52	223	tonnes	_____ %
Tot-N	1353	2784	tonnes	_____ %
Tot-P	86	372	tonnes	_____ %
S.P.M.	2825	5407	tonnes	_____ %
TOC	1592	3345	tonnes	_____ %
COD	6924	15248	tonnes	_____ %

Table 2.3 Sewage Effluents to The Norwegian Sea Region (1994).

The Norwegian Sea Region with sub-areas: (8) Orkla, (9) Vefsna

Sub-areas :	Total quantity of substance discharged per year:			Precision of the estimate of the load
	8	9		
Substance:				
Cd	18	16	kg	_____ %
Hg	10	9	kg	_____ %
Cu	2.73	2.43	tonnes	_____ %
Zn	3.18	2.84	tonnes	_____ %
Pb	91	81	kg	_____ %
Cr-T	0.27	0.24	tonnes	_____ %
Ni	0.45	0.41	tonnes	_____ %
PCBs			kg	_____ %
gamma-HCH			kg	_____ %
NH4-N	1636	1648	tonnes	_____ %
NO3-N	11	11	tonnes	_____ %
PO4-P	173	582	tonnes	_____ %
Tot-N	2181	2198	tonnes	_____ %
Tot-P	288	970	tonnes	_____ %
S.P.M.	5138	4770	tonnes	_____ %
TOC	2933	2631	tonnes	_____ %
COD	13837	12164	tonnes	_____ %

Table 2.4 Sewage Effluents to The Barents Sea Region (1994).

The Barents Sea Region with sub-area: (10) Alta

Sub-area :		Total quantity of substance discharged per year:		Precision
Substance:				of the estimate of the load
Cd	2	kg	_____	%
Hg	1	kg	_____	%
Cu	0.37	tonnes	_____	%
Zn	0.43	tonnes	_____	%
Pb	12	kg	_____	%
Cr-T	0.04	tonnes	_____	%
Ni	0.06	tonnes	_____	%
PCBs		kg	_____	%
gamma-HCH		kg	_____	%
NH4-N	260	tonnes	_____	
NO3-N	2	tonnes	_____	%
PO4-P	28	tonnes	_____	%
Tot-N	347	tonnes	_____	%
Tot-P	46	tonnes	_____	%
S.P.M.	597	tonnes	_____	%
TOC	340	tonnes	_____	%
COD	1537	tonnes	_____	%

APPENDIX III : INDUSTRIAL EFFLUENTS FROM DOWN STREAM AREAS OF MAIN AND TRIBUTARY RIVERS AND RIVERS NOT MONITORED 1994 (Paragraph 11 - 13) Page:

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Paragraph 11: Industrial effluents ./.

Paragraph 12: Measurements of calculation used - including information on the concentration upon which the measurement is based:

Paragraph 3.3 (Report A, 1991, 1992 - 1995)

Paragraph 13: Any other relevant information (e.g. proportion of substance discharged as insoluble material):

A portion of industrial effluents is included in municipal sewage

Table III Industrial Effluents from down stream areas of mainland Norway to convention waters (1994).

Total quantity of substance discharged per year:

Regions:	I	II	III	IV	Sum	
	The	The	The	The		
Substance:	Skagerrak	North Norwegian Sea	Norwegian Sea	Barents Sea		
Cd	18	953	101	0	1072	kg
Hg	4	20	0	0	24	kg
Cu	9.83	0.71	16.41	0	27	tonnes
Zn	2.85	68.70	38.69	0	110.24	tonnes
Pb	274	4389	641	0	5303	kg
Arsenic	276	0	270	0	546	kg
Cr-T	1.28	0.74	0.19	0	2.21	tonnes
Ni	3.91	1.18	0.29	0	5.38	tonnes
PCBs						kg
gamma-HCH						kg
NO3-N						tonnes
PO4-P						tonnes
Tot-N	1700	606	816	2	3124	tonnes
Tot-P	89	79	73	1	242	tonnes
S.P.M.	8149	2097808	1411314	2131579	5648851	tonnes
TOC	67	350	23	0	440	tonnes
COD	88516	16597	31743	0	136856	tonnes
AOX	210	0	1	0	210	tonnes

Table 3.1 Industrial Effluents to The Skagerrak Region (1994).

The Skagerrak Region with sub-areas: (1) Glomma, (2) Drammenselva,
(3) Numedalslågen, (4) Skienselva, (5) Otra

Sub-areas : Substance:	Total quantity of substance discharged per year:						Precision of the estimate of the load
	1	2	3	4	5		
Cd	10.15	0.00	5.80	0.26	1.30	kg	_____ %
Hg	3.60	0.00	0.00	0.01	0.00	kg	_____ %
Cu	8347	0	72	50	1365	kg	_____ %
Zn	1153	4	123	1256	318	kg	_____ %
Pb	86.5	0.0	20.2	53.0	114.0	kg	_____ %
Arsenic	0.0	0.0	0.0	0.0	276.0	kg	_____ %
Cr-T	1222.6	1.6	11.9	44.9	1.5	kg	_____ %
Ni	21.8	2.7	1966.2	11.8	1910.0	kg	_____ %
PCBs						kg	_____ %
gamma-HCH						kg	_____ %
NO3-N						tonnes	_____ %
PO4-P						tonnes	_____ %
Tot-N	166.3	16.4	303.8	1205.8	7.9	tonnes	_____ %
Tot-P	33.0	0.2	44.8	9.4	1.9	tonnes	_____ %
S.P.M.	3276	173	2195	2087	418	tonnes	_____ %
TOC	28.4	0.0	26.1	12.5	0.0	tonnes	_____ %
COD	55714	217	22013	10573	0	tonnes	_____ %
AOX	209.4	0.0	0.0	0.2	0.0	tonnes	_____ %

**Table 3.2 Industrial Effluents to The Remaining North Sea Region
(1994).**

The remaining North Sea Region with sub-areas: (6) Orreelva, (7) Suldalslågen

Sub-areas :	Total quantity of substance discharged per year:			Precision of the estimate of the load
	6	7		
Substance:				
Cd	0.00	952.99	kg	_____ %
Hg	0.00	20.23	kg	_____ %
Cu	6	709	kg	_____ %
Zn	94	68602	kg	_____ %
Pb	0.0	4389	kg	_____ %
Arsenic	0.0	0.0	kg	_____ %
Cr-T	231.2	505.6	kg	_____ %
Ni	11.7	1166.7	kg	_____ %
PCBs			kg	_____ %
gamma-HCH			kg	_____ %
NO3-N			tonnes	_____ %
PO4-P			tonnes	_____ %
Tot-N	46.0	559.6	tonnes	_____ %
Tot-P	2.9	76.2	tonnes	_____ %
S.P.M.	1759680	338128	tonnes	_____ %
TOC	15.9	333.9	tonnes	_____ %
COD	837	15759	tonnes	_____ %
AOX	0.0	0.0	tonnes	_____ %

Table 3.3 Industrial Effluents to The Norwegian Sea Region (1994).

The Norwegian Sea Region with sub-areas: (8) Orkla, (9) Vefsna

Sub-areas :	Total quantity of substance discharged per year:			Precision of the estimate of the load
	8	9		
Substance:				
Cd	55.12	46.20	kg	_____ %
Hg	0.07	0.00	kg	_____ %
Cu	1252	15162	kg	_____ %
Zn	5020	33666	kg	_____ %
Pb	220.9	420.2	kg	_____ %
Arsenic	0.0	270.0	kg	_____ %
Cr-T	153.6	32.0	kg	_____ %
Ni	104.2	190.0	kg	_____ %
PCBs			kg	_____ %
gamma-HCH			kg	_____ %
NO3-N			tonnes	_____ %
PO4-P			tonnes	_____ %
Tot-N	267.2	549.0	tonnes	_____ %
Tot-P	46.5	26.6	tonnes	_____ %
S.P.M.	152089	1259225	tonnes	_____ %
TOC	0.0	23.5	tonnes	_____ %
COD	31743.2	0.0	tonnes	_____ %
AOX	0.7	0.0	tonnes	_____ %

Table 3.4 Industrial Effluents to The Barents Sea Region (1994).

The Barents Sea Region with sub-area: (10) Alta

Total quantity of substance discharged per year:			Precision
Sub-area :	10		of the estimate of the load
Substance:			
Cd	0.00	kg	_____ %
Hg	0.00	kg	_____ %
Cu	0	kg	_____ %
Zn	0	kg	_____ %
Pb	0.0	kg	_____ %
Arsenic	0.0	kg	_____ %
Cr-T	0.0	kg	_____ %
Ni	0.0	kg	_____ %
PCBs		kg	_____ %
gamma-HCH		kg	_____ %
NO3-N		tonnes	_____ %
PO4-P		tonnes	_____ %
Tot-N	2.5	tonnes	_____ %
Tot-P	0.5	tonnes	_____ %
S.P.M.	2131579	tonnes	_____ %
TOC	0.0	tonnes	_____ %
COD	0.0	tonnes	_____ %
AOX	0.0	tonnes	_____ %

APPENDIX IV : MAIN RIVERINE INPUTS 1994 (Paragraph 14 - 16)			Page:
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Paragraph 14: Main Rivers ./.

Paragraph 15: Measurements of calculation used - including information on the concentration upon which the measurement is based:

Appendix VII (1-10) and Paragraph 3.2 (Report A, 1991, 1992 - 1995)

Paragraph 16: Any other relevant information (e.g. proportion of substance discharged as insoluble material):

Table 4.1 MAIN RIVERINE INPUTS 1994 (1) Glomma

	Mean	Number of meas.	Minimum concentr. during the year	Maximum concentr. during the year	Total quantity of substance discharged each year	Were 70 % of measurements above limit of detection ?	Precision of the estimate of the load
Total volume:	57419	1000	m3/day				
Minimum flow:	24365	1000	m3/day				
Maximum flow:	163296	1000	m3/day				
					Long term average flow (LTA):	60324	1000 m3/day
					LTA period :	1961 to 1990	
Cadmium *	0.10	12	0.00	0.44 µg/l	2.45 tonnes	YES	_____%
Cadmium **	0.10	12	0.01	0.44 µg/l	2.46 tonnes		_____%
Mercury *	3.17	12	0.00	11.50 ng/l	79.04 kg	YES	_____%
Mercury **	3.33	12	1.00	11.50 ng/l	82.50 kg		_____%
Copper	1.64	12	1.13	2.30 µg/l	37.26 tonnes	YES	_____%
Zinc	8.49	12	2.30	24.10 µg/l	202.14 tonnes	YES	_____%
Lead	0.89	12	0.15	2.08 µg/l	19.35 tonnes	YES	_____%
Arsenic	0.40	1	0.40	0.40 µg/l	8.38 tonnes	YES	_____%
Total Cr-T	1.31	1	1.31	1.31 µg/l	27.45 tonnes	YES	_____%
Ni	0.92	1	0.92	0.92 µg/l	19.28 tonnes	YES	_____%
PCBs *		3		ng/l	17.94 kg	NO	_____%
PCBs **		3		ng/l	19.39 kg		_____%
gamma-HCH (lindane)	0.58	3	0.51	0.70 ng/l	11.63 kg	YES	_____%
Ammonia (NH4-N)	31.75	12	11.00	60.00 µg/l	557 tonnes	YES	_____%
Nitrates (NO3-N)	380.00	12	225.00	635.00 µg/l	7301 tonnes	YES	_____%
Orthoph. (PO4-P)	5.50	12	2.00	23.00 µg/l	102 tonnes	YES	_____%
Total N	573.75	12	385.00	910.00 µg/l	11470 tonnes	YES	_____%
Total P	13.75	12	7.00	38.00 µg/l	279 tonnes	YES	_____%
Susp. Part. Matter	7.10	12	1.85	29.70 mg/l	148111 tonnes	YES	_____%
TOC	3.70	1	3.70	3.70 mg/l	77545 tonnes	YES	_____%

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

Table 4.2 MAIN RIVERINE INPUTS 1994 (2) Drammenselva

	Mean	Number of meas.	Minimum concentr. during the year	Maximum concentr. during the year	Total quantity of substance discharged each year	Were 70 % of measurements above limit of detection ?	Precision of the estimate of the load
Total volume:	27353	1000	m3/day				
Minimum flow:	10109	1000	m3/day				
Maximum flow:	75773	1000	m3/day				
Long term average flow (LTA):	26743	1000	m3/day				
LTA period :	1961	to	1990				
Cadmium *	0.02	12	0.00	0.07 µg/l	0.23 tonnes	YES	_____%
Cadmium **	0.03	12	0.01	0.07 µg/l	0.25 tonnes		_____%
Mercury *	0.54	12	0.00	1.50 ng/l	5.24 kg	NO	_____%
Mercury **	1.13	12	1.00	1.50 ng/l	11.34 kg		_____%
Copper	0.85	12	0.30	1.40 µg/l	8.67 tonnes	YES	_____%
Zinc	3.24	12	2.00	5.70 µg/l	33.89 tonnes	YES	_____%
Lead	0.29	12	0.02	1.61 µg/l	2.71 tonnes	YES	_____%
Arsenic	0.17	4	0.08	0.37 µg/l	1.70 tonnes	YES	_____%
Total Cr-T	0.88	4	0.45	1.20 µg/l	8.85 tonnes	YES	_____%
Ni	0.59	4	0.45	0.91 µg/l	5.98 tonnes	YES	_____%
PCBs *		3		ng/l	6.19 kg	NO	_____%
PCBs **		3		ng/l	7.51 kg		_____%
gamma-HCH (lindane)	0.68	3	0.57	0.81 ng/l	6.77 kg	YES	_____%
Ammonia (NH4-N)	16.25	12	8.00	27.00 µg/l	151.64 tonnes	YES	_____%
Nitrates (NO3-N)	331.25	12	160.00	870.00 µg/l	3620.05 tonnes	YES	_____%
Orthoph. (PO4-P)	1.71	12	0.50	5.00 µg/l	16.95 tonnes	YES	_____%
Total N	512.92	12	375.00	1080.00 µg/l	5414.38 tonnes	YES	_____%
Total P	5.58	12	3.00	12.00 µg/l	58.95 tonnes	YES	_____%
Susp. Part. Matter	2.58	12	0.82	5.44 mg/l	27339 tonnes	YES	_____%
TOC	3.10	10	2.40	4.50 mg/l	31568 tonnes	YES	_____%

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

Table 4.3 MAIN RIVERINE INPUTS 1994 (3) Numedalslågen

Total volume:	10644	1000 m3/day	Long term average flow (LTA):	10082	1000 m3/day
Minimum flow:	3093	1000 m3/day	LTA period :	1961 to 1990	
Maximum flow:	57629	1000 m3/day			

	Mean	Number of meas.	Minimum concentr. during the year	Maximum concentr. during the year	Total quantity of substance discharged each year	Were 70 % of measurements above limit of detection ?	Precision of the estimate of the load
Cadmium *	0.04	12	0.00	0.13 µg/l	0.17 tonnes	YES	_____%
Cadmium **	0.05	12	0.01	0.13 µg/l	0.18 tonnes		_____%
Mercury *	4.71	12	0.00	25.50 ng/l	17.60 kg	YES	_____%
Mercury **	4.88	12	1.00	25.50 ng/l	18.04 kg		_____%
Copper	1.04	12	0.30	3.81 µg/l	3.90 tonnes	YES	_____%
Zinc	5.42	12	1.70	11.60 µg/l	22.83 tonnes	YES	_____%
Lead	0.52	12	0.11	2.13 µg/l	2.01 tonnes	YES	_____%
Arsenic	0.19	1	0.19	0.19 µg/l	0.74 tonnes	YES	_____%
Total Cr-T	0.85	1	0.85	0.85 µg/l	3.30 tonnes	YES	_____%
Ni	0.62	1	0.62	0.62 µg/l	2.41 tonnes	YES	_____%
PCBs *		3		ng/l	3.86 kg	NO	_____%
PCBs **		3		ng/l	4.33 kg		_____%
gamma-HCH (lindane)	0.44	3	0.30	0.64 ng/l	1.88 kg	YES	_____%
Ammonia (NH4-N)	28.08	12	5.00	54.00 µg/l	90.70 tonnes	YES	_____%
Nitrates (NO3-N)	250.17	12	59.00	730.00 µg/l	1030.55 tonnes	YES	_____%
Orthoph. (PO4-P)	3.13	12	0.50	7.00 µg/l	13.14 tonnes	YES	_____%
Total N	430.83	12	230.00	790.00 µg/l	1718.74 tonnes	YES	_____%
Total P	7.67	12	4.00	14.00 µg/l	32.95 tonnes	YES	_____%
Susp. Part. Matter	4.07	12	1.79	10.80 mg/l	17937 tonnes	YES	_____%
TOC	3.40	1	3.40	3.40 mg/l	13209 tonnes	YES	_____%

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

Table 4.4 MAIN RIVERINE INPUTS 1994 (4) Skienselva

Total volume:	22438	1000 m3/day	Long term average flow (LTA):	22611	1000 m3/day
Minimum flow:	4320	1000 m3/day	LTA period :	1961	to 1990
Maximum flow:	49853	1000 m3/day			

	Mean	Number of meas.	Minimum concentr. during the year	Maximum concentr. during the year	Total quantity of substance discharged each year	Were 70 % of measurements above limit of detection ?	Precision of the estimate of the load
Cadmium *	0.04	12	0.00	0.09 µg/l	0.33 tonnes	YES	_____ %
Cadmium **	0.04	12	0.01	0.09 µg/l	0.33 tonnes	_____	_____ %
Mercury *	0.50	12	0.00	1.50 ng/l	3.98 kg	NO	_____ %
Mercury **	1.08	12	1.00	1.50 ng/l	8.86 kg	_____	_____ %
Copper	0.55	12	0.30	1.20 µg/l	4.87 tonnes	YES	_____ %
Zinc	2.55	12	1.91	3.60 µg/l	20.44 tonnes	YES	_____ %
Lead *	0.17	12	0.00	1.01 µg/l	1.19 tonnes	YES	_____ %
Lead **	0.17	12	0.02	1.01 µg/l	1.23 tonnes	YES	_____ %
Arsenic	0.12	1	0.12	0.12 µg/l	0.98 tonnes	YES	_____ %
Total Cr-T	0.57	1	0.57	0.57 µg/l	4.67 tonnes	YES	_____ %
Ni	0.36	1	0.36	0.36 µg/l	2.95 tonnes	YES	_____ %
PCBs *		3		ng/l	6.98 kg	NO	_____ %
PCBs **		3		ng/l	7.98 kg	_____	_____ %
gamma-HCH (lindane)	1.05	3	0.83	1.31 ng/l	8.91 kg	YES	_____ %
Ammonia (NH4-N)	15.67	12	6.00	39.00 µg/l	118.47 tonnes	YES	_____ %
Nitrates (NO3-N)	226.67	12	180.00	285.00 µg/l	1895.19 tonnes	YES	_____ %
Orthoph. (PO4-P)	0.88	12	0.50	2.00 µg/l	7.14 tonnes	YES	_____ %
Total N	335.83	12	240.00	430.00 µg/l	2763.10 tonnes	YES	_____ %
Total P	3.17	12	2.00	7.00 µg/l	26.95 tonnes	YES	_____ %
Susp. Part. Matter	1.08	12	0.12	3.09 mg/l	9927 tonnes	YES	_____ %
TOC	2.20	1	2.20	2.20 mg/l	18018 tonnes	YES	_____ %

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

Table 4.5 MAIN RIVERINE INPUTS 1994 (5) Otra

	Total volume:		13734 1000 m3/day		Long term average flow (LTA):		12841 1000 m3/day	
	Minimum flow:		4398 1000 m3/day		LTA period : 1961 to 1990			
	Maximum flow:		39139 1000 m3/day					
	Mean	Number of meas.	Minimum concentr. during the year	Maximum concentr. during the year	Total quantity of substance discharged each year	Were 70 % of measurements above limit of detection ?	Precision of the estimate of the load	
Cadmium *	0.04	12	0.00	0.11 µg/l	0.17 tonnes	YES	%	
Cadmium **	0.04	12	0.01	0.11 µg/l	0.18 tonnes		%	
Mercury *	0.42	12	0.00	1.00 ng/l	1.65 kg	NO	%	
Mercury **	1.00	12	1.00	1.00 ng/l	5.01 kg		%	
Copper	0.50	12	0.10	0.90 µg/l	2.48 tonnes	YES	%	
Zinc	5.04	12	3.61	7.50 µg/l	27.15 tonnes	YES	%	
Lead	0.42	12	0.20	0.72 µg/l	2.23 tonnes	YES	%	
Arsenic	0.17	4	0.09	0.27 µg/l	0.86 tonnes	YES	%	
Total Cr-T	1.20	4	0.59	1.87 µg/l	5.26 tonnes	YES	%	
Ni	0.95	4	0.51	1.48 µg/l	5.78 tonnes	YES	%	
PCBs *		3		ng/l	0.76 kg	NO	%	
PCBs **		3		ng/l	1.71 kg		%	
gamma-HCH (lindane)	0.83	3	0.55	1.13 ng/l	3.20 kg	YES	%	
Ammonia (NH4-N)	13.33	12	5.00	30.00 µg/l	85.53 tonnes	YES	%	
Nitrates (NO3-N)	143.58	12	87.00	225.00 µg/l	806.70 tonnes	YES	%	
Orthoph. (PO4-P)	1.27	12	0.50	6.00 µg/l	12.83 tonnes	YES	%	
Total N	282.92	12	225.00	360.00 µg/l	1495.06 tonnes	YES	%	
Total P	5.25	12	3.00	9.00 µg/l	31.46 tonnes	YES	%	
Susp. Part. Matter	3.76	12	0.67	21.10 mg/l	22915 tonnes	YES	%	
TOC	3.26	12	2.30	4.70 mg/l	15014 tonnes	YES	%	

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

Table 4.6 MAIN RIVERINE INPUTS 1994 (6) Orreelva

	Total volume:		282 1000 m3/day		Long term average flow (LTA):		333 1000 m3/day		
	Minimum flow:		29 1000 m3/day		LTA period :		1961 to 1990		
	Maximum flow:		782 1000 m3/day						
	Mean	Number of meas.	Minimum concentr. during the year	Maximum concentr. during the year	Total quantity of substance discharged each year		Were 70 % of measurements above limit of detection ?	Precision of the estimate of the load	
Cadmium *	0.06	12	0.00	0.32 µg/l	0.01 tonnes		YES	_____ %	
Cadmium **	0.06	12	0.01	0.32 µg/l	0.01 tonnes			_____ %	
Mercury *	0.50	12	0.00	5.00 ng/l	0.04 kg		NO	_____ %	
Mercury **	1.33	12	1.00	5.00 ng/l	0.12 kg			_____ %	
Copper	1.37	12	0.60	2.90 µg/l	0.14 tonnes		YES	_____ %	
Zinc	2.55	12	0.50	10.20 µg/l	0.36 tonnes		YES	_____ %	
Lead	0.35	12	0.10	0.95 µg/l	0.03 tonnes		YES	_____ %	
Arsenic	0.27	4	0.10	0.40 µg/l	0.03 tonnes		YES	_____ %	
Total Cr-T	2.58	4	1.13	4.64 µg/l	0.27 tonnes		YES	_____ %	
Ni	2.95	4	1.60	6.68 µg/l	0.31 tonnes		YES	_____ %	
PCBs *		3		ng/l	0.00 kg		NO	_____ %	
PCBs **		3		ng/l	0.02 kg			_____ %	
gamma-HCH (lindane)	1.29	3	0.46	2.94 ng/l	0.08 kg		YES	_____ %	
Ammonia (NH4-N)	45.08	12	7.00	120.00 µg/l	5.11 tonnes		YES	_____ %	
Nitrates (NO3-N)	757.92	12	1.00	1825.00 µg/l	102.15 tonnes		YES	_____ %	
Orthoph. (PO4-P)	9.25	12	2.00	32.00 µg/l	1.13 tonnes		YES	_____ %	
Total N	1352.1	12	610.00	2425.00 µg/l	163.58 tonnes		YES	_____ %	
Total P	38.92	12	25.00	60.00 µg/l	4.36 tonnes		YES	_____ %	
Susp. Part. Matter	4.91	12	2.84	7.79 mg/l	548 tonnes		YES	_____ %	
TOC	5.50	1	5.50	5.50 mg/l	567 tonnes		YES	_____ %	

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

Table 4.7 MAIN RIVERINE INPUTS 1994 (7) Suldalslågen

Total volume:	4562	1000 m3/day	Long term average flow (LTA):	7422	1000 m3/day
Minimum flow:	1123	1000 m3/day	LTA period :	1961 to 1990	
Maximum flow:	21168	1000 m3/day			

	Mean	Number of meas.	Minimum concentr. during the year	Maximum concentr. during the year	Total quantity of substance discharged each year	Were 70 % of measurements above limit of detection ?	Precision of the estimate of the load
Cadmium	0.02	4	0.01	0.03 µg/l	0.04 tonnes	YES	_____%
Mercury *	0.50	4	0.00	2.00 ng/l	0.14 kg	NO	_____%
Mercury **	1.25	4	1.00	2.00 ng/l	1.74 kg		_____%
Copper	0.34	4	0.11	0.60 µg/l	0.64 tonnes	YES	_____%
Zinc	2.00	4	1.59	2.50 µg/l	3.56 tonnes	YES	_____%
Lead	0.14	4	0.05	0.27 µg/l	0.35 tonnes	YES	_____%
Arsenic	0.09	4	0.03	0.13 µg/l	0.12 tonnes	YES	_____%
Total Cr-T	1.36	4	0.54	2.26 µg/l	2.39 tonnes	YES	_____%
Ni	0.65	4	0.19	1.36 µg/l	1.67 tonnes	YES	_____%
PCBs *		2		ng/l	0.00 kg	NO	_____%
PCBs **		2		ng/l	0.35 kg		_____%
gamma-HCH (lindane)	0.83	2	0.81	0.84 ng/l	1.39 kg	YES	_____%
Ammonia (NH4-N)	7.25	4	5.00	13.00 µg/l	11.57 tonnes	YES	_____%
Nitrates (NO3-N)	181.25	4	160.00	235.00 µg/l	275 tonnes	YES	_____%
Orthoph. (PO4-P)	0.50	4	0.50	0.50 µg/l	0.83 tonnes	YES	_____%
Total N	227.50	4	190.00	275.00 µg/l	342 tonnes	YES	_____%
Total P	1.75	4	1.00	3.00 µg/l	2.57 tonnes	YES	_____%
Susp. Part. Matter	0.68	4	0.22	0.95 mg/l	1423 tonnes	YES	_____%
TOC	0.50	1	0.50	0.50 mg/l	833 tonnes	YES	_____%

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

Table 4.8 MAIN RIVERINE INPUTS 1994 (8) Orkla

Total volume:	3652	1000 m3/day	Long term average flow (LTA):	5374	1000 m3/day
Minimum flow:	1581	1000 m3/day	LTA period :	1961	to 1990
Maximum flow:	17885	1000 m3/day			

	Mean	Number of meas.	Minimum concentr. during the year	Maximum concentr. during the year	Total quantity of substance discharged each year	Were 70 % of measurements above limit of detection ?	Precision of the estimate of the load
Cadmium	0.08	12	0.02	0.14 µg/l	0.10 tonnes	YES	_____%
Mercury *	0.46	12	0.00	1.50 ng/l	0.70 kg	NO	_____%
Mercury **	1.04	12	1.00	1.50 ng/l	1.38 kg		_____%
Copper	7.84	12	4.01	12.40 µg/l	10.83 tonnes	YES	_____%
Zinc	26.03	12	15.20	40.90 µg/l	36.44 tonnes	YES	_____%
Lead *	0.17	12	0.00	1.18 µg/l	0.26 tonnes	YES	_____%
Lead **	0.17	12	0.02	1.18 µg/l	0.27 tonnes		_____%
Arsenic	0.56	1	0.56	0.56 µg/l	0.75 tonnes	YES	_____%
Total Cr-T	1.15	1	1.15	1.15 µg/l	1.53 tonnes	YES	_____%
Ni	0.68	1	0.68	0.68 µg/l	0.91 tonnes	YES	_____%
PCBs *		3		ng/l	0.00 kg	NO	_____%
PCBs **		3		ng/l	0.28 kg		_____%
gamma-HCH (lindane)	0.19	3	0.15	0.23 ng/l	0.23 kg	YES	_____%
Ammonia (NH4-N)	9.67	12	5.00	19.00 µg/l	12.57 tonnes	YES	_____%
Nitrates (NO3-N)	215.50	12	100.00	395.00 µg/l	259 tonnes	YES	_____%
Orthoph. (PO4-P)	1.17	12	0.50	3.00 µg/l	1.46 tonnes	YES	_____%
Total N	331.75	12	211.00	435.00 µg/l	427 tonnes	YES	_____%
Total P	4.67	12	1.00	9.00 µg/l	6.37 tonnes	YES	_____%
Susp. Part. Matter	1.68	12	0.38	5.66 mg/l	2543 tonnes	YES	_____%
TOC	3.73	12	2.00	6.50 mg/l	4973 tonnes	YES	_____%

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

Table 4.9 MAIN RIVERINE INPUTS 1994 (9) Vefsna

Total volume:	10992	1000 m3/day	Long term average flow (LTA):	15620	1000 m3/day
Minimum flow:	2843	1000 m3/day	LTA period :	1961	to 1990
Maximum flow:	79661	1000 m3/day			

	Mean	Number of meas.	Minimum concentr. during the year	Maximum concentr. during the year	Total quantity of substance discharged each year	Were 70 % of measurements above limit of detection ?	Precision of the estimate of the load
Cadmium *	0.05	12	0.00	0.18 µg/l	0.15 tonnes	YES	_____ %
Cadmium **	0.05	12	0.01	0.18 µg/l	0.16 tonnes		_____ %
Mercury *	2.79	12	0.00	10.50 ng/l	5.89 kg	NO	_____ %
Mercury **	3.13	12	1.00	10.50 ng/l	6.99 kg		_____ %
Copper	5.03	12	1.20	10.35 µg/l	20.74 tonnes	YES	_____ %
Zinc	9.54	12	1.20	19.51 µg/l	37.53 tonnes	YES	_____ %
Lead	1.49	12	0.05	7.32 µg/l	3.59 tonnes	YES	_____ %
Arsenic	0.27	4	0.11	0.36 µg/l	1.07 tonnes	YES	_____ %
Total Cr-T	1.40	4	0.54	2.32 µg/l	5.60 tonnes	YES	_____ %
Ni	1.00	4	0.37	1.97 µg/l	4.21 tonnes	YES	_____ %
PCBs *		3		ng/l	0.43 kg	NO	_____ %
PCBs **		3		ng/l	1.24 kg		_____ %
gamma-HCH (lindane)	0.23	3	0.15	0.38 ng/l	1.16 kg	YES	_____ %
Ammonia (NH4-N)	27.25	12	5.00	75.00 µg/l	97.26 tonnes	YES	_____ %
Nitrates (NO3-N)	108.33	12	39.00	325.00 µg/l	275.0 tonnes	YES	_____ %
Orthoph. (PO4-P)	2.67	12	0.50	5.00 µg/l	9.58 tonnes	YES	_____ %
Total N	388.75	12	160.00	800.00 µg/l	1184 tonnes	YES	_____ %
Total P	5.17	12	2.00	10.00 µg/l	22.48 tonnes	YES	_____ %
Susp. Part. Matter	1.57	12	0.51	4.32 mg/l	8965 tonnes	YES	_____ %
TOC	3.40	1	3.40	3.40 mg/l	13641 tonnes	YES	_____ %

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

Table 4.10 MAIN RIVERINE INPUTS 1993 (10) Altaelva

	Total volume: 5918 1000 m3/day		Long term average flow (LTA): 7487 1000 m3/day							
	Minimum flow: 2272 1000 m3/day		LTA period : 1961 to 1990							
	Maximum flow: 46829 1000 m3/day									
	Mean	Number of meas.	Minimum concentr. during the year	Maximum concentr. during the year	Total quantity of substance discharged each year		Were 70 % of measurements above limit of detection ?		Precision of the estimate of the load	
Cadmium *	0.03	4	0.00	0.06 µg/l	0.06 tonnes		YES	_____	%	
Cadmium **	0.04	4	0.01	0.06 µg/l	0.07 tonnes			_____	%	
Mercury *	1.38	4	0.00	2.50 ng/l	3.36 kg		NO	_____	%	
Mercury **	1.63	4	1.00	2.50 ng/l	3.80 kg			_____	%	
Copper	1.10	4	0.30	2.50 µg/l	2.82 tonnes		YES	_____	%	
Zinc	0.74	4	0.30	1.24 µg/l	1.49 tonnes		YES	_____	%	
Lead	0.09	4	0.05	0.19 µg/l	0.19 tonnes		YES	_____	%	
Arsenic	0.32	4	0.08	0.63 µg/l	0.62 tonnes		YES	_____	%	
Total Cr-T	1.20	4	0.15	2.12 µg/l	2.73 tonnes		YES	_____	%	
Ni	0.75	4	0.51	1.09 µg/l	1.74 tonnes		YES	_____	%	
PCBs *		2		ng/l	0.36 kg		NO	_____	%	
PCBs **		2		ng/l	0.65 kg			_____	%	
gamma-HCH (lindane)	0.05	2	0.05	0.05 ng/l	0.11 kg		YES	_____	%	
Ammonia (NH4-N)	6.00	4	5.00	9.00 µg/l	13.91 tonnes		YES	_____	%	
Nitrates (NO3-N)	48.50	4	23.00	84.00 µg/l	95.15 tonnes		YES	_____	%	
Orthoph. (PO4-P)	7.63	4	0.50	19.00 µg/l	14.84 tonnes		YES	_____	%	
Total N	178.75	4	155.00	210.00 µg/l	395.39 tonnes		YES	_____	%	
Total P	12.75	4	4.00	24.00 µg/l	26.78 tonnes		YES	_____	%	
Susp. Part. Matter	3.14	4	0.84	9.10 mg/l	8642 tonnes		YES	_____	%	
TOC	3.50	1	3.50	3.50 mg/l	7560 tonnes		YES	_____	%	

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

APPENDIX V : INPUTS FROM TRIBUTARY RIVERS 1994 (Paragraph 17 - Page:
19)

Table 5.1	Tributary rivers in the sub-areas	(1-5). The Skagerrak area	41
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Paragraph 17: Tributary rivers ./.

Paragraph 18: Measurements of calculation used - including information on the concentration upon which the measurement is based:

Appendix VIII and IX (1-10) and Paragraph 3.2 (Report A, 1991, 1992 - 1995)

Paragraph 19: Any other relevant information (e.g. proportion of substance discharged as insoluble material):

**Table 5.1 The Skagerrak Region. Inputs from tributary rivers 1994
in The Subareas (1-5).**

The Skagerrak Region with sub-areas: (1A) Glomma, (1B) Inner Oslofj., (2) Drammenselva,
(3) Numedalslågen, (4) Skienselva, (5) Otra

Total quantity of substance discharged per year:							Were 70 % of measurements above the detection limit ?	Precision of the estimate of the load
Sub-areas :	1A	1B	2	3	4	5		
Substance:								
Cd *	0.12	0.03	0.01	0.02	0.05	0.62 tonnes	YES	_____ %
Cd **	0.12	0.03	0.01	0.02	0.05	0.62 tonnes		_____ %
Hg *	0.63	0.74	0.24	0.10	1.08	9.51 kg	YES	_____ %
Hg **	1.40	0.95	0.24	0.60	1.08	13.74 kg		_____ %
Cu	1.0	0.6	0.2	0.8	0.6	6.0 tonnes	YES	_____ %
Zn	8.6	2.3	2.0	8.8	8.2	73.1 tonnes	YES	_____ %
Pb *	0.35	0.14	0.07	0.28	0.40	5.87 tonnes	YES	_____ %
Pb **	0.35	0.14	0.07	0.28	0.40	5.87 tonnes		_____ %
Arsenic *	0.35	0.13	0.05	0.16	0.34	2.42 tonnes	YES	_____ %
Arsenic **	0.35	0.13	0.05	0.16	0.34	2.42 tonnes		_____ %
Cr-T *	2.10	0.51	0.29	0.65	1.21	7.36 tonnes	YES	_____ %
Cr-T **	2.10	0.54	0.29	0.65	1.21	7.36 tonnes		_____ %
Ni *	1.11	0.54	0.28	0.63	0.31	1.95 tonnes	YES	_____ %
Ni **	1.11	0.54	0.28	0.63	0.31	1.95 tonnes		_____ %
PCBs *	0.00	0.13	0.00	0.00	0.00	0.00 kg	NO	_____ %
PCBs **	0.24	0.20	0.05	0.12	0.23	2.16 kg		_____ %
gamma-HCH	0.79	0.26	0.06	0.21	1.08	9.08 kg	YES	_____ %
NH4-N	26	36	10	24	42	407 tonnes	YES	_____ %
NO3-N	1001	447	210	599	244	2472 tonnes	YES	_____ %
PO4-P	6	6	9	10	1	6 tonnes	YES	_____ %
Total N	1205	603	265	903	433	4462 tonnes	YES	_____ %
Total P	21	18	14	16	4	46 tonnes	YES	_____ %
S.P.M.	3465	4598	3431	4808	1126	14029 tonnes	YES	_____ %
TOC	8093	2586	821	2758	3680	32860 tonnes	YES	_____ %

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

Table 5.2 The remaining North Sea Region. Inputs from tributary rivers 1994 in The Subareas (6-7).

The remaining North Sea Region with sub-areas: (6) Orreelva, (7) Suldalslågen

Total quantity of substance discharged per year:			Were 70 % of	Precision
Sub-areas :	6	7	measurements	of the
			above	estimate
			the detection	of the
			limit ?	load
Substance:				
Cd *	0.39	0.83	tonnes YES	_____ %
Cd **	0.40	0.89	tonnes	_____ %
Hg *	5.40	26.56	kg NO	_____ %
Hg **	15.05	43.71	kg	_____ %
Cu	4.1	9.9	tonnes YES	_____ %
Zn	65.5	81.0	tonnes YES	_____ %
Pb *	6.52	3.12	tonnes YES	_____ %
Pb **	6.52	3.19	tonnes	_____ %
Arsenic *	3.30	2.15	tonnes YES	_____ %
Arsenic **	3.30	2.16	tonnes	_____ %
Cr-T *	15.86	23.45	tonnes YES	_____ %
Cr-T **	15.86	23.45	tonnes	_____ %
Ni *	4.13	2.17	tonnes YES	_____ %
Ni **	4.13	2.21	tonnes	_____ %
PCBs *	0.00	0.00	kg NO	_____ %
PCBs **	2.87	6.81	kg	_____ %
gamma-HCH	8.00	8.40	kg YES	_____ %
NH4-N	296	227	tonnes YES	_____ %
NO3-N	3475	4199	tonnes YES	_____ %
PO4-P	22	33	tonnes YES	_____ %
Total N	5052	6786	tonnes YES	_____ %
Total P	75	113	tonnes YES	_____ %
S.P.M.	15627	24353	tonnes YES	_____ %
TOC	38149	31468	tonnes YES	_____ %

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

Table 5.3 The Norwegian Sea Region. Inputs from tributary rivers 1994 in The Subareas (8-9).

The Norwegian Sea Region with sub-areas: (8) Orkla, (9) Vefsna

Total quantity of substance discharged per year:			Were 70 % of	Precision
Sub-areas :	8	9	measurements	of the
Substance:			above	estimate
			the detection	of the
			limit ?	load
Cd *	1.45	0.35	tonnes YES	_____ %
Cd **	1.50	0.43	tonnes	_____ %
Hg *	54.64	7.95	kg NO	_____ %
Hg **	64.26	27.89	kg	_____ %
Cu	26.2	27.3	tonnes YES	_____ %
Zn	59.4	50.2	tonnes YES	_____ %
Pb *	8.84	13.75	tonnes YES	_____ %
Pb **	8.88	13.75	tonnes	_____ %
Arsenic *	4.07		tonnes YES	_____ %
Arsenic **	4.08		tonnes	_____ %
Cr-T *	42.58	54.08	tonnes YES	_____ %
Cr-T **	42.58	54.08	tonnes	_____ %
Ni *	10.65	4.68	tonnes YES	_____ %
Ni **	10.67	4.68	tonnes	_____ %
PCBs *	0.41	0.00	kg NO	_____ %
PCBs **	7.51	5.74	kg	_____ %
gamma-HCH	13.64	8.25	kg YES	_____ %
NH4-N	256	140	tonnes YES	_____ %
NO3-N	3388	1096	tonnes YES	_____ %
PO4-P	55	28	tonnes YES	_____ %
Total N	7339	2964	tonnes YES	_____ %
Total P	181	91	tonnes YES	_____ %
S.P.M.	55226	58436	tonnes YES	_____ %
TOC	22867	4376	tonnes YES	_____ %

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

**Table 5.4 The Barents Region. Inputs from tributary rivers 1994
in The Subarea (10).**

The Barents Sea Region with sub-area: (10) Alta

Total quantity of substance discharged per year:		Were 70 % of measurements above the detection limit ?	Precision of the estimate of the load
Sub-area :	10		
Substance:			
Cd *	0.16	tonnes YES	_____ %
Cd **	0.23	tonnes	_____ %
Hg *	25.47	kg NO	_____ %
Hg **	29.89	kg	_____ %
Cu	18.8	tonnes YES	_____ %
Zn	20.1	tonnes YES	_____ %
Pb *	5.41	tonnes YES	_____ %
Pb **	5.41	tonnes	_____ %
Arsenic *	3.07	tonnes YES	_____ %
Arsenic **	3.07	tonnes	_____ %
Cr-T *	40.53	tonnes YES	_____ %
Cr-T **	40.53	tonnes	_____ %
Ni *	62.44	tonnes YES	_____ %
Ni **	62.44	tonnes	_____ %
PCBs *	0.00	kg NO	_____ %
PCBs **	3.38	kg	_____ %
gamma-HCH	3.41	kg YES	_____ %
NH4-N	255	tonnes YES	_____ %
NO3-N	202	tonnes YES	_____ %
PO4-P	25	tonnes YES	_____ %
Total N	2571	tonnes YES	_____ %
Total P	89	tonnes YES	_____ %
S.P.M.	30967	tonnes YES	_____ %
TOC	24351	tonnes YES	_____ %

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

APPENDIX VI : OTHER INPUTS 1994 (Paragraph 20)**Page:**

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Paragraph 20: Any available information on discharge through urban run-off - storm water overflow - polder effluents etc.:

"Background" is runoff from forested areas and highlands, including effect of acid precipitation

Agriculture runoff:

- "Area" is runoff from arable land
- "Point"-sources are drainage from silos, manures etc.

Paragraph 3.3 (Report A, 1991, 1992 - 1995)

Table 6.1 Nutrients from "Down Stream Areas" of main and tributary rivers and rivers not monitored 1994.

Direct runoff of P and N :

Sub-areas:		Back-ground tonnes	Agriculture Area tonnes	Point tonnes	Sum tonnes	
1 Glomma	P	15.4	10.7	0.4	26.5	
	N	266.4	518.9	6.4	791.6	
	PO4-P	3.1	3.2	0.3	6.6	
	NO3-N	159.8	363.2	0.8	523.8	
	NH4-N	13.3	36.3	5.1	54.7	
1 Inner Oslofjord	P	2.3	2.1	0.3	4.6	
	N	27.2	90.0	2.7	119.8	
	PO4-P	0.5	0.6	0.2	1.3	
	NO3-N	16.3	63.0	0.3	79.6	
	NH4-N	1.4	6.3	2.1	9.8	
2 Drammenselva	P	1.4	2.1	0.0	3.5	
	N	47.3	69.8	0.7	117.8	
	PO4-P	0.3	0.6	0.0	0.9	
	NO3-N	28.4	48.9	0.1	77.3	
	NH4-N	2.4	4.9	0.5	7.8	
3 Numedalslågen	P	4.9	10.5	0.2	15.5	
	N	128.8	444.6	1.8	575.2	
	PO4-P	1.0	3.1	0.1	4.2	
	NO3-N	77.3	311.2	0.2	388.7	
	NH4-N	6.4	31.1	1.4	39.0	
4 Sklenselva	P	6.8	2.0	0.1	8.9	
	N	271.1	91.6	1.5	364.1	
	PO4-P	1.4	0.6	0.1	2.0	
	NO3-N	162.6	64.1	0.2	226.9	
	NH4-N	13.6	6.4	1.2	21.1	
5 Otra	P	7.0	3.6	0.3	10.9	
	N	316.1	104.7	3.4	424.2	
	PO4-P	1.4	1.1	0.2	2.7	
	NO3-N	189.7	73.3	0.4	263.4	
	NH4-N	15.8	7.3	2.7	25.9	
6 Orreelva	P	23.0	43.6	4.2	70.9	
	N	1238.6	1312.5	51.5	2602.6	
	PO4-P	4.6	13.1	2.9	20.6	
	NO3-N	743.2	918.8	6.2	1668.1	
	NH4-N	61.9	91.9	41.2	195.0	
7 Suldalslågen	P	58.0	62.2	7.2	127.5	
	N	4284.0	1300.8	98.6	5683.4	
	PO4-P	11.6	18.7	5.0	35.3	
	NO3-N	2570.4	910.6	11.8	3492.8	
	NH4-N	214.2	91.1	78.9	384.1	
8 Orkla	P	131.1	141.2	14.1	286.5	
	N	3501.0	3456.7	191.9	7149.6	
	PO4-P	26.2	42.4	9.8	78.3	
	NO3-N	2100.6	2419.7	23.0	4543.3	
	NH4-N	175.0	242.0	153.6	570.6	
9 Vefsna	P	83.6	32.5	7.2	123.3	
	N	1920.5	829.7	104.6	2854.7	
	PO4-P	16.7	9.8	5.0	31.5	
	NO3-N	1152.3	580.8	12.5	1745.6	
	NH4-N	96.0	58.1	83.7	237.8	
10 Altaelva	P	86.1	1.6	0.6	88.2	
	N	1617.9	54.9	7.9	1680.7	
	PO4-P	17.2	0.5	0.4	18.1	
	NO3-N	970.8	38.4	0.9	1010.1	
	NH4-N	80.9	3.8	6.3	91.0	
			SUM	P	766	tonnes
			SUM	N	22364	tonnes
			SUM	PO4-P	201	tonnes
			SUM	NO3-N	14020	tonnes
			SUM	NH4-N	1637	tonnes

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Table 7.1 Measured concentrations - 1994

Watercourse : **Glomma**

Annual flow : **20958 mill. cbm**

Min : **282 cbm/s**

Drainage area. : **41218 sq.km**

Max: **1890 cbm/s**

Date	Q m ³ /s	Cond mS/m	Tot-P µg/l	PO4-P µg/l	Tot-N µg/l	NO3-N µg/l	NH4-N µg/l	Cu µg/l	Zn µg/l	Cd µg/l	Pb µg/l	S.P.M. mg/l	TOC mg/l	Hg ng/l	PCB (The following Congeners)								Cr-T µg/l	Ni µg/l					
															28 ng/l	52 ng/l	101 ng/l	118 ng/l	138 ng/l	153 ng/l	180 ng/l	As µg/l							
940121	451.9	4.96	7	3.0	555	375	40	1.13	6.37	0.10	0.54	2.57		<1.0															
940215	384.3	4.86	15	3	540	350	48	1.32	4.69	0.07	0.42	1.85		2.0	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03							
940314	286.9	5.21	26	15.0	700	460	60	1.49	5.93	0.08	0.47	12.4		8.0															
940412	664.1	5.31	38	23	910	635	52	2.07	4.30	0.05	0.58	29.7		3.0															
940510	1405	3.48	17	5.0	475	230	14	2.10	7.80	0.02	0.59	8.08		11.5															
940610	1230	3.82	9	2.0	435	225	24	2.30	24.1	0.44	2.05	3.43		3.0	<0.03	0.17	0.33	0.3	0.3	0.22	0.07								
940714	950.0	4.31	7	2.0	395	235	11	1.60	2.30	0.03	0.15	3.89		<1.0															
940818	717.4	22.1	8	2.0	385	235	16	1.60	17.9	0.17	0.81	4.55		2.0															
940915	871.1	4.47	13	2.0	740	530	20	2.00	7.30	0.08	0.62	7.63		3.5															
941012	569.8	4.32	8	3.0	480	320	27	1.20	4.50	0.02	2.08	2.81		2.5	<0.03	0.04	0.06	0.06	0.07	0.05	<0.03								
941110	461.2	4.68	8	3.0	565	425	26	1.20	5.90	<0.01	2.05	2.59		1.5															
941205	492.9	5.28	9	3	705	540	43	1.70	10.8	0.13	0.33	5.75	3.7	1.0									0.40	1.31				0.92	
Min:	286.9	3.48	7	2	385	225	11	1.13	2.3	0.01	0.15	1.85	3.7	1	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03				0.4	1.31	0.92
Max:	1405	22.1	38	23	910	635	60	2.3	24.1	0.44	2.08	29.7	3.7	11.5	0.03	0.17	0.33	0.3	0.3	0.22	0.07	0.07	0.07	0.07			0.4	1.31	0.92
Aver.:	707.1	6.07	13.75	5.50	574	380	31.75	1.64	8.49	0.10	0.89	7.10	3.70	3.33	0.03	0.08	0.14	0.13	0.13	0.10	0.04	0.04	0.04			0.40	1.31	0.92	
St.dev.:	346.3	5.08	9.47	6.59	160	140	16.28	0.40	6.35	0.12	0.72	7.74	1	3.20	0.00	0.08	0.17	0.15	0.15	0.10	0.02	0.02	0.02			1	1	1	1
Numb.:	12	12	12	12	12	12	12	12	12	12	12	12	1	12	3	3	3	3	3	3	3	3	3	3	1	1	1	1	1

Table 7.2 Measured concentrations - 1994

Watercourse : **Drammenselva**

Annual flow : **9984 mill. cbm**

Min : **117 cbm/s**

Drainage area. : **17028 sq.km**

Max: **877 cbm/s**

Date	Q m ³ /s	Cond mS/m	Tot-P µg/l	PO4-P µg/l	Tot-N µg/l	NO3-N µg/l	NH4-N µg/l	Cu µg/l	Zn µg/l	Cd µg/l	Pb µg/l	S.P.M. mg/l	TOC mg/l	Hg ng/l	Gamr HCH ng/l	PCB (The following Congeners) IUPAC NOS							Cr-T µg/l	Ni µg/l				
																28 ng/l	52 ng/l	101 ng/l	118 ng/l	138 ng/l	153 ng/l	180 ng/l			As µg/l			
940117	281.7	3.38	3	1.0	385	265	12	1.05	2.50	0.01	0.06	0.92		<1.0											0.11	0.99	0.51	
940217	255.1	3.58	3	2.0	415	270	16	0.77	2.76	0.04	0.09	0.82		<1.0	0.81	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.10	0.89	0.45	
940314	287.0	3.76	4	2.0	460	350	18	0.60	2.35	0.04	0.02	1.39	2.4	<1.0											0.08	0.45	0.49	
940411	302.9	4.56	12	5.0	910	545	14	1.03	5.11	0.05	0.18	5.44	3.7	<1.0											0.37	1.20	0.91	
940510	664.3	3.39	5	2.0	405	265	8	0.70	3.30	0.01	0.17	3.35	2.6	<1.0														
940613	382.7	3.62	6	2.0	410	250	12	0.70	2.30	<0.01	0.04	1.34	3.1	<1.0	0.66	<0.03	0.18	0.34	0.31	0.31	0.23	0.07						
940718	271.0	3.33	7	2.0	395	160	11	1.30	3.90	0.04	0.67	3.07	3.1	<1.0														
940818	250.8	3.07	6	2.0	375	165	21	1.30	3.60	0.01	1.61	3.95	2.5	1.5														
940912	547.4	3.81	10	0.5	1080	870	17	1.40	5.70	0.02	0.36	4.15	4.5	1.5														
941017	250.8	3.25	4	1.0	395	225	27	0.50	2.00	<0.01	0.12	4.38	2.9	1.0	0.57	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				
941107	221.1	3.66	4	0.5	520	335	23	0.50	3.30	<0.01	0.11	1.27	3.1	1.0														
941207	289.1	3.54	3	0.5	405	275	16	0.30	2.00	0.07	0.07	0.82	3.1	1.5														
Min:	221.1	3.07	3	0.5	375	160	8	0.3	2	0.01	0.02	0.82	2.4	1	0.57	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.08	0.45	0.45	
Max:	664.3	4.56	12	5	1080	870	27	1.4	5.7	0.07	1.61	5.44	4.5	1.5	0.81	0.03	0.18	0.34	0.31	0.31	0.23	0.23	0.07	0.07	0.37	1.2	0.91	
Aver.:	333.7	3.58	5.58	1.71	513	331	16.25	0.85	3.24	0.03	0.29	2.58	3.10	1.13	0.68	0.08	0.13	0.12	0.12	0.12	0.10	0.10	0.04	0.17	0.88	0.59		
St.dev.:	135.4	0.38	2.87	1.23	231	197	5.43	0.36	1.19	0.02	0.45	1.66	0.62	0.23	0.12	0.09	0.18	0.16	0.16	0.12	0.12	0.12	0.02	0.14	0.32	0.21		
Numb.:	12	12	12	12	12	12	12	12	12	12	12	12	10	12	3	3	3	3	3	3	3	3	3	3	4	4	4	

Table 7.3 Measured concentrations - 1994

Watercourse : Numedalslågen

Annual flow : 3885 mill. cbm

Min : 35.8 cbm/s

Drainage area. : 5513 sq.km

Max: 667 cbm/s

Date	Q m ³ /s	Cond mS/m	Tot-P µg/l	PO4-P µg/l	Tot-N µg/l	NO3-N µg/l	NH4-N µg/l	Cu µg/l	Zn µg/l	Cd µg/l	Pb µg/l	S.P.M. mg/l	TOC mg/l	Hg ng/l	PCB (The following Congeners)							Cr-T µg/l	Ni µg/l							
															28 ng/l	52 ng/l	101 ng/l	118 ng/l	138 ng/l	153 ng/l	180 ng/l			As µg/l						
940117	97.8	3.35	6	4.0	400	235	43	0.47	3.47	0.04	0.19	3.08		1.5																
940217	80.4	2.65	4	3.0	335	140	30	0.39	3.02	0.11	0.15	1.79		<1.0	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			
940316	69.2	4.12	8	5.0	590	435	50	3.81	11.6	0.06	2.13	4.28		7.5																
940417	154.7	4.21	14	7.0	790	730	26	1.13	7.36	0.13	0.20	10.80		1.5																
940509	254.4	2.25	8	3.0	340	160	9	0.70	6.80	0.02	0.39	4.84		10.0																
940607	132.1	1.89	9	3.0	230	109	5	1.40	9.40	0.02	1.77	3.10		2.0	0.64	<0.03	0.22	0.49	0.43	0.45	0.31	0.11								
940718	73.3	2.51	4	0.5	230	59	9	0.80	1.70	<0.01	0.15	2.71		<1.0																
940818	85.7	2.77	9	2.0	355	99	21	1.00	3.90	0.01	0.29	3.28		1.5																
940915	169.9	3.31	13	4.0	600	340	13	1.40	7.10	0.04	0.52	6.45		3.5																
941017	54.9	3.04	5	2.0	405	185	54	0.80	4.60	<0.01	0.23	4.12		25.5	0.38	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			
941108	103.7	3.14	6	2.0	460	245	34	0.30	2.90	<0.01	0.11	2.24		1.5																
941207	80.4	3.30	6	2.0	435	265	43	0.30	3.20	0.08	0.15	2.19	3.4	2.0												0.19	0.85	0.62		
Min:	54.93	1.89	4	0.5	230	59	5	0.3	1.7	0.01	0.11	1.79	3.4	1	0.30	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.19	0.85	0.62	
Max:	254.4	4.21	14	7	790	730	54	3.81	11.6	0.13	2.13	10.8	3.4	25.5	0.64	0.03	0.22	0.49	0.43	0.45	0.31	0.11	0.19	0.19	0.19	0.19	0.19	0.85	0.62	
Aver.:	113.0	3.05	7.67	3.13	431	250	28.08	1.04	5.42	0.05	0.52	4.07	3.40	4.88	0.44	0.03	0.09	0.18	0.16	0.17	0.12	0.06	0.19	0.19	0.19	0.19	0.19	0.85	0.62	
St.dev.:	56.71	0.69	3.23	1.71	162	185	17.00	0.95	3.02	0.04	0.68	2.49	1	7.09	0.18	0.11	0.27	0.23	0.24	0.16	0.05	0.05	0.16	0.16	0.16	0.16	0.16	0.85	0.62	
Numb.:	12	12	12	12	12	12	12	12	12	12	12	12	1	12	3	3	3	3	3	3	3	3	3	3	3	3	1	1	1	1

Table 7.4 Measured concentrations - 1994

Watercourse : Skienselva

Annual flow : 8190 mill. cbm

Min : 50 cbm/s

Drainage area : 10348 sq.km

Max: 577 cbm/s

Date	Q m ³ /s	Cond mS/m	Tot-P µg/l	PO ₄ -P µg/l	Tot-N µg/l	NO ₃ -N µg/l	NH ₄ -N µg/l	Cu µg/l	Zn µg/l	Cd µg/l	Pb µg/l	S.P.M. mg/l	TOC mg/l	Hg ng/l	Gamt HCH ng/l	PCB (The following Congeners) IUPAC NOS								Cr-T µg/l	Ni µg/l				
																28 ng/l	52 ng/l	101 ng/l	118 ng/l	138 ng/l	153 ng/l	180 ng/l	As µg/l						
940120	231.0	2.25	2	1.0	335	240	11	0.32	2.27	0.08	0.06	0.36		1.5															
940216	200.0	2.13	2	1.0	240	230	9	0.30	1.91	0.04	0.05	0.32		<1.0	1.01	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				
940316	190.0	2.28	2	1.0	330	240	9	0.69	2.10	0.05	<0.02	0.12		<1.0															
940412	332.0	2.33	3	2.0	380	285	9	0.31	2.10	0.02	0.04	1.64		<1.0															
940519	473.0	2.30	3	0.5	350	255	11	1.10	2.10	0.03	<0.02	0.82		<1.0															
940613	262.0	2.13	4	1.0	335	225	6	1.20	2.70	0.02	0.11	0.88		<1.0	1.31	0.06	0.26	0.42	0.43	0.47	0.29	0.11							
940713	99.0	2.17	2	0.5	320	195	16	0.50	2.90	0.04	0.15	1.76		<1.0															
940818	137.0	2.08	2	0.5	300	180	16	0.50	2.20	0.02	0.12	0.83		<1.0															
940914	472.0	2.04	3	0.5	310	200	13	0.50	2.60	0.04	0.09	3.09		1.0															
941014	165.0	2.07	4	1.0	430	215	39	0.40	3.60	0.08	0.24	1.69		1.0															
941109	272.0	2.03	7	0.5	350	215	19	0.30	2.90	<0.01	0.11	0.66		1.5	0.83	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				
941208	235.0	2.31	4	1.0	350	240	30	0.51	3.21	0.09	1.01	0.77		<1.0															
Min:	99	2.03	2	0.5	240	180	6	0.3	1.91	0.01	0.02	0.12		1	0.83	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.12	0.57	0.36	
Max:	473	2.33	7	2	430	285	39	1.2	3.6	0.09	1.01	3.09		1.5	1.31	0.06	0.26	0.42	0.43	0.47	0.29	0.11	0.12	0.12	0.12	0.12	0.57	0.36	
Aver.:	255.7	2.18	3.17	0.88	336	227	15.67	0.55	2.55	0.04	0.17	1.08	2.20	1.08	1.05	0.04	0.11	0.16	0.16	0.18	0.12	0.06	0.12	0.12	0.12	0.12	0.57	0.36	
St.dev.:	118.9	0.11	1.47	0.43	46	28	9.72	0.30	0.52	0.03	0.27	0.83	2.2	0.19	0.24	0.02	0.13	0.23	0.23	0.25	0.15	0.05	0.05	0.05	0.05	0.12	0.57	0.36	
Numb.:	12	12	12	12	12	12	12	12	12	12	12	12	1	12	3	3	3	3	3	3	3	3	3	3	1	1	1	1	1

Table 7.6 Measured concentrations - 1994

Watercourse : Orreelva

Annual flow : : 103 mill. cbm

Min : 0.33 cbm/s

Drainage area : : 105 sq.km

Max: 9.05 cbm/s

Date	Q m ³ /s	Cond mS/m	Tot-P µg/l	PO4-P µg/l	Tot-N µg/l	NO3-N µg/l	NH4-N µg/l	Cu µg/l	Zn µg/l	Cd µg/l	Pb µg/l	S.P.M. mg/l	TOC mg/l	Hg ng/l	Gamr PCB (The following Congeners)							Cr-T µg/l	Ni µg/l									
															28 ng/l	52 ng/l	101 ng/l	118 ng/l	138 ng/l	153 ng/l	180 ng/l			As µg/l								
940118	4.18	21.0	31	13.0	1900	1210	120	1.05	3.34	0.04	0.12	2.84		<1.0																4.64	1.69	
940214	2.95	19.6	39	12.0	2425	1825	72	1.13	3.57	0.04	0.47	4.19		<1.0															1.13	1.60		
940315	7.48	19.1	60	16.0	2140	1590	63	1.64	4.53	0.07	0.31	6.68		1.0	0.46	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.30	0.27	0.30	2.37	1.83				
940411	5.25	16.2	41	7.0	2050	1400	14	1.24	10.2	0.06	0.33	7.79		<1.0												0.10	0.40	2.18	6.68			
940509	3.06	20.1	56	32.0	1580	970	65	2.90	1.90	0.32	0.95	3.52		<1.0																		
940614	1.23	20.8	30	3.0	750	175	30	1.80	0.50	0.01	0.32	3.76		5.0	2.94	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03								
940711	1.31	20.7	25	2.0	725	93	51	1.80	1.50	0.14	0.49	4.09		<1.0																		
940815	1.83	22.1	36	4.0	610	1	7	1.10	0.70	<0.01	0.65	3.11		<1.0																		
940913	3.06	28.7	32	4.0	675	96	15	0.90	0.60	<0.01	0.10	6.27		<1.0																		
941010	2.32	18.4	33	6.0	1120	600	33	0.90	1.20	<0.01	0.12	4.86		<1.0	0.48	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03								
941108	3.29	18.7	36	6.0	1170	595	35	1.40	1.40	0.01	0.16	4.68		<1.0																		
941205	2.15	20.3	48	6.0	1080	540	36	0.60	1.10	0.05	0.22	7.13	5.5	<1.0																		
Min:	1.23	16.2	25	2	610	1	7	0.6	0.5	0.01	0.1	2.84	5.5	1	0.46	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.1	0.27	0.30	1.13	1.60			
Max:	7.48	28.7	60	32	2425	1825	120	2.9	10.2	0.32	0.95	7.79	5.5	5	2.94	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.4	0.27	0.30	4.64	6.68			
Aver.:	3.18	20.48	38.92	9.25	1352	758	45.08	1.37	2.55	0.06	0.35	4.91	5.50	1.33	1.29	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.27	0.30	0.30	2.58	2.95			
St.dev.:	1.78	3.00	10.70	8.36	642	631	31.58	0.61	2.74	0.09	0.25	1.66	1	1.15	1.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.10	0.10	1.48	2.49			
Numb.:	12	12	12	12	12	12	12	12	12	12	12	12	1	12	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4		

Table 7.9 Measured concentrations - 1994

Watercourse : Vefсна

Annual flow : 4012 mill. cbm

Min : 32.9 cbm/s

Drainage area : 4113 sq.km

Max: 922 cbm/s

Date	Q m ³ /s	Cond mS/m	Tot-P µg/l	PO ₄ -P µg/l	Tot-N µg/l	NO ₃ -N µg/l	NH ₄ -N µg/l	Cu µg/l	Zn µg/l	Cd µg/l	Pb µg/l	S.P.M. mg/l	TOC mg/l	Hg ng/l	Gamr HCH ng/l	PCB (The following Congeners) IUPAC NOS								Cr-T µg/l	Ni µg/l
																28 ng/l	52 ng/l	101 ng/l	118 ng/l	138 ng/l	153 ng/l	180 ng/l	As µg/l		
940124	35.38	9.08	5	3.0	465	143	30	4.99	8.51	0.10	0.96	0.70		2.5									0.54	0.70	
940215	34.50	10.60	4	4.0	505	170	24	3.90	16.17	0.02	0.05	0.72		10.5									1.00	0.97	
940315	33.23	10.70	4	2.0	800	325	66	4.67	14.73	0.18	7.32	0.51		9.5								2.32	0.37		
940411	41.07	8.94	9	5.0	700	180	30	10.35	19.51	0.07	5.52	2.38		5.5								1.72	1.97		
940509	352.3	5.94	10	4.0	280	77	23	8.60	8.70	0.06	0.34	4.32		2.5											
940607	502.5	3.66	5	2.0	305	51	5	5.60	16.20	0.03	0.53	1.94		1.0											
940711	244.3	3.15	3	0.5	240	39	75	4.40	5.10	0.03	0.19	0.89		<1.0											
940815	90.53	3.85	5	3.0	395	48	16	10.20	13.70	0.05	0.42	0.95		<1.0											
940912	63.29	4.11	2	0.5	240	45	5	2.30	3.00	<0.01	0.10	1.66		<1.0											
941010	298.0	4.33	5	2.0	160	49	19	1.20	2.20	<0.01	2.20	3.21		1.0											
941107	47.92	5.57	6	3.0	235	84	8	1.90	1.20	<0.01	0.16	0.89		1.0											
941205	111.1	6.91	4	3.0	340	89	26	2.30	5.40	0.07	0.11	0.67	3.4	<1.0											
Min:	33.23	3.15	2	0.5	160	39	5	1.2	1.2	0.01	0.05	0.51	3.4	1	0.15	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.11	0.54	0.37
Max:	502.5	10.7	10	5	800	325	75	10.35	19.51	0.18	7.32	4.32	3.4	10.5	0.38	0.94	0.16	0.14	0.16	0.25	0.36	2.32	1.97	1.97	
Aver.:	154.5	6.40	5.17	2.67	389	108	27.25	5.03	9.54	0.05	1.49	1.57	3.40	3.13	0.23	0.33	0.07	0.07	0.10	0.27	0.27	1.40	1.00	1.00	
St.dev.:	156.9	2.78	2.29	1.35	197	84	22.12	3.15	6.30	0.05	2.41	1.20		3.48	0.13	0.53	0.06	0.06	0.13	0.11	0.78	0.69	0.69	0.69	
Numb.:	12	12	12	12	12	12	12	12	12	12	12	12	1	12	3	3	3	3	3	3	3	3	4	4	4

APPENDIX VIII : TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994 **Page:**

Table 8.1 Cond., Nutrients, Heavy metals, Suspended part.matter 59-65

Table 8.2 Mercury, Lindane, PCBs 67-73

(1) Glomma	"tributaries"	: Tista	- Hølenelva
(1) Inner Oslo-fjord		: Årungelva	- Åroselva
(2) Drammenselva	"tributary"	: Lierelva	
(3) Numedalslågen	"tributaries"	: Sandeelva	- Farriselva
(4) Skienselva	"tributary"	: Tokkeelva	
(5) Otra	"tributaries"	: Gjerstade.	- Audna
(6) Orreelva	"tributaries"	: Lygna	- Ulla
(7) Suldalslågen	"tributaries"	: Saudaelva	- Hornindalselva
(8) Orkla	"tributaries"	: Ørstaelva	- Salsvatnelva
(9) Vefsna	"tributaries"	: Åbjøra	- Reisa
(10) Alta	"tributaries"	: Mattiselva	- Grense Jacobse.

Table 8.1 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data						Parameters (mean values)												
		Drainage area		Discharge		Cond mS/m	Tot-P µg/l	PO4-P µg/l	Tot-N µg/l	NO3-N µg/l	NH4-N µg/l	Cu µg/l	Zn µg/l	Cd µg/l	Pb µg/l	S.P.M. mg/l				
		Outlet sq.km	Sampl. station	Disch. gaug. station	Normal												1994	Normal	1994	
Østfold (1.)	Tista, Iddefj. Mosselva, Mossesundet	1588	1582	1582	14.4	14.4	15.5	14.4	15.5	6.24	11.6	3.0	901	665	10	0.7	9.2	0.10	0.26	1.60
		690	689	689	14.5	14.5	15.4	14.5	15.4	10.00	29.4	5.0	1003	1005	10	1.1	3.4	0.10	0.37	4.70
Oslo & Akershus (1.)	Hølerelva, Drøbaksundet Ø Arungeelva, I. Oslofj. Gjersjøelva, I. Oslofj. Ljanselva, I. Oslofj. Loelva/Alna, I. Oslofj. Akerselva, I. Oslofj.	137	121		14.0	13.3	13.0	12.4	12.4	19.40	48.0	33.0	3410	2970	289	0.9	6.2	0.15	0.46	12.90
		52	50		13.0	12.4	13.0	12.4	12.4	26.70	42.0	4.0	3518	2683	175	1.1	1.8	0.12	0.16	9.38
		86	85	85	14.0	13.3	13.0	12.4	12.4	18.25	13.1	2.0	1646	1314	39	1.4	2.0	0.02	0.12	5.50
		42	41	41	13.0	13.9	13.0	13.9	13.9	24.00	61.0	24.0	1390	900	152	3.0	8.9	0.05	0.53	14.20
		227	225	225	13.0	22.2	22.2	22.2	22.2	31.00	139.0	47.0	1980	1805	163	2.8	7.8	0.03	0.45	43.10
Busterud (2.) Vestfold (3.)	Llerelva, Drammensfj. Ø Sandeelva, Sandebukta Aullelva, Tønsbergfj. Farriselva, Larvikfj. Tokkeelva, Kragerø	23	20	20	15.0	20.9	15.0	20.9	20.9	21.00	74.0	40.0	1360	500	67	2.0	5.0	0.02	0.19	8.90
		178	173	173	16.8	27.1	16.8	27.1	16.8	7.40	16.0	4.0	589	350	25	0.6	2.4	<0.01	0.09	3.60
		223	187	187	18.4	18.0	18.4	18.0	18.4	13.20	17.0	8.0	1160	900	79	0.8	3.3	0.12	0.36	5.55
		113	109	109	17.0	16.3	17.0	16.3	17.0	13.70	38.3	14.0	1213	1160	51	1.0	2.8	0.03	0.24	5.40
		309	266	222	18.6	28.8	18.6	28.8	18.6	13.50	59.7	38.0	1097	870	43	0.8	8.3	0.05	0.31	14.20
Telemark (4.) Aust- Agder (5.)	Gjerstadelva, Søndeledfj. Vegårdselva, Sandnesfj. Nidelva, Arendal	193	190		17.0	16.2	17.0	17.0	12.30	16.0	8.0	1285	1050	56	1.2	64.6	0.14	0.74	5.07	
		363	362	362	14.9	14.6	14.9	14.9	14.9	17.22	72.3	48.4	3250	2150	80	1.1	5.2	0.03	0.27	24.90
		491	491	491	21.6	21.4	21.6	21.6	21.6	4.01	7.2	3.2	713	418	15	1.5	5.0	0.01	0.50	0.50
		1238	1200	1200	26.7	28.6	26.7	28.6	2.39	4.0	0.5	400	225	39	0.6	7.6	0.05	0.37	1.04	
		419	414	291	27.0	27.8	27.0	27.0	3.00	6.0	0.5	484	269	46	0.7	9.7	0.10	0.74	1.67	
		457	429	291	29.3	30.8	29.3	29.3	3.02	6.0	1.0	411	203	48	0.6	11.2	0.07	0.44	1.37	
		4025	4020	3956	29.8	31.3	29.8	29.8	2.17	4.0	0.5	376	222	35	0.8	7.2	0.07	0.51	1.66	

Table 8.1 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data						Parameters (mean values)												
		Drainage area		Discharge				Cond mS/m	Tot-P µg/l	PO4-P µg/l	Tot-N µg/l	NO3-N µg/l	NH4-N µg/l	Cu µg/l	Zn µg/l	Cd µg/l	Pb µg/l	S.P.M. mg/l		
		Outlet station	Samp. station	Disch. station	Normal	1994	gauging station												1994	
Vest-Agder (5.)	Tovdalselva, Topdalsfj.	1856	1854	1794	33.9	31.3	33.9	31.3	2.38	4.0	0.5	467	178	44	0.4	7.5	0.07	0.67	1.19	
	Søgneelva, Fiekkeryø	204	192	192	38.0	41.8	38.0	41.8	8.03	6.0	2.0	1025	800	56	0.7	10.5	0.11	0.41	1.56	
	Mandalselva, Mannefj.	1809	1800	1740	46.0	50.0	47.6	50.0	2.41	5.0	0.5	394	214	39	0.4	5.3	0.03	0.62	1.03	
	Audna, Silksfj.	450	400	59	45.0	50.4	51.8	50.4	5.27	4.0	0.5	615	430	41	0.4	7.7	0.06	0.48	1.21	
	Lygna, Lyngdalsfj.	664	660	266	48.0	61.6	57.9	71.5	3.24	4.0	0.5	453	244	30	0.2	10.5	0.06	0.63	1.19	
	Kvina, Fedafj.	1445	1140	1140	57.6	18.1	57.6	18.1	3.95	5.0	1.0	350	170	24	0.2	6.6	0.01	0.86	1.71	
	Sira, Ana-Sira	1916	1872	1872	59.4	57.6	59.4	57.6	2.49	3.0	0.5	265	155	30	0.1	4.4	0.01	0.49	0.38	
	Rogaland (6.)	Sokndalselva, Sogndalsstr.	294	293	107	51.1	56.7	51.1	56.7	5.37	5.0	2.0	370	275	30	0.1	8.3	0.01	0.25	0.80
		Hellelandselva, Egersund	241	240	194	57.5	60.4	71.1	71.6	4.61	7.0	2.0	450	330	12	0.1	6.6	0.01	0.38	0.73
		Bjerkreimselva, Egersund	705	704	633	77.7	69.3	86.4	78.0	3.70	5.0	0.5	462	372	12	0.1	4.8	0.01	0.21	0.45
Håelva, Håtangen		165	160	135	46.9	45.4	46.9	45.4	11.30	24.0	11.0	1470	1065	63	0.1	3.9	0.01	0.28	1.64	
Figgjo, Solavika		229	218	135	50.0	52.0	50.0	50.0	10.40	18.0	9.0	1090	775	66	0.7	5.9	0.01	0.65	2.44	
Ims-Lutsl. Høgsfj. Boknafj.		127	127	127	34.9	40.9	34.9	40.9	6.63	8.0	0.5	716	545	18	0.5	2.7	0.02	0.14	0.94	
Oltedalse., Høgsfj. Boknafj.		102	101	129	70.0	76.3	70.0	70.0	3.62	15.0	2.0	396	290	29	0.3	4.3	0.03	0.21	0.70	
Dirdalse., Høgsfj. Boknafj.		158	158	95	83.0	89.6	83.0	83.0	2.74	3.0	0.5	322	232	11	0.2	2.6	0.02	0.40	0.26	
Fraforde., Frafj. Boknafj.		178	178	124	94.4	101.0	94.4	94.4	2.49	4.0	0.5	261	176	13	0.2	2.7	0.03	0.42	0.42	
Espedalse., Høgsfj. Boknafj.		138	138	124	90.0	94.5	90.0	90.0	2.31	3.0	0.5	255	195	9	0.3	2.8	0.06	0.27	0.51	
(7.)	Lysee., Lysefj. Boknafj.	182	182	46	74.0	77.7	74.0	74.0	2.50	3.0	1.0	310	200	9	1.0	3.0	0.06	0.30	0.51	
	Ardalse., Ardalsfj. Boknafj.	519	516	501	81.4	85.4	81.4	81.4	2.76	11.0	6.0	211	160	11	1.0	3.6	0.05	1.01	5.28	
	Førree., Jøsenfj. Boknafj.	163	163	163	85.8	90.1	85.8	85.8	2.30	3.0	0.5	252	249	7	0.3	0.9	<0.01	0.20	0.18	
	Ulla., Jøsenfj. Boknafj.	393	393	385	83.4	87.6	83.4	83.4	2.32	3.0	0.5	320	245	13	0.4	2.7	0.08	0.30	0.43	
	Saudae., Saudafj. Boknafj.	353	353	353	85.0	93.5	85.0	85.0	3.49	3.0	0.5	880	795	3	0.7	21.0	0.10	0.11	0.35	
	Abbeiva., Saudafj. Boknafj.	82	82	82	85.0	93.5	85.0	85.0	1.58	3.0	1.0	240	165	8	0.1	1.3	0.01	0.11	0.33	
	Vikedalse., Boknafj.	118	117	117	80.0	103.1	80.0	103.1	2.75	5.0	3.0	283	166	11	0.4	3.3	0.04	0.19	1.17	

Table 8.1 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data				Parameters (mean values)												
		Drainage area		Discharge		Cond mS/m	Tot-P µg/l	PO4-P µg/l	Tot-N µg/l	NO3-N µg/l	NH4-N µg/l	Cu µg/l	Zn µg/l	Cd µg/l	Pb µg/l	S.P.M. mg/l		
		Outlet station	sq.km	Sampl. station	Disch. gaug. station												Normal	1994
Hordaland (7.)	Etneelva, Eitnefj. Bømliafj.	252	127	48.8	58.4	96.0	115.0	3.10	4.5	0.5	402	330	14	0.3	2.7	0.04	0.09	0.71
	Opo, Sørfj. Hardangerfj.	482	464	79.3	93.1	79.3	93.1	1.54	2.5	0.5	175	108	6	0.1	3.1	0.04	0.20	0.84
	Tysso, Sørfj. Hardangerfj.	388	407	79.3	91.2	79.3	59.3	1.78	2.0	0.5	200	101	5	0.1	2.7	0.04	<0.02	0.11
	Kinso, Sørfj. Hardangerfj.	281	232	46.0	59.3	46.0	59.3	2.01	2.0	0.5	96	63	5	0.1	1.4	0.01	0.05	0.91
	Veig, Eidfjv. Hardangerfj.	496	386	41.8	46.2	41.8		2.04	3.5	0.5	145	46	5	0.1	0.5	<0.01	0.07	0.32
	Bjorela, " , Hardangerfj.	592	592	26.0	28.6	26.0		2.04	4.0	0.5	190	46	5	0.1	0.5	<0.01	0.07	0.32
	Slima, Eidfj. Hardangerfj.	145	128	69.2	76.8	69.2		2.21	3.5	0.5	180	95	5	0.1	0.5	0.04	<0.02	0.61
	Austdøla, Osafj. Eidfj.	131	89	74.6	82.0	74.6		1.28	3.0	2.0	203	148	5	0.2	0.8	<0.01	0.04	0.16
	Norddøla, Osafj. Eidfj.	40	39	74.6	82.0	74.6		8.52	3.0	0.5	209	182	5	0.1	0.5	<0.01	0.02	0.34
	Tysseelva, Fusafj.	240	109	85.0	93.5	85.0		2.02	3.0	0.5	203	116	6	0.5	2.7	<0.01	0.26	1.38
	Oselva, Fusafj.	198	198	80.0	86.4	80.0		3.04	10.0	7.0	300	178	5	1.0	10.0	0.01	0.30	1.01
	Bergsdalse, Veafj. Herdliafj.	1492	1465	58.2	76.5	58.2	76.5	1.91	3.0	0.5	137	85	6	0.1	2.1	0.03	0.12	0.47
	Vosso, Veafj. Sørfj.	414	400	86.2	96.5	86.2		1.38	2.0	0.5	128	77	8	0.2	1.3	0.02	0.08	0.56
	Ekso, Osterfj.	384	342	86.2	96.5	86.2		1.92	4.0	2.0	164	112	5	1.0	5.0	0.01	0.10	0.70
	Modalselva, Osterfj.	385	248	95.5	105.0	95.5		1.82	4.0	0.5	225	166	5	1.0	5.0	0.01	0.10	0.50

Table 8.1 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data										Parameters (mean values)									
		Drainage area		Disch.		Discharge		Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.			
		Outlet station	sq.km	Sampl. station	sq.km	gaug. station	sq.km												Normal	1994	Normal
Sogn og Fjordane (7.)	Nærøye., Aurl.fj. Sognefj.	290	290	267	59.5	66.6	59.5	70.4	70.4	3.34	2.5	0.5	170	126	5	0.1	0.6	0.02	0.03	0.19	
	Flåmse., Aurl.fj. Sognefj.	280	275	275	52.4	70.4	52.4	70.4	70.4	2.26	1.5	0.5	137	103	5	0.1	0.9	0.02	<0.02	1.22	
	Aurlandv. Aurl.fj. Sognefj.	800	799	762	48.6	53.9	48.6	48.6	48.6	1.44	2.0	0.5	122	86	5	0.1	1.1	0.02	0.10	0.56	
	Erdalse., Lærd.fj. Sognefj.	138	138	30.0	30.0	33.3	30.0	30.0	30.0	1.43	2.0	0.5	122	85	5	0.1	0.9	<0.01	0.04	0.45	
	Lærdalsv. Lærd.fj. Sognefj.	1184	1172	1172	30.0	22.1	30.0	30.0	22.1	1.88	4.0	0.5	212	126	5	0.2	1.1	0.02	<0.02	1.18	
	Ardalsv., Ardalsfj. Sognefj.	989	989	989	44.9	48.1	44.9	44.9	48.1	1.21	4.2	1.7	174	85	8	0.9	0.8	<0.01	0.07	2.97	
	Fortunv., Lusterfj. Sognefj.	508	508	367	51.0	56.1	51.0	51.0	56.1	1.11	2.5	1.0	137	103	5	0.2	0.9	0.02	0.08	1.61	
	Merkrisv., Lusterfj. Sognefj.	282	282	203	54.7	57.5	54.7	54.7	57.5	1.28	1.5	0.5	137	103	5	0.1	0.6	0.02	<0.02	0.51	
	Jostedal., " Sognefj.	865	864	573	68.0	76.2	68.0	68.0	76.2	1.46	3.5	2.0	160	122	5	0.3	1.7	0.02	0.17	1.14	
	Arøye., Sognd.fj. Sognefj.	449	446	384	77.2	86.5	77.2	77.2	86.5	1.58	2.5	0.5	120	59	6	0.2	1.5	0.02	0.03	0.46	
	Sogndalse., " Sognefj.	175	172	111	66.1	77.8	66.1	66.1	77.8	1.48	5.5	3.0	225	160	5	0.2	1.1	0.10	0.06	0.77	
	Gaular, Dalsfj. Bufj.	627	625	505	79.3	93.8	79.3	79.3	93.8	1.54	4.0	1.0	213	118	5	0.4	1.4	<0.01	0.14	0.38	
	Jølstra, Førdefj.	714	709	384	74.3	82.5	74.3	74.3	82.5	1.93	4.3	2.0	203	111	17	0.1	2.0	0.01	0.04	0.54	
	Nausta, Førdefj.	277	273	232	81.7	101.2	81.7	81.7	101.2	1.82	7.0	2.0	181	85	8	0.1	1.0	0.02	0.11	0.84	
	Oselva, Høydalsfj.	287	285	225	78.7	86.6	78.7	78.7	86.6	2.36	4.5	0.5	369	79	11	0.1	2.1	0.09	0.13	0.31	
	Hopse., Høyfj. Nordfj.S	73	73	161	75.0	82.5	75.0	75.0	82.5	1.71	3.0	1.0	126	90	5	0.1	0.9	0.02	0.11	0.41	
	Gjengedalse., " Nordfj.S	170	168	161	75.0	82.5	75.0	75.0	82.5	1.56	4.0	1.0	123	64	11	0.3	2.2	0.08	0.19	0.11	
	Brelmse., Gløppenfj. "	636	634	585	68.0	75.5	68.0	68.0	75.5	1.93	6.0	0.5	335	143	11	0.1	1.6	0.07	0.13	0.51	
	Oldene., Indre Nordfj.	226	225	214	70.1	78.5	70.1	70.1	78.5	2.03	6.3	0.5	265	136	6	0.1	0.5	0.01	0.03	0.59	
	Loenelva, Indre Nordfj.	261	260	234	65.0	69.4	65.0	65.0	69.4	1.95	9.0	1.5	180	103	6	0.2	0.6	0.08	0.02	0.81	
	Strynne., Indre Nordfj.	532	530	493	60.2	66.2	60.2	60.2	66.2	1.80	9.3	4.0	195	75	5	0.1	0.5	<0.01	0.02	8.66	
	Hornindalse., Nordfj. N	428	424	378	58.1	63.9	58.1	58.1	63.9	1.98	3.5	2.0	170	75	11	0.3	1.4	0.01	0.17	1.55	

Table 8.1 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data												Parameters (mean values)										
		Drainage area		Discharge				Cond mS/m	Tot-P µg/l	PO4-P µg/l	Tot-N µg/l	NO3-N µg/l	NH4-N µg/l	Cu µg/l	Zn µg/l	Cd µg/l	Pb µg/l	S.P.M. mg/l						
		Outlet station	Disch. gaug. station	Normal	1994	Normal	1994																	
		sq.km	sq.km	l/s	sq.km	l/s	sq.km																	
Møre og Romsdal (8.)	Ørstaa, Ørstafj.	160	155	70.0	73.5	70.0		3.05	16.0	8.0	359	195	14	0.5	2.7	0.04	0.17	2.93						
	Valdøla, Nordalfj.Storfj.	359	357	60.0	62.4	60.0		2.01	3.0	0.5	170	108	5	0.2	0.5	<0.01	0.05	0.77						
	Rauma, Romsdalsfj.Moldesfj.	1202	1190	32.8	34.4	32.8		1.96	2.5	0.5	104	59	5	0.3	0.9	0.15	0.16	0.37						
	Isa, Isfj. Moldesfj.	175	175	57.0	58.0	57.0		2.56	3.0	0.5	160	90	11	0.2	0.7	0.05	0.51	0.51						
	Eira, Eresfj. Moldesfj.	1119	1119	34.8	36.2	34.8		2.61	2.5	0.5	175	112	5	0.4	3.5	0.03	0.13	0.26						
	Littledøla, Sunndalsfj.	359	330	41.0	43.0	41.0		1.08	2.0	0.5	51	15	5	0.3	0.6	0.01	0.32	0.29						
	Driva, Sunnd.fj.Tingvollfj.	2487	2435	27.9	28.7	27.9		3.82	3.0	0.5	265	185	11	0.5	0.7	0.03	0.06	0.65						
	Uivåa, Alivundfj.	199	199	57.0	58.7	60.7		1.95	3.5	1.0	137	76	5	0.3	0.9	0.08	0.10	0.09						
	Toåa, Todalsfj.	251	251	58.5	60.3	58.5		1.51	4.0	1.0	117	21	5	0.2	0.6	<0.01	0.04	0.39						
	Surma, Surnadalsfj.	1200	1200	48.0	50.0	49.3		2.57	8.4	3.0	349	175	5	0.3	0.7	0.03	<0.02	0.57						
	Bøvra, Hammesfj. Halsafj.	243	243	55.0	57.2	55.0		2.78	3.0	0.5	250	140	8	0.6	1.7	<0.01	0.07	1.01						
	Sør-Trøndelag (8.)	Børse, Gaulosen Tr.h.fj.	110	100	30.0	28.5	30.0		10.30	10.0	2.0	730	475	3	1.4	1.1	0.01	0.14	4.74					
		Vigda, Gaulosen Tr.h.fj.	150	150	30.0	28.5	30.0		12.00	23.0	12.0	415	210	11	2.2	3.8	<0.01	0.59	25.90					
		Gaula, Gaulosen Tr.h.fj.	3659	3062	26.4	20.6	26.4	20.6	6.14	5.0	1.0	235	102	3	1.6	2.6	0.01	0.14	1.57					
		Nidelva, Trondhelmsfj.	3110	3100	35.5	27.8	35.5	27.8	4.03	7.0	0.5	210	59	3	1.0	2.7	0.01	0.29	0.54					
Homla, Sjørd.fj.Tr.h.fj.		157	157	30.0	29.0	30.0		7.31	11.0	4.0	365	51	47	4.3	6.0	<0.01	0.71	0.98						
Sjørdalsv, " Tr.h.fj.		2117	2117	38.5	35.9	38.5	35.9	3.56	5.0	3.0	245	132	3	1.7	2.9	<0.01	0.13	3.82						
Nord-Trøndelag (8.)	Gråe, " Tr.h.fj.	93	93	25.0	25.0	25.0		20.90	8.0	3.0	865	660	6	1.6	1.3	0.01	0.33	2.13						
	Verdalsvassdr., Tr.h.fj.	1472	898	40.0	28.6	44.5	35.8	6.02	4.0	0.5	280	126	7	1.3	3.9	0.60	2.81	0.82						
	Figga/Leksøise, Tr.h.fj.	282	282	30.0	29.0	33.6	32.6	5.62	12.0	5.0	450	250	10	1.1	1.3	0.01	0.24	6.27						
	Snåsavassdr., Trondh.fj.	2153	2125	35.1	25.4	35.1	25.4	4.93	4.0	0.5	310	175	7	0.7	1.0	0.01	0.14	1.05						
	Argårdselva, Namsfj.	543	510	43.0	41.0	50.9	48.3	10.80	37.0	21.0	540	147	84	1.4	2.7	0.01	0.36	6.92						
	Namsen, Namsfj. Ø	6276	5718	43.4	44.5	43.4	44.5	2.62	3.0	0.5	132	39	6	0.6	1.5	0.01	0.18	1.10						
	Salsvatnelva, Follafj.	432	432	59.7	59.4	59.7	59.4	5.06	1.0	0.5	125	64	3	1.2	1.4	0.01	0.18	0.44						

Table 8.1 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data										Parameters (mean values)									
		Drainage area		Discharge		Sampling station		gauging station		Cond mS/m	Tot-P µg/l	PO4-P µg/l	Tot-N µg/l	NO3-N µg/l	NH4-N µg/l	Cu µg/l	Zn µg/l	Cd µg/l	Pb µg/l	S.P.M. mg/l	
		Outlet sq.km	Sampl. station sq.km	Disch. gaug. station sq.km	Normal l/s	1994 sq.km	Normal l/s	1994 sq.km	Normal l/s												1994 sq.km
Nordland (9.)	Abjera, Bindalsfj. S	526	520	384	80.2	59.0	80.2	59.0	3.99	5.0	1.0	114	24	3	0.9	0.5	0.01	0.29	2.77		
	Skjerva, Vefsenfj. S	104	104	98	41.3	36.3	41.3	36.3	7.41	9.0	6.0	225	59	40	0.5	1.0	0.01	0.14	0.88		
	Fusta, Vefsenfj. N	544	543	520	63.4	57.0	63.4	57.0	3.81	3.0	0.5	120	19	10	0.4	1.4	<0.01	0.17	1.20		
	Drevja, Vefsenfj. N	177	176	98	65.0	58.5	65.0	58.5	3.96	5.0	2.0	111	34	3	0.5	1.6	0.01	0.23	3.07		
	Røssåga, Sørfj.	2092	2087	1880	45.4	51.0	45.4	51.0	5.27	4.0	1.0	140	34	11	0.7	4.9	0.02	0.32	2.31		
	Bjjerka, Sørfj.	385	385	273	55.4	48.7	55.4	48.7	2.61	3.0	1.0	86	19	3	0.4	0.5	0.01	0.07	1.43		
	Dalseiva, Ranafj. N	211	211	129	39.5	35.5	39.5	35.5	2.53	1.0	3.0	87	19	3	0.6	1.2	0.02	0.23	1.95		
	Ranavassdraget, Ranafj. N	3847	3846	1892	44.9	50.0	44.9	50.0	3.90	3.0	0.5	104	51	3	0.4	1.1	<0.01	0.98	1.62		
	Fykanåga, Glomfjord	297	297	243	103.7	100.0	103.7	100.0	2.91	3.0	2.0	85	40	7	0.5	1.0	0.01	0.30	2.01		
	Belare, Belarfj. Nordfj.	1064	875	797	45.1	30.3	45.1	30.3	3.67	2.0	1.0	89	39	3	0.6	1.0	0.01	0.30	2.55		
	Saitdalsvassdr., Saitd.fj.S	1544	1543	1168	32.1	26.6	32.1	26.6	2.79	4.0	3.0	96	54	3	0.5	1.5	0.02	1.08	5.35		
	Sullfjelmvassdr., Saitd.fj	1028	800	791	44.0	36.0	44.0	36.0	42.00	1.0	0.5	96	44	7	13.9	11.4	0.07	2.17	0.65		
	Kobbe., Leirfj. Serfolda N	405	405	386	66.9	62.7	66.9	62.7	1.50	1.0	0.5	60	26	3	0.3	1.5	0.01	0.39	0.29		
	Skjoma, Ofotfj. S	845	840	797	36.3	29.0	36.3	29.0	1.81	2.0	0.5	68	10	3	0.5	1.4	0.03	0.21	0.53		

Table 8.1 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data										Parameters (mean values)										
		Drainage area					Discharge					Cond mS/m	Tot-P µg/l	PO4-P µg/l	Tot-N µg/l	NO3-N µg/l	NH4-N µg/l	Cu µg/l	Zn µg/l	Cd µg/l	Pb µg/l	S.P.M. mg/l
		Outlet station	Sampl. station	Disch. gaug. station	Sampling station	Discharge gauging station	Normal	1994	Normal	1994												
Troms (9.)	Spanselva, Astafj. Vågsfj.	142	142	533	50.0	51.0	50.0	50.0	7.25	2.0	0.5	89	39	3	0.5	1.2	0.09	0.67	1.02			
	Salangse., Astafj. Vågsfj.	539	539	533	40.9	51.0	40.9	40.9	7.27	3.0	0.5	89	44	3	0.3	0.5	<0.01	0.21	0.84			
	Rossfjorde., Malangen	196	190		39.5	41.5	39.5	39.5	8.88	4.0	0.5	155	5	16	0.4	0.5	<0.01	0.12	0.68			
	Måise., Måisevfj.	3239	3200	3118	28.7	28.1	28.7	28.7	6.13	4.0	1.0	119	39	3	0.5	0.7	0.01	0.19	2.53			
	Bardue., Måiseiva	2906	2906	2049	28.3	27.8	28.3	28.3	6.13	4.0	1.0	119	39	3	0.5	0.7	0.01	0.19	2.53			
	Nordkjøselva, Balsfj.	191	191	415	27.7	28.0	27.7	27.7	4.31	3.0	0.5	78	34	3	0.5	0.5	<0.01	0.03	0.90			
	Signaldalseiva, Lyngen V	473	467	415	27.7	28.0	27.7	27.7	4.29	10.0	7.0	90	54	3	0.9	1.0	<0.01	0.25	13.40			
	Skibotneiva, Lyngen	770	770	724	18.0	16.8	18.0	18.0	2.99	2.0	0.5	96	44	7	0.6	0.5	0.01	0.03	0.95			
	Kåfjordeiva, Lyngen Ø	358	358	348	20.0	23.0	20.0	20.0	4.34	1.0	0.5	147	105	3	1.1	0.6	0.01	0.02	0.28			
	Reisa, Reisafj.	2702	2702		16.0	13.6	16.0	16.0	3.76	2.0	0.5	114	49	10	1.4	1.9	0.03	0.18	1.33			
	Finnmark (10.)	Mattiselva, Kåfj. Altafj.	325	325	319	26.5	21.2	26.5	26.5	2.75	3.0	0.5	90	13	6	0.6	0.5	<0.01	0.16	0.87		
		Tverrelva, Altafj.	234	233	233	15.1	12.0	15.1	15.1	4.27	4.0	2.0	140	45	7	0.6	0.5	0.01	0.10	0.55		
		Repparfjordv., Repparfj.	1090	1089		25.0	22.5	25.0	25.0	4.50	2.0	0.5	119	24	8	0.4	0.5	<0.01	0.14	0.38		
		Stabburse., i. Porsangen V	1108	1102	870	18.3	15.2	18.3	18.3	3.02	2.0	0.5	104	24	9	0.4	1.3	0.09	2.33	0.74		
		Lakse., Indre Porsangen S	1533	1532	941	15.9	12.8	15.9	15.9	4.41	5.0	1.0	134	14	3	1.0	1.0	0.01	0.74	2.41		
Børselva, Indre Porsangen Ø		883	883	863	29.8	29.0	29.8	29.8	3.74	1.0	0.5	60	14	10	0.2	1.2	0.01	0.16	0.62			
Mattusjåkka, i. Laksefj. V		101	101	101	22.8	20.5	22.8	22.8	4.01	3.0	1.0	60	14	5	0.6	0.4	<0.01	0.16	0.95			
Storelva, Indre Laksefj. V		690	690	760	21.9	19.0	19.9	19.9	2.10	1.0	0.5	89	75	3	0.5	3.9	0.04	0.52	0.10			
Soussjåkka, i. Laksefj. V		92	92	102	25.3	22.8	22.8	22.8	4.68	1.0	0.5	75	34	3	0.3	1.6	0.02	0.13	0.29			
Adamselva, i. Laksefj. Ø		705	705	760	19.9	15.0	19.9	19.9	6.14	2.0	0.5	105	5	11	0.6	1.5	0.03	0.16	0.59			
Tanavassdraget, Tanafj. S		16389	15713	14169	11.5	9.2	11.5	11.5	3.96	6.0	2.0	185	10	20	0.7	0.5	0.01	0.32	1.58			
Vesterelva, Sytefj.		469	469	79	34.6	31.6	34.6	34.6	8.55	4.0	1.0	60	5	3	0.4	0.5	0.03	0.09	0.22			
V. Jakobse., Y. Varangerfj.		627	627	239	18.1	14.5	18.1	18.1	5.72	4.0	2.0	135	5	14	0.4	0.7	0.01	0.10	0.19			
Pæsvike., Bøkfj. Varangfj.		18404	18400	18175	9.3	10.2	9.3	9.3	4.37	8.0	2.0	185	5	21	2.1	1.9	<0.01	0.21	3.29			
Neiden, Munkfj. Varangfj.		2960	2960	2911	9.8	8.8	9.8	9.8	2.95	3.0	1.0	185	34	3	0.7	1.0	<0.01	0.24	0.96			
Grense Jakobse., Varangfj.	234	234		18.0	18.0	18.0	18.0	4.20	3.0	0.5	175	10	27	2.6	1.7	0.02	1.35	0.85				

Table 8.2

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Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data						Parameters (mean values)															
		Drainage area		Discharge		Normal	1994	Normal	1994	HCH	PCB (The following Congeners)									DOC	Cr-T	Ni	As
		Outlet station	Samp. station	Disch. gaug. station	Sampling station						gauging station	28	52	101	118	138	153	180	TOC				
sq.km	sq.km	sq.km	l/s sq.km	l/s sq.km	l/s sq.km	l/s sq.km	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ug/l	ug/l			
Østfold (1.)	Tista, Iddefj.	1588	1582	1582	14.4	15.5	14.4	15.5	14.4	15.5	<1.0	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.62	1.69	0.79	0.27	
	Mosselva, Mossesundet	690	699	699	14.5	15.4	14.5	15.4	14.5	15.4	1.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.89	1.93	1.09	0.34	
Oslo & Akershus (1.)	Helenelva, Drøbaksundet Ø	137	121		14.0	13.3		13.3		13.3	2.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.29	2.81	2.66	0.59	
	Arungelva, i. Oslofj.	52	50		13.0	12.4		12.4		12.4	1.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.58	2.26	2.79	0.91	
	Gjersjøelva, i. Oslofj.	86	85	85	14.0	13.3		13.3		13.3	1.00	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.60	2.01	1.68	0.21	
	Ljanselva, i. Oslofj.	42	41	41	13.0	13.9		13.9		13.9	3.00	0.05	0.13	0.06	<0.03	0.05	<0.03	<0.03	0.52	1.45	1.01	0.03	
	Loelva/Alna, i. Oslofj.	75	69	69	13.0	22.2		22.2		22.2	5.00	0.42	0.19	0.27	0.19	0.29	0.22	0.12	0.84	<0.5	0.50	0.35	
	Akerselva, i. Oslofj.	227	225	225	17.5	12.6		12.6		12.6	2.00	0.84	0.03	0.03	<0.03	0.04	0.05	0.03	0.62	1.06	0.71	0.19	
	Frognerelva, i. Oslofj.	23	20	20	15.0	20.9		20.9		20.9	3.50	0.62	0.03	0.11	0.07	0.10	0.11	0.05	1.48	1.87	1.87	0.49	
	Lysakerelva, i. Oslofj.	178	173	173	16.8	27.1		27.1	16.8	27.1	<1.0	0.55	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.76	0.76	0.79	0.08	
	Sandvikselva, i. Oslofj.	223	187	187	18.4	18.0		18.0	18.4	18.4	1.50	0.21	<0.03	<0.03	0.04	0.05	0.07	0.03	0.77	1.06	1.06	0.34	
Aroselva, i. Oslofj.	113	109	109	17.0	16.3		16.3	17.0	17.0	<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.13	1.13	1.09	0.34		
Buskerud (2.)	Llerelva, Drammensfj. Ø	309	286	222	18.6	28.8		28.8	18.6	28.8	1.00	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.26	1.19	1.17	0.19	
Vestfold (3.)	Sandeeelva, Sandebukta	193	190		17.0	16.2		16.2	17.0	1.00	0.16	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.16	1.26	0.83	0.44	
	Aullelva, Tønsbergfj.	363	362	362	14.9	14.6		14.6	14.9	<1.0	0.19	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.19	2.56	2.43	0.39	
	Farriselva, Larvikfj.	491	491	491	21.6	21.4		21.4	21.6	<1.0	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.50	0.30	0.45	0.15	
Telemark (4.)	Tokkeelva, Kragerø	1238	1200	1200	26.7	28.6		28.6	26.7	28.6	1.00	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.00	1.12	0.29	0.31	
Aust- Agder (5.)	Gjerstadelva, Søndeledfj.	419	414	291	27.0	27.8		27.8	27.0	27.8	1.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.00	0.51	1.14	0.31	
	Vegårdselva, Sandnesfj.	457	429	291	29.3	30.8		30.8	29.3	30.8	1.00	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.00	0.95	0.49	0.19	
	Nidelva, Arendal	4025	4020	3956	29.8	31.3		31.3	29.8	31.3	<1.0	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.00	0.51	0.11	0.18	

Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data						Parameters (mean values)																							
		Drainage area		Discharge		Sampling station		gauging station		Hg ng/l	Gamma HCH ng/l	PCB (The following Congeners)										IUPAC NOS	TOC mg/l	DOC mg/l	Cr-T ug/l	Ni ug/l	As ug/l				
		Outlet station	sq.km	Disch. gaug. station	sq.km	Normal	1994	Normal	1994			28	52	101	118	138	153	180													
Vest- Agder (5.)	Tovdalselva, Topdalsfj.	1856	1854	1794	33.9	31.3	33.9	31.3	2.00	1.00	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.84	0.22	0.35	
	Sogneelva, Fiekkery	204	192	192	38.0	41.8	38.0	41.8	<1.0	0.80	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.76	0.85	0.33	
	Mandalselva, Mannefj.	1809	1800	1740	47.6	50.0	47.6	50.0	1.50	0.70	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.66	0.07	0.19	
	Audna, Srikksfj.	450	400	59	51.8	50.4	45.0	51.8	1.00	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.41	0.13	0.39	
	Lygna, Lyngdalsfj.	664	660	266	48.0	61.6	48.0	61.6	<1.0	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.82	0.27	0.15	
	Kvina, Fedafj.	1445	1140	1140	57.6	18.1	57.6	18.1	<1.0	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.43	0.05	0.33	
	Sira, Ana-Sira	1916	1872	1872	59.4	57.6	59.4	57.6	<1.0	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.82	0.07	0.14	
	Rogaland (6.)	Sokndalselva, Sogndalsstr.	294	293	107	51.1	56.7	51.1	56.7	<1.0	0.90	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.81	2.87	0.07
		Hellelandselva, Egersund	241	240	194	57.5	60.4	57.5	60.4	1.00	0.90	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.85	0.47	0.21
		Bjerkreimselva, Egersund	705	704	693	77.7	69.3	77.7	69.3	1.00	0.90	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.49	0.51	0.87
		Håelva, Håtangen	165	160	135	46.9	45.4	46.9	45.4	<1.0	0.81	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.87	0.87	0.15
Figgjo, Solavika		229	218	135	50.0	52.0	50.0	52.0	<1.0	0.80	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.75	0.41	0.15	
Ims-Lutsi, Høgsfj.Boknafj.		127	127	127	34.9	40.9	34.9	40.9	1.00	0.80	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4.05	0.25	0.24	
Oitedalse., Høgsfj.Boknafj.		102	101	129	70.0	76.3	70.0	76.3	<1.0	0.80	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.56	0.14	0.16	
Dirdalse., Høgsfj.Boknafj.		158	158	95	83.0	89.6	83.0	89.6	<1.0	0.70	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.68	0.03	0.13	
Frafjorde., Fraifj. Boknafj.		178	178	124	94.4	101.0	94.4	101.0	<1.0	0.60	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.47	0.03	0.11	
Espedalse., Høgsfj.Boknafj.		138	138	124	90.0	94.5	90.0	94.5	<1.0	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.86	0.02	0.09	
Lysee., Lysefj.Boknafj.		182	182	46	74.0	77.7	74.0	77.7	<1.0	0.40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.32	0.06	0.03	
Ardalse., Ardalsfj.Boknafj.	519	516	501	81.4	85.4	81.4	85.4	2.00	0.36	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.01	0.31	0.38		
(7.)	Førree., Jøsenfj.Boknafj.	163	163	163	85.8	90.1	85.8	90.1	1.00	0.40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.08	0.05	0.11	
	Ulla, Jøsenfj.Boknafj.	393	393	395	83.4	87.6	83.4	87.6	<1.0	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.32	0.06	0.03	
	Saudae., Saudafj.Boknafj.	353	353	353	85.0	93.5	85.0	93.5	1.00	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.05	0.12	0.07	
	Abøelva, Saudafj.Boknafj.	82	82	82	85.0	93.5	85.0	93.5	1.00	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.95	0.05	0.05	
	Vikedalse., Boknafj.	118	117	117	80.0	103.1	80.0	103.1	<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.15	0.35	0.20	

Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data						Parameters (mean values)																	
		Drainage area		Discharge		Sampling station		1994 Normal	1994 gauging station	Hg ng/l	Gamma HCH ng/l	PCB (The following Congeners)										DOC mg/l	Cr-T ug/l	Ni ug/l	As ug/l
		Outlet sq.km	Sampl. station sq.km	Disch. gaug. station sq.km	Normal l/s	1994 l/s sq.km	28 ng/l					52 ng/l	101 ng/l	118 ng/l	138 ng/l	153 ng/l	180 ng/l	TOC mg/l							
Hordaland (7.)	Etneelva, Etnesfj. Bømlafj.	252	127	48.8	58.4	96.0	115.0	<1.0	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.53	1.15	0.15	0.10
	Opø, Sørfj. Hardangerfj.	482	464	79.3	93.1	79.3	93.1	2.00	0.40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.70	1.00	0.05	0.10
	Tysso, Sørfj. Hardangerfj.	388	407	79.3	91.2	79.3	59.3	1.00	0.40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.30	0.85	0.05	0.03
	Klino, Sørfj. Hardangerfj.	281	232	46.0	59.3	46.0	59.3	<1.0	0.33	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.50	0.35	<0.01	0.10
	Veig, Eidflv. Hardangerfj.	496	386	41.8	46.2	41.8		1.00	0.23	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.10	0.60	0.15	0.01
	Blørela, " , Hardangerfj.	592	592	26.0	28.6	26.0		1.00	0.23	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.10	0.60	0.15	0.01
	Sima, Eidflv. Hardangerfj.	145	128	69.2	76.8	69.2		<1.0	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.30	0.90	0.02	0.03
	Austdøla, Osafj. Eidflv.	131	89	74.6	82.0	74.6		<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.20	0.03	0.03	0.15
	Norddøla, Osafj. Eidflv.	40	39	89	82.0	74.6		<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.20	0.65	0.80	0.60
	Tysseelva, Fusafj.	240	89	74.6	82.0	74.6		1.00	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.79	1.40	0.05	0.10
	Oselva, Fusafj.	109	108	50	91.7	91.7	92.6	<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.42	1.40	0.05	0.10
	Bergsdalse, Veafj. Herdlafj.	198	198	80.0	86.4	80.0	76.5	<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.90	1.15	0.20	0.02
	Vosso, Veafj. Sørfj.	1492	1465	1102	58.2	58.2	76.5	2.50	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.24	0.85	<0.01	0.10
	Ekso, Osterfj.	414	400	342	96.2	96.2	86.2	<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.24	0.05	0.01	0.15
	Modalselva, Osterfj.	385	248	95.5	105.0	95.5	95.5	<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.75	0.05	0.01	0.15

Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data						Parameters (mean values)																				
		Drainage area		Discharge		Sampling station		Hg ng/l	Gamma HCH ng/l	PCB (The following Congeners)										IUPAC NOS			DOC mg/l	Cr-T ug/l	Ni ug/l	As ug/l		
		Outlet sq.km	Sampl. station sq.km	Disch. gaug. station sq.km	Normal l/s	1994 Normal l/s	gauging station sq.km			28 ng/l	52 ng/l	101 ng/l	116 ng/l	138 ng/l	153 ng/l	180 ng/l	TOC mg/l											
Sogn og Fjordane (7.)	Nærøye, Aurl.fj. Sognefj.	290	267	290	59.5	66.6	59.5	70.4	1.00	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.40	1.35	0.10	0.10
	Flåmse., Aurl.fj. Sognefj.	280	275	275	52.4	70.4	52.4	70.4	<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.30	0.70	0.15	0.05
	Aurlandv. Aurl.fj. Sognefj.	800	799	762	48.6	53.9	48.6	48.6	<1.0	0.12	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.40	0.50	0.03	<0.01
	Erdalse., Lærd.fj. Sognefj.	138	138	138	30.0	33.3	30.0	30.0	<1.0	0.15	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.90	0.55	0.05	0.20
	Lærdalsv. Lærd.fj. Sognefj.	1184	1172	1172	30.0	22.1	30.0	30.0	22.1	<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.51	0.15	0.05	0.05
	Ardalsv., Ardalsfj. Sognefj.	989	989	989	44.9	48.1	44.9	44.9	48.1	3.00	0.25	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.76	0.40	0.10	0.03
	Fortunv., Lusterfj. Sognefj.	508	508	367	51.0	56.1	51.0	51.0	56.1	2.00	0.28	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.30	0.15	0.10	0.02
	Mørkriv., Lusterfj. Sognefj.	282	282	203	54.7	57.5	54.7	54.7	57.5	1.00	0.28	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.40	0.30	0.02	<0.01
	Jostedøla, " Sognefj.	865	864	573	68.0	76.2	68.0	68.0	76.2	<1.0	0.28	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.40	0.50	0.10	0.05
	Arøye., Sogind.fj. Sognefj.	449	446	384	77.2	86.5	77.2	77.2	86.5	<1.0	0.28	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.60	0.65	0.03	0.03
	Sogndalse., " Sognefj.	175	172	111	66.1	77.8	66.1	66.1	77.8	<1.0	0.28	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.90	0.55	0.05	0.02
	Gaular, Dalsfj. Bufj.	627	625	505	79.3	93.8	79.3	79.3	93.8	1.00	0.36	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.57	0.40	0.10	0.10
	Jøistra, Førdefj.	714	709	384	74.3	82.5	74.3	74.3	82.5	<1.0	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.10	0.95	0.03	0.05
	Nautsta, Førdefj.	277	273	232	81.7	101.2	81.7	81.7	101.2	<1.0	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.58	1.20	0.10	0.03
	Oselva, Høydalsfj.	287	285	225	78.7	86.6	78.7	78.7	86.6	<1.0	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.50	1.90	0.03	0.01
	Hopse., Høyfj. Nordfj.S	73	73	161	75.0	82.5	75.0	75.0	82.5	1.00	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.70	1.40	0.05	0.01
	Gjengedalse., Nordfj.S	170	168	161	75.0	82.5	75.0	75.0	82.5	2.50	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.49	0.80	0.10	0.05
	Brelmse., Gløppenfj. "	636	634	585	68.0	75.5	68.0	68.0	75.5	<1.0	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.70	0.80	0.05	0.02
	Oldene., Indre Nordfj.	226	225	214	70.1	78.5	70.1	70.1	78.5	<1.0	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.80	0.75	0.05	<0.01
	Loenelva, Indre Nordfj.	261	260	234	65.0	69.4	65.0	65.0	69.4	<1.0	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.50	0.55	0.05	0.05
	Strynsee., Indre Nordfj.	532	530	493	60.2	66.2	60.2	60.2	66.2	1.00	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.50	0.75	0.10	0.05
	Hornindalse., Nordfj. N	428	424	378	58.1	63.9	58.1	58.1	63.9	1.00	0.40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.20	1.30	0.10	0.15

Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data										Parameters (mean values)															
		Drainage area		Discharge		Sampling station		gauging station		Hg ng/l	Gamma HCH ng/l	PCB (The following Congeners)										IUPAC NOS	TOC mg/l	DOC mg/l	Cr-T ug/l	Ni ug/l	As ug/l
		Outlet station	sq.km	Disch. station	sq.km	Normal	1994	Normal	1994			28	52	101	118	138	153	180									
Møre og Romsdal (8.)	Ørstaefj.	160	155			70.0	73.5	70.0	1.00	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.33	1.20	0.30	<0.01							
	Valldøla, Nordafj. Storfj.	359	357			60.0	62.4	60.0	<1.0	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.50	0.40	<0.01	0.02							
	Rauma, Romsdalsfj. Moldefj.	1202	1190	1142		32.8	34.4	32.8	<1.0	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.70	1.20	0.10	0.05							
	Isa, Isfj. Moldefj.	175	175			57.0	58.0	57.0	1.50	0.40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.80	0.95	0.10	0.05							
	Eira, Eresfj. Moldefj.	1119	1119	1085		34.8	36.2	34.8	1.50	0.31	0.20	0.06	0.04	<0.03	<0.03	<0.03	0.50	1.00	<0.01	0.15							
	Littledalse, Sunndalsfj.	359	330	330		41.0	43.0	41.0	<1.0	0.40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.60	0.60	0.05	<0.01							
	Driva, Sunnd.fj. Tingvollfj.	2487	2435	2435		27.9	28.7	27.9	<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.10	0.70	0.15	0.01							
	Uivåa, Alivundfj.	199	199	207		57.0	58.7	60.7	1.00	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.40	0.65	0.02	0.01							
	Toåa, Todalsfj.	251	251	207		58.5	60.3	58.5	<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.10	0.45	0.05	0.03							
	Surna, Surnadalsfj.	1200	1200	1125		48.0	50.0	49.3	4.80	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.62	0.70	0.20	0.05							
	Bøvra, Hammesfj. Halsafj.	243	243	196		55.0	57.2	55.0	<1.0	0.70	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.60	0.60	0.20	0.10							
	Sør-Trøndelag (8.)	Børse., Gaulosen Tr.h.fj.	110	100			30.0	28.5	30.0	<1.0	0.90	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	3.80	0.31	1.37	0.06						
		Vigda, Gaulosen Tr.h.fj.	150	150			30.0	28.5	30.0	1.50	0.80	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	3.80	2.83	2.72	0.38						
		Gaula, Gaulosen Tr.h.fj.	3659	3650	3062		26.4	20.6	26.4	2.00	0.70	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	3.20	0.28	0.85	0.23						
Nidelva, Trondhelmsfj.		3110	3100	3049		35.5	27.8	35.5	3.00	0.57	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.20	0.20	0.58	0.16						
Homia, Stjørd.fj. Tr.h.fj.		157	157			30.0	29.0	30.0	2.00	0.55	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.33	0.33	0.80	0.72						
Nord-Trøndelag (8.)	Stjørdalsv., " Tr.h.fj.	2117	2117	1863		38.5	35.9	38.5	2.50	0.55	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.36	0.36	0.51	0.06						
	Gråe., " Tr.h.fj.	93	93			25.0	25.0	25.0	<1.0	0.55	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.36	1.18	1.18	0.23						
	Verdalsvassdr., Tr.h.fj.	1472	1472	898		40.0	28.6	44.5	35.8	2.00	0.55	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.57	0.12	0.21	0.21						
	Figga/Leksdalse., Tr.h.fj.	282	282	178		30.0	29.0	33.6	32.6	<1.0	0.54	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.55	0.80	0.80	0.03						
	Snåsavassdr., Trondh.fj.	2153	2125	2125		35.1	25.4	35.1	25.4	<1.0	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.53	0.05	0.05	0.24						
	Argårdselva, Namsfj.	543	510	238		43.0	41.0	50.9	48.3	1.50	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4.15	0.39	0.39	0.39						
	Namsen, Namsfj. Ø	6277	6276	5718		43.4	44.5	43.4	44.5	2.00	0.24	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.76	0.32	0.32	0.11						
	Salsvatnelva, Follafj.	432	432	422		59.7	59.4	59.7	59.4	<1.0	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4.40	0.31	0.31	0.21						

Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data										Parameters (mean values)															
		Drainage area					Discharge					Gamma HCH ng/l	PCB (The following Congeners) IUPAC NOS														
		Outlet		Disch. station		gaug. station		Sampling station		gauging station			Hg ng/l	28	52	101	118	138	153	180	TOC mg/l	DOC mg/l	Cr-T ug/l	Ni ug/l	As ug/l		
		sq.km	sq.km	sq.km	sq.km	sq.km	Normal	1994	Normal	1994	Normal			1994	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l						ng/l	ng/l
Nordland (9.)	Abjøra, Blindalsfj. S	526	520	384	80.2	59.0	80.2	59.0	80.2	59.0	<1.0	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.52	0.31	0.14
	Skjerve, Vefsenfj. S	104	104	98	41.3	36.3	41.3	36.3	41.3	36.3	2.00	0.40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.61	0.03	0.26
	Fusta, Vefsenfj. N	544	543	520	63.4	57.0	63.4	57.0	63.4	57.0	1.00	0.40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.85	0.21	0.25
	Drevlja, Vefsenfj. N	177	176	98	65.0	58.5	65.0	58.5	65.0	58.5	<1.0	0.40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.71	0.16	0.19
	Røssåga, Sørfj.	2092	2087	1880	45.4	51.0	45.4	51.0	45.4	51.0	1.00	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.50	0.11	0.15
	Blerka, Sørfj.	385	385	273	55.4	48.7	55.4	48.7	55.4	48.7	1.00	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.91	0.09	0.07
	Dalselva, Ranafj. N	211	211	129	39.5	35.5	39.5	35.5	39.5	35.5	<1.0	0.25	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.39	0.24	0.08
	Ranavassdraget, Ranafj. N	3847	3846	1892	44.9	50.0	44.9	50.0	44.9	50.0	<1.0	0.25	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.32	0.22	0.09
	Fykanåga, Giomfjord	297	297	243	103.7	100.0	103.7	100.0	103.7	100.0	<1.0	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.99	0.17	0.19
	Belare., Belarfj. Nordfj.	1064	875	797	45.1	30.3	45.1	30.3	45.1	30.3	<1.0	0.70	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.39	0.11	0.26
	Saltidalsvassdr., Saltid.fj.S	1544	1543	1168	32.1	26.6	32.1	26.6	32.1	26.6	<1.0	0.74	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	19.50	0.22	1.74
	Sullifjelmavassdr., Saltid.fj	1028	800	791	44.0	36.0	44.0	36.0	44.0	36.0	1.00	0.50	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.29	0.35	0.09
	Kobbø., Leirfj. Sørfolda N	405	405	386	66.9	62.7	66.9	62.7	66.9	62.7	<1.0	0.40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.78	0.37	0.11
	Skjorma, Ofotfj. S	845	840	797	36.3	29.0	36.3	29.0	36.3	29.0	1.00	0.40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.78	0.37	0.11

Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1994.

County	Watercourse	Runoff data						Parameters (mean values)																	
		Drainage area		Discharge		Sampling station		Hg ng/l	Gamma HCH ng/l	PCB (The following Congeners)						IUPAC NOS				DOC mg/l	Cr-T ug/l	Ni ug/l	As ug/l		
		Outlet station	Disch. gaug. station	Normal l/s	1994 Normal l/s	Normal l/s	1994 Normal l/s			28 ng/l	52 ng/l	101 ng/l	118 ng/l	138 ng/l	153 ng/l	180 ng/l	TOC mg/l								
Troms (9.)	Spanselva, Astafj. Vågsfj.	142	533	50.0	51.0	50.0	<1.0	0.35	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.11	0.21	0.04	
	Salangse, Astafj. Vågsfj.	539	533	40.9	51.0	40.9	<1.0	0.35	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.14	0.11	1.75	
	Rossfjorde., Malangen	196	3200	39.5	41.5	39.5	2.00	0.33	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	3.01	0.21	0.14	
	Måise., Måisevfj. "	3239	2906	28.7	28.1	28.7	<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.95	0.02	0.07	
	Bardue., Måiseiva	2906	2049	28.3	27.8	28.3	<1.0	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.95	0.02	0.07	
	Nordkjøselva, Balsfj.	191	415	27.7	28.0	27.7	<1.0	0.10	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.98	0.14	0.12	
	Signaldalseiva, Lyngen V	473	467	27.7	28.0	27.7	<1.0	0.10	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.18	0.47	0.09	
	Skibotneiva, Lyngen	770	770	18.0	16.8	18.0	1.50	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.95	0.66	0.09	
	Kåffordeiva, Lyngen Ø	358	348	20.0	23.0	20.0	<1.0	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.92	0.34	0.12	
	Reisa, Reisafj.	2702	2702	16.0	13.6	16.0	<1.0	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.16	0.15	0.13	
	Finnmark (10.)	Mattiselva, Kåfj. Altafj.	325	319	26.5	21.2	26.5	<1.0	0.10	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.15	1.37	0.12
		Tverrelva, Altafj.	234	233	15.1	12.0	15.1	<1.0	0.15	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.65	1.34	0.15
		Repparfjordv., Repparfj.	1090	1089	25.0	22.5	25.0	2.00	0.15	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	3.95	1.50	0.10
		Stabburse., i. Porsangen V	1108	1102	18.3	15.2	18.3	<1.0	0.15	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.44	1.46	0.12
Lakse., Indre Porsangen S		1533	1532	15.9	12.8	15.9	<1.0	0.15	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.51	0.88	0.06	
Børseiva, Indre Porsangen Ø		883	883	29.8	29.0	29.8	<1.0	0.15	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.81	0.31	0.11	
Mattusjåkka, i. Laksefj. V		101	101	22.8	20.5	22.8	<1.0	0.15	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.27	0.52	0.11	
Storeiva, Indre Laksefj. V		690	690	21.9	19.0	19.9	<1.0	0.15	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.27	0.52	0.11	
Soussjåkka, i. Laksefj. V		92	92	25.3	22.8	22.8	<1.0	0.15	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	3.11	1.18	0.11	
Adamselva, i. Laksefj. Ø		705	705	19.9	15.0	19.9	<1.0	0.15	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4.45	1.13	0.20	
Tanavassdraget, Tanafj. S	16389	15713	11.5	9.2	11.5	2.50	0.11	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.36	0.82	0.15		
Vestereiva, Syltefj.	469	469	34.6	31.6	34.6	<1.0	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4.95	1.01	0.42		
V. Jakobse., Y. Varangerfj.	627	627	18.1	14.5	18.1	1.00	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	3.06	1.44	0.13		
Passvilke., Bøkfj. Varangfj.	18404	18175	9.3	10.2	9.3	2.00	0.32	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.38	8.77	0.27		
Nelden, Munkfj. Varangfj.	2960	2911	9.8	8.8	9.8	<1.0	0.35	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.04	1.32	0.10		
Grense Jakobse., Varangfj.	234	234	18.0	18.0	18.0	3.00	0.35	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	3.49	7.40	0.27		

APPENDIX IX : TRIBUTARY RIVERS. ANNUAL LOAD 1994 **Page:**

Table 9.1 Cond., Nutrients, Heavy metals, Suspended part.matter 75-81

Table 9.2 Mercury, Lindane, PCBs *(Detection limit = limit) 83-89

(1) Glomma	"tributaries"	: Tista	- Hølenelva
(1) Inner Oslo-fjord		: Årungenelva	- Åroselva
(2) Drammenselva	"tributary"	: Lierelva	
(3) Numedalslågen	"tributaries"	: Sandeelva	- Farriselva
(4) Skienselva	"tributary"	: Tokkeelva	
(5) Otra	"tributaries"	: Gjerstade.	- Audna
(6) Orreelva	"tributaries"	: Lygna	- Ulla
(7) Suldalslågen	"tributaries"	: Saudaelva	- Hornindalselva
(8) Orkla	"tributaries"	: Ørstaelva	- Salsvatnelva
(9) Vefsna	"tributaries"	: Åbjøra	- Reisa
(10) Alta	"tributaries"	: Mattiselva	- Grense Jacobse.

* Measurements below detection limits are treated in two ways: "Detection limit = Zero", and "Detection limit = limit". This concerns the substances Cd, Pb, Hg and PCBs. In Tables 9.1-9.2 as well as in Tables 5.1-5.4 both "zero- and limit-values" are shown.

Table 9.1 TRIBUTARY RIVERS. ANNUAL LOAD 1994.

County	Watercourse	Runoff data										Parameters (mean values)													
		Drainage area		Discharge		Outlet station	Sampling station		gauging station	Cond mS/m	Tot-P tons	PO4-P tons	Tot-N tons	NO3-N tons	NH4-N tons	Cu tons	Zh tons	C d		P b		S.P.M.		H g	
		sq.km	sq.km	Normal	1994		Normal	1994										Normal	1994	zero tons	limit tons	zero tons	limit tons	zero t.tons	limit t.tons
Østfold (1.)	Tista, Iddefj.	1588	1582	14.4	15.5	14.4	15.5	14.4	15.5	9.0	2.3	697	514	7.73	0.54	7.11	0.077	0.077	0.201	0.201	0.201	0.201	1.24	0.000	0.773
	Mosselva, Mossesundet	690	689	14.5	15.4	14.5	15.4	14.5	15.4	9.8	1.7	336	336	3.35	0.37	1.14	0.033	0.033	0.124	0.124	0.124	0.124	1.57	0.502	0.502
Oslo & Akershus (1.)	Hølenelva, Drøbaksundet Ø	137	121	14.0	13.3	14.0	13.3	14.0	13.3	2.4	1.7	173	151	14.67	0.05	0.31	0.008	0.008	0.023	0.023	0.023	0.023	0.65	0.127	0.127
	Arungelva, I. Oslofj.	52	50	13.0	12.4	13.0	12.4	13.0	12.4	0.8	0.1	69	52	3.42	0.02	0.04	0.002	0.002	0.003	0.003	0.003	0.003	0.18	0.029	0.029
	Gjersjøelva, I. Oslofj.	86	85	14.0	13.3	14.0	13.3	14.0	13.3	0.5	0.1	59	47	1.39	0.05	0.07	0.001	0.001	0.004	0.004	0.004	0.004	0.20	0.036	0.036
	Ljanselva, I. Oslofj.	42	41	13.0	13.9	13.0	13.9	13.0	13.9	1.1	0.4	25	16	2.73	0.05	0.16	0.001	0.001	0.010	0.010	0.010	0.010	0.26	0.054	0.054
	Loelva/Alna, I. Oslofj.	75	69	13.0	22.2	13.0	22.2	13.0	22.2	6.7	2.3	96	87	7.87	0.14	0.38	0.001	0.001	0.022	0.022	0.022	0.022	2.08	0.242	0.242
	Akerselva, I. Oslofj.	227	225	17.5	12.6	17.5	12.6	17.5	12.6	1.6	0.2	58	25	5.10	0.06	0.78	0.008	0.008	0.032	0.032	0.032	0.032	0.34	0.179	0.179
	Frognerelva, I. Oslofj.	23	20	15.0	20.9	15.0	20.9	15.0	20.9	1.0	0.5	18	7	0.88	0.03	0.07	0.000	0.000	0.003	0.003	0.003	0.003	0.12	0.046	0.046
	Lysakerelva, I. Oslofj.	178	173	16.8	27.1	16.8	27.1	16.8	27.1	2.4	0.6	87	52	3.70	0.09	0.35	0.000	0.000	0.013	0.013	0.013	0.013	0.53	0.000	0.148
	Sandvikselva, I. Oslofj.	223	187	18.4	18.0	18.4	18.0	18.4	18.0	1.8	0.8	123	96	8.39	0.08	0.35	0.013	0.013	0.038	0.038	0.038	0.038	0.59	0.159	0.159
	Aroselva, I. Oslofj.	113	109	17.0	16.3	17.0	16.3	17.0	16.3	2.1	0.8	68	65	2.86	0.06	0.16	0.002	0.002	0.013	0.013	0.013	0.013	0.30	0.000	0.056
Busterud (2.)	Llerelva, Drammensfj. Ø	309	266	18.6	28.8	18.6	28.8	18.6	28.8	14.4	9.2	265	210	10.39	0.19	2.01	0.012	0.012	0.075	0.075	0.075	0.075	3.43	0.242	0.242
Vestfold (3.)	Sandeelva, Sandebukta	193	190	17.0	16.2	17.0	16.2	17.0	16.2	1.6	0.8	125	102	5.44	0.12	6.27	0.014	0.014	0.072	0.072	0.072	0.072	0.49	0.097	0.097
	Aullelva, Tønsbergfj.	363	362	14.9	14.6	14.9	14.6	14.9	14.6	12.1	8.1	542	358	13.33	0.18	0.87	0.005	0.005	0.045	0.045	0.045	0.045	4.15	0.000	0.167
	Farriselva, Larvikfj.	491	491	21.6	21.4	21.6	21.4	21.6	21.4	2.4	1.1	236	139	4.97	0.50	1.66	0.003	0.003	0.166	0.166	0.166	0.166	0.17	0.000	0.331
Telemark (4.)	Tokkeelva, Kragerø	1238	1200	26.7	28.6	26.7	28.6	26.7	28.6	4.3	0.5	433	244	42.21	0.65	8.23	0.054	0.054	0.400	0.400	0.400	0.400	1.13	1.082	1.082
Aust-Agder (5.)	Gjerstadelva, Søndeledfj.	419	414	27.0	27.8	27.0	27.8	27.0	27.8	2.2	0.2	176	98	16.70	0.25	3.52	0.036	0.036	0.269	0.269	0.269	0.269	0.61	0.544	0.544
	Vegårdselva, Sandnesfj.	457	429	29.3	30.8	29.3	30.8	29.3	30.8	2.5	0.4	171	85	20.00	0.25	4.67	0.029	0.029	0.183	0.183	0.183	0.183	0.57	0.417	0.417
	Nidelva, Arendal	4025	4020	29.8	31.3	29.8	31.3	29.8	31.3	15.9	2.0	1492	861	138.88	3.17	28.57	0.278	0.278	2.024	2.024	2.024	2.024	6.59	0.000	3.968

Table 9.1 TRIBUTARY RIVERS. ANNUAL LOAD 1994.

County	Watercourse	Runoff data										Parameters (mean values)																		
		Drainage area					Discharge					Cond mS/m	Tot-P tons	PO4-P tons	Tot-N tons	NO3-N tons	NH4-N Tons	Cu tons	Zn tons	C d		P b		S.P.M.		H g				
		Outlet sq. km	Sampi. station	Disch. gaug. station	Normal l/s	1994 Normal l/s	1994 Normal l/s	gauging station	1994 Normal l/s	1994 Normal l/s	1994 Normal l/s									zero tons	limit tons	zero tons	limit tons	zero t.tons	limit t.tons	zero kg	limit kg			
Hordaland (7.)	Etneelva, Etnesfj. Bømlafj.	252	127	48.8	58.4	96.0	115.0	3.10	2.1	0.2	185	6.45	0.14	1.24	0.018	0.018	0.041	0.041	0.000	0.000	0.33	0.460	0.000	0.460	0.000	0.460	0.000	0.460	0.000	0.460
	Opø, Sørfj. Hardangerfj.	482	464	79.3	93.1	79.3	93.1	1.54	3.5	0.7	247	8.46	0.14	4.37	0.056	0.056	0.282	0.282	2.819	2.819	1.18	2.819	0.000	2.819	0.000	2.819	0.000	2.819	0.000	2.819
	Tysso, Sørfj. Hardangerfj.	388	407	79.3	91.2	79.3	91.2	1.78	2.2	0.6	221	5.54	0.11	2.99	0.044	0.044	0.000	0.000	1.107	1.107	0.12	1.107	0.000	1.107	0.000	1.107	0.000	1.107	0.000	1.107
	Kinso, Sørfj. Hardangerfj.	281	232	46.0	59.3	46.0	59.3	2.01	1.1	0.3	50	2.63	0.05	0.74	0.005	0.005	0.026	0.026	0.48	0.48	0.48	0.48	0.000	0.48	0.000	0.48	0.000	0.48	0.000	0.48
	Veig, Eidfjv. Hardangerfj.	496	386	41.8	46.2	41.8	46.2	2.04	2.5	0.4	105	3.61	0.07	0.36	0.000	0.000	0.051	0.051	0.525	0.525	0.23	0.525	0.000	0.525	0.000	0.525	0.000	0.525	0.000	0.525
	Bjorela, " , Hardangerfj.	592	592	26.0	28.6	26.0	28.6	2.21	2.1	0.3	101	2.67	0.05	0.27	0.000	0.000	0.037	0.037	0.723	0.723	0.23	0.723	0.000	0.723	0.000	0.723	0.000	0.723	0.000	0.723
	Sima, Eidfj. Hardangerfj.	145	128	89	74.6	69.2	74.6	2.21	1.2	0.2	63	1.76	0.04	0.18	0.014	0.014	0.000	0.000	0.534	0.534	0.17	0.534	0.000	0.534	0.000	0.534	0.000	0.534	0.000	0.534
	Austdøla, Osafj. Eidfj.	131	130	74.6	82.0	74.6	82.0	1.28	1.0	0.7	68	1.68	0.07	0.27	0.000	0.000	0.007	0.007	0.351	0.351	0.21	0.351	0.000	0.351	0.000	0.351	0.000	0.351	0.000	0.351
	Norrdøla, Osafj. Eidfj.	40	39	74.6	82.0	74.6	82.0	8.52	0.3	0.1	21	0.50	0.01	0.05	0.000	0.000	0.013	0.013	0.336	0.336	0.05	0.336	0.000	0.336	0.000	0.336	0.000	0.336	0.000	0.336
	Tysseelva, Fusafj.	240	240	85.0	93.5	85.0	93.5	2.02	2.1	0.4	144	4.25	0.35	1.91	0.000	0.000	0.184	0.184	0.708	0.708	0.98	0.708	0.000	0.708	0.000	0.708	0.000	0.708	0.000	0.708
	Oselva, Fusafj.	109	108	91.7	92.6	91.7	92.6	3.04	3.2	2.2	95	1.58	0.32	3.15	0.003	0.003	0.095	0.095	0.315	0.315	0.32	0.315	0.000	0.315	0.000	0.315	0.000	0.315	0.000	0.315
	Bergsdalse, Veafj. Herdlaafj.	198	198	80.0	86.4	80.0	86.4	1.91	1.6	0.3	74	3.24	0.05	1.13	0.016	0.016	0.065	0.065	0.539	0.539	0.25	0.539	0.000	0.539	0.000	0.539	0.000	0.539	0.000	0.539
	Vosso, Veafj. Sørfj.	1492	1465	1102	76.5	58.2	76.5	1.38	7.1	1.8	452	28.27	0.71	4.59	0.071	0.071	0.283	0.283	8.836	8.836	1.98	8.836	0.000	8.836	0.000	8.836	0.000	8.836	0.000	8.836
	Ekso, Osterfj.	414	400	342	96.5	86.2	96.5	1.92	4.9	2.4	224	6.09	1.22	6.09	0.012	0.012	0.122	0.122	0.85	0.85	0.85	0.85	0.000	0.85	0.000	0.85	0.000	0.85	0.000	0.85
	Modalseelva, Osterfj.	385	248	95.5	105.0	95.5	105.0	1.92	5.1	0.6	286	6.36	1.27	6.36	0.013	0.013	0.127	0.127	1.272	1.272	0.64	1.272	0.000	1.272	0.000	1.272	0.000	1.272	0.000	1.272

Table 9.1 TRIBUTARY RIVERS. ANNUAL LOAD 1994.

County	Watercourse	Runoff data										Parameters (mean values)																								
		Drainage area					Discharge					Cond mS/m	Tot-P tons	PO4-P tons	Tot-N tons	NO3-N tons	NH4-N Tons	Cu tons	Zh tons	C d		P b		S.P.M.		H g										
		Outlet sq.km	Samp. station sq.km	Disch. gaug. station sq.km	Normal l/s sq.km	1994 Normal l/s sq.km	gauging station 1994 l/s sq.km	Normal l/s sq.km	1994 Normal l/s sq.km	1994 Normal l/s sq.km	zero tons									limit tons	zero tons	limit tons	zero t.tons	limit t.tons	zero kg	limit kg										
Sogn og Fjordane (7.)	Næroye., Aurl.fj. Sognefj.	290	290	267	59.5	66.6	59.5	70.4	3.34	1.5	0.3	104	77	3.05	0.06	0.37	0.012	0.012	0.018	0.018	0.12	0.609	0.609	0.609	0.609	0.12	0.018	0.018	0.012	0.012	0.018	0.018	0.12	0.609	0.609	
	Flåmsee., Aurl.fj. Sognefj.	280	275	275	52.4	70.4	52.4	70.4	2.26	0.9	0.3	84	63	3.05	0.06	0.55	0.012	0.012	0.000	0.012	0.012	0.74	0.000	0.611	0.000	0.74	0.000	0.012	0.012	0.000	0.012	0.000	0.611	0.000	0.611	
	Aurlandv., Aurl.fj. Sognefj.	800	799	762	48.6	53.9	48.6	48.6	1.44	2.7	0.7	166	117	6.79	0.14	1.49	0.027	0.027	0.136	0.136	0.76	0.000	1.358	0.000	0.76	0.000	0.136	0.136	0.000	0.136	0.000	1.358	0.000	1.358	0.000	1.358
	Erdalse., Lærd.fj. Sognefj.	138	138	138	30.0	33.3	30.0	30.0	1.43	0.3	0.1	18	12	0.72	0.01	0.13	0.000	0.001	0.006	0.006	0.07	0.000	0.145	0.000	0.07	0.000	0.006	0.006	0.000	0.006	0.000	0.145	0.000	0.145	0.000	0.145
	Lærdalsv., Lærd.fj. Sognefj.	1184	1172	1172	30.0	22.1	30.0	22.1	1.88	3.3	0.4	173	103	4.08	0.16	0.90	0.016	0.016	0.000	0.016	0.016	0.96	0.000	0.817	0.000	0.96	0.000	0.016	0.016	0.000	0.817	0.000	0.817	0.000	0.817	
	Ardalsv., Ardalsfj. Sognefj.	989	989	989	44.9	48.1	44.9	48.1	1.21	6.3	2.6	261	128	12.00	1.35	1.20	0.000	0.015	0.105	0.105	4.46	0.000	4.501	0.000	4.46	0.000	0.015	0.015	0.000	4.501	0.000	4.501	0.000	4.501	0.000	4.501
	Fortunv., Lusterfj. Sognefj.	508	508	367	51.0	56.1	51.0	51.0	1.11	2.2	0.9	123	93	4.49	0.18	0.81	0.018	0.018	0.072	0.072	1.45	0.000	1.797	0.000	1.45	0.000	0.018	0.018	0.000	1.797	0.000	1.797	0.000	1.797	0.000	1.797
	Mørkriv., Lusterfj. Sognefj.	282	282	203	54.7	57.5	54.7	57.5	1.28	0.8	0.3	70	53	2.56	0.05	0.31	0.010	0.010	0.000	0.010	0.26	0.000	0.511	0.000	0.26	0.000	0.010	0.010	0.000	0.511	0.000	0.511	0.000	0.511	0.000	0.511
	Jostedalø., " Sognefj.	865	864	573	68.0	76.2	68.0	68.0	1.46	7.3	4.2	332	253	10.38	0.62	3.53	0.042	0.042	0.353	0.353	2.37	0.000	2.076	0.000	2.37	0.000	0.353	0.353	0.000	2.076	0.000	2.076	0.000	2.076	0.000	2.076
	Arøye., Sognd.fj. Sognefj.	449	446	384	77.2	86.5	77.2	77.2	1.58	3.0	0.6	146	72	7.30	0.24	1.82	0.024	0.024	0.036	0.036	0.56	0.000	1.217	0.000	0.56	0.000	0.036	0.036	0.000	1.217	0.000	1.217	0.000	1.217	0.000	1.217
	Sogndalse., " Sognefj.	175	172	111	66.1	77.8	66.1	77.8	1.48	2.3	1.3	95	68	2.11	0.08	0.46	0.042	0.042	0.025	0.025	0.32	0.000	0.422	0.000	0.32	0.000	0.025	0.025	0.000	0.422	0.000	0.422	0.000	0.422	0.000	0.422
	Gaular, Dalisfj. Bufl.	627	625	505	79.3	93.8	79.3	93.8	1.54	7.4	1.8	394	218	9.24	0.74	2.59	0.000	0.018	0.259	0.259	0.70	0.000	1.849	0.000	0.70	0.000	0.018	0.018	0.000	1.849	0.000	1.849	0.000	1.849	0.000	1.849
	Jøstra, Førdefj.	714	709	384	74.3	82.5	74.3	82.5	1.93	7.9	3.7	374	205	31.36	0.18	3.69	0.018	0.018	0.074	0.074	1.00	0.000	1.845	0.000	1.00	0.000	0.018	0.018	0.000	1.845	0.000	1.845	0.000	1.845	0.000	1.845
	Nautsta, Førdefj.	277	273	232	81.7	101.2	81.7	101.2	1.82	6.1	1.7	158	74	6.97	0.09	0.87	0.017	0.017	0.096	0.096	0.73	0.000	0.871	0.000	0.73	0.000	0.017	0.017	0.000	0.871	0.000	0.871	0.000	0.871	0.000	0.871
	Oselva, Høydsalsfj.	287	285	225	78.7	86.6	78.7	86.6	2.36	3.5	0.4	287	61	8.55	0.08	1.63	0.070	0.070	0.101	0.101	0.24	0.000	0.778	0.000	0.24	0.000	0.070	0.070	0.000	0.778	0.000	0.778	0.000	0.778	0.000	0.778
	Hopsee., Høyfj. Nordfj.S	73	73	161	75.0	82.5	75.0	82.5	1.71	0.6	0.2	24	17	0.95	0.02	0.17	0.004	0.004	0.021	0.021	0.08	0.000	0.190	0.000	0.08	0.000	0.004	0.004	0.000	0.190	0.000	0.190	0.000	0.190	0.000	0.190
	Glengedalø., " Nordfj.S	170	168	161	75.0	82.5	75.0	82.5	1.56	1.7	0.4	54	28	4.81	0.13	0.96	0.035	0.035	0.083	0.083	0.05	0.000	1.093	0.000	0.05	0.000	0.035	0.035	0.000	1.093	0.000	1.093	0.000	1.093	0.000	1.093
	Brelmsee., Gloppenfj. "	636	634	585	68.0	75.5	68.0	75.5	1.93	9.1	0.8	506	216	16.60	0.15	2.42	0.106	0.106	0.196	0.196	0.77	0.000	1.510	0.000	0.77	0.000	0.106	0.106	0.000	1.510	0.000	1.510	0.000	1.510	0.000	1.510
	Oldene., Indre Nordfj.	226	225	214	70.1	78.5	70.1	78.5	2.03	3.5	0.3	148	76	3.34	0.06	0.28	0.006	0.006	0.017	0.017	0.33	0.000	0.557	0.000	0.33	0.000	0.006	0.006	0.000	0.557	0.000	0.557	0.000	0.557	0.000	0.557
	Loelnelva, Indre Nordfj.	261	260	234	65.0	69.4	65.0	69.4	1.95	5.1	0.9	102	59	3.41	0.11	0.34	0.046	0.046	0.011	0.011	0.46	0.000	0.569	0.000	0.46	0.000	0.046	0.046	0.000	0.569	0.000	0.569	0.000	0.569	0.000	0.569
Strynee., Indre Nordfj.	532	530	493	60.2	66.2	60.2	66.2	1.80	10.3	4.4	216	83	5.53	0.11	0.55	0.000	0.011	0.022	0.022	9.58	0.000	1.106	0.000	9.58	0.000	0.011	0.011	0.000	1.106	0.000	1.106	0.000	1.106	0.000	1.106	
Hornindalse., Nordfj. N	428	424	378	58.1	63.9	58.1	63.9	1.98	3.0	1.7	145	64	9.40	0.26	1.20	0.009	0.009	0.145	0.145	1.32	0.000	0.854	0.000	1.32	0.000	0.009	0.009	0.000	0.854	0.000	0.854	0.000	0.854	0.000	0.854	

Table 9.1 TRIBUTARY RIVERS. ANNUAL LOAD 1994.

County	Watercourse	Runoff data										Parameters (mean values)															
		Drainage area		Discharge		Outlet station	Disch. station	Sampling station		gauging station	Cond mS/m	Tot-P tons	PO4-P tons	Tot-N tons	NO3-N tons	NH4-N tons	Cu tons	Zn tons	C d		P b		S.P.M.		H g		
		sq. km	sq. km	Normal	1994			Normal	1994										Normal	1994	zero tons	llimit tons	zero tons	llimit tons	zero kg	llimit kg	zero kg
Møre og Romsdal (8.)	Ørstaa, Ørstafj.	160	155			70.0	73.5	70.0	70.0		3.05	5.7	2.9	129	5.03	0.18	0.97	0.014	0.014	0.061	0.061	1.05	0.359	0.359	0.359	0.359	
	Valldøla, Nordalfj. Storfj.	359	357			60.0	62.4	60.0	60.0		2.01	2.1	0.4	119	3.51	0.14	0.35	0.000	0.007	0.035	0.035	0.54	0.000	0.000	0.703	0.703	
	Rauma, Romsdalsfj. Moldefj.	1202	1190			32.8	34.4	32.8	32.8		1.96	3.2	0.6	134	6.45	0.39	1.16	0.194	0.194	0.207	0.207	0.48	0.000	0.000	1.291	1.291	
	Isa, Isfj. Moldefj.	175	175			57.0	58.0	57.0	57.0		2.56	1.0	0.2	51	3.52	0.06	0.22	0.016	0.016	0.163	0.163	0.16	0.320	0.320	0.320	0.320	
	Eira, Eresfj. Moldefj.	1119	1119			34.8	36.2	34.8	34.8		2.61	3.2	0.6	224	6.39	0.51	4.47	0.038	0.038	0.166	0.166	0.33	1.916	1.916	1.916	1.916	
	Littedalse, Sunndalsfj.	359	330			41.0	43.0	41.0	41.0		1.08	0.9	0.2	23	7	2.24	0.13	0.27	0.004	0.004	0.143	0.143	0.13	0.000	0.447	0.447	
	Driva, Sunnd.fj. Tingvollfj.	2487	2435			27.9	28.7	27.9	27.9		3.82	6.6	1.1	584	24.24	1.10	1.54	0.066	0.066	0.132	0.132	1.43	0.000	2.204	2.204	2.204	
	Ulvåa, Alvundfj.	199	199			58.7	60.7	58.7	60.7		1.95	1.3	0.4	50	28	1.84	0.11	0.33	0.029	0.029	0.037	0.037	0.03	0.368	0.368	0.368	
	Toåa, Todalsfj.	251	251			58.5	60.3	58.5	58.5		1.51	1.9	0.5	56	10	2.39	0.10	0.29	0.000	0.005	0.019	0.019	0.19	0.000	0.477	0.477	
	Surna, Surnadalsfj.	1200	1200			49.3	50.0	49.3	49.3		2.57	15.9	5.7	660	331	9.46	0.57	1.32	0.057	0.057	0.000	0.038	1.08	9.082	9.082	9.082	
	Bøvra, Hammesfj. Halsafj.	243	243			55.0	57.2	55.0	55.0		2.78	1.3	0.2	110	61	3.51	0.26	0.75	0.000	0.004	0.031	0.031	0.44	0.000	0.438	0.438	
	Sør-Trøndelag (8.)	Børse, Gaulosen Tr.h.fj.	110	100			30.0	28.5	30.0	30.0		10.30	0.9	0.2	66	43	0.27	0.13	0.10	0.001	0.001	0.013	0.013	0.43	0.000	0.090	0.090
		Vigda, Gaulosen Tr.h.fj.	150	150			30.0	28.5	30.0	30.0		12.00	3.1	1.6	56	28	1.48	0.30	0.51	0.000	0.001	0.080	0.080	3.49	0.202	0.202	0.202
Gaula, Gaulosen Tr.h.fj.		3659	3650			26.4	20.6	26.4	20.6		6.14	11.9	2.4	557	242	7.11	3.79	6.17	0.024	0.024	0.332	0.332	3.72	4.742	4.742	4.742	
Nidelva, Trondhelmsfj.		3110	3100			35.5	27.8	35.5	27.8		4.03	19.0	1.4	571	160	8.15	2.72	7.34	0.027	0.027	0.788	0.788	1.47	8.153	8.153	8.153	
Homla, Stjørd.fj. Tr.h.fj.		157	157			30.0	29.0	30.0	30.0		7.31	1.6	0.6	52	7	6.75	0.62	0.86	0.000	0.001	0.102	0.102	0.14	0.287	0.287	0.287	
Nord-Trøndelag (8.)	Stjørdalsv, " Tr.h.fj.	2117	2117			38.5	35.9	38.5	35.9		3.56	12.0	7.2	587	316	7.19	4.07	6.95	0.000	0.024	0.312	0.312	9.16	5.992	5.992	5.992	
	Gråe, " Tr.h.fj.	93	93			25.0	25.0	25.0	25.0		20.90	0.6	0.2	63	48	0.44	0.12	0.10	0.001	0.001	0.024	0.024	0.16	0.000	0.073	0.073	
	Verdalsvassdr., Tr.h.fj.	1472	1472			40.0	28.6	44.5	35.8		6.02	5.3	0.7	372	167	9.29	1.73	5.18	0.797	0.797	3.731	3.731	1.09	2.655	2.655	2.655	
	Figga/Leksdalse, Tr.h.fj.	282	282			30.0	29.0	30.0	32.6		5.82	3.1	1.3	116	64	2.58	0.28	0.34	0.003	0.003	0.062	0.062	1.62	0.000	0.258	0.258	
	Snåsavassdr., Trondh.fj.	2153	2125			35.1	25.4	35.1	25.4		4.93	6.8	0.9	528	298	11.92	1.19	1.70	0.017	0.017	0.238	0.238	1.79	0.000	1.702	1.702	
	Argårdselva, Namsfj.	543	510			43.0	41.0	43.0	48.3		10.80	24.4	13.8	356	97	55.39	0.92	1.78	0.007	0.007	0.237	0.237	4.56	0.989	0.989	0.989	
	Namsen, Namsfj. Ø	6277	6276			43.4	44.5	43.4	44.5		5.22	26.4	4.4	1163	343	52.84	5.28	13.21	0.088	0.088	1.585	1.585	9.69	17.615	17.615	17.615	
	Salsvatnelva, Follafj.	432	432			59.7	59.4	59.7	59.4		5.06	0.8	0.4	101	52	2.43	0.97	1.13	0.008	0.008	0.146	0.146	0.36	0.000	0.809	0.809	

Table 9.1 TRIBUTARY RIVERS. ANNUAL LOAD 1994.

County	Watercourse	Runoff data										Parameters (mean values)															
		Drainage area		Discharge		Outlet station	Disch. gaug. station	Sampling station		gauging station		Cond mS/m	Tot-P tons	PO4-P tons	Tot-N tons	NO3-N tons	NH4-N Tons	Cu tons	Zn tons	C d		P b		S.P.M.		H g	
		sq.km	sq.km	Normal l/s	1994 l/s			Normal l/s	1994 l/s	Normal l/s	1994 l/s									zero tons	llimit tons	zero tons	llimit tons	zero t.tons	llimit t.tons	zero kg	llimit kg
Nordland (9.)	Abjøra, Bindalsfj. S	526	520	384	80.2	59.0	80.2	59.0	3.99	4.8	1.0	110	23	2.90	0.87	0.48	0.010	0.010	0.281	0.281	0.281	0.017	0.017	2.68	0.000	0.968	
	Skjerve, Vefsenfj. S	104	104	98	41.3	36.3	41.3	36.3	7.41	1.1	0.7	27	7	4.76	0.06	0.12	0.001	0.001	0.017	0.017	0.017	0.017	0.10	0.238	0.238		
	Fusta, Vefsenfj. N	544	543	520	63.4	57.0	63.4	57.0	3.81	2.9	0.5	117	19	9.76	0.39	1.37	0.000	0.010	0.166	0.166	0.166	0.166	1.17	0.976	0.976		
	Drevja, Vefsenfj. N	177	176	98	65.0	58.5	65.0	58.5	3.96	1.6	0.6	36	11	0.97	0.16	0.52	0.003	0.003	0.075	0.075	0.075	0.075	1.00	0.000	0.325		
	Røssåga, Sørfj.	2092	2087	1880	45.4	51.0	45.4	51.0	5.27	13.4	3.4	470	114	36.92	2.35	16.45	0.067	0.067	1.074	1.074	1.074	1.074	7.75	3.357	3.357		
	Bjërka, Sørfj.	385	385	273	55.4	48.7	55.4	48.7	2.61	1.8	0.6	51	11	1.77	0.24	0.30	0.006	0.006	0.041	0.041	0.041	0.041	0.85	0.591	0.591		
	Dalselva, Ranafl. N	211	211	129	39.5	35.5	39.5	35.5	2.53	0.2	0.7	21	4	0.71	0.14	0.28	0.005	0.005	0.054	0.054	0.054	0.054	0.46	0.000	0.236		
	Ranavassdraget, Ranafl. N	3847	3846	1892	44.9	50.0	44.9	50.0	3.90	18.2	3.0	631	309	18.19	2.43	6.67	0.000	0.061	5.943	5.943	5.943	5.943	9.82	0.000	6.064		
	Fykanåga, Glomfjord	297	297	243	103.7	100.0	103.7	100.0	2.91	2.8	1.9	80	37	6.56	0.47	0.94	0.009	0.009	0.281	0.281	0.281	0.281	1.88	0.000	0.937		
	Belare., Belarfj. Nordfj.	1064	875	797	45.1	30.3	45.1	30.3	3.67	1.7	0.8	74	33	2.51	0.50	0.84	0.008	0.008	0.251	0.251	0.251	0.251	2.13	0.000	0.836		
	Saltðalsvassdr., Saltð.fj.S	1544	1543	1168	32.1	26.6	32.1	26.6	2.79	5.2	3.9	124	70	3.88	0.65	1.94	0.026	0.026	1.398	1.398	1.398	1.398	6.92	0.000	1.294		
	Sullifjelmvassdr., Saltð.fj	1028	800	791	44.0	36.0	44.0	36.0	42.00	0.9	0.5	87	40	6.36	12.62	10.35	0.064	0.064	1.971	1.971	1.971	1.971	0.59	0.908	0.908		
	Kobbe., Leirfj. Sørfolda N	405	405	386	66.9	62.7	66.9	62.7	1.50	0.8	0.4	48	21	2.40	0.24	1.20	0.008	0.008	0.312	0.312	0.312	0.312	0.23	0.000	0.801		
	Skjoma, Ofotfj. S	845	840	797	36.3	29.0	36.3	29.0	1.81	1.5	0.4	52	8	2.30	0.38	1.08	0.023	0.023	0.161	0.161	0.161	0.161	0.41	0.768	0.768		

Table 9.1 TRIBUTARY RIVERS. ANNUAL LOAD 1994.

County	Watercourse	Runoff data												Parameters (mean values)														
		Drainage area				Discharge				Cond mS/m	Tot-P tons	PO4-P tons	Tot-N tons	NO3-N tons	NH4-N Tons	Cu tons	Zn tons	C d		P b		S.P.M.		H g				
		Outlet sq.km	Sampl. station sq.km	Disch. gaug. station sq.km	Normal I/s sq.km	1994 Normal I/s sq.km	1994 gauging station I/s sq.km	zero tons	limit tons									zero tons	limit tons	zero kg	limit kg	zero t.tons	limit t.tons	zero kg	limit kg			
Troms (9.)	Spanselva, Astarfj. Vågsefj.	142	142	533	50.0	51.0	50.0	7.25	0.5	0.1	20	9	0.69	0.11	0.27	0.021	0.153	0.153	0.021	0.021	0.000	0.228	0.23	0.153	0.153	0.000	0.228	
	Salangse., Astarfj. Vågsefj.	539	539	533	40.9	51.0	40.9	7.27	2.6	0.4	77	38	2.60	0.26	0.43	0.000	0.182	0.182	0.000	0.009	0.000	0.367	0.73	0.182	0.182	0.000	0.367	
	Rosfjorde., Malangen	196	190	395	39.5	41.5	39.5	8.88	1.0	0.1	39	1	3.98	0.10	0.12	0.000	0.030	0.030	0.002	0.002	0.000	0.497	0.17	0.030	0.030	0.000	0.497	
	Målse., Målselvfj.	3239	3200	3118	28.7	28.1	28.7	6.13	11.3	2.8	337	111	8.51	1.42	1.99	0.028	0.539	0.539	0.028	0.028	0.000	2.836	7.17	0.539	0.539	0.000	2.836	
	Bardue., Målselva	2906	2906	2049	28.3	27.8	28.3	6.13	10.2	2.5	303	99	7.64	1.27	1.78	0.025	0.484	0.484	0.025	0.025	0.000	2.548	6.45	0.484	0.484	0.000	2.548	
	Nordkjøselva, Balsfj.	191	191	415	27.7	28.0	27.7	4.31	0.5	0.1	13	6	0.51	0.08	0.08	0.000	0.002	0.005	0.002	0.002	0.000	0.169	0.15	0.002	0.002	0.000	0.169	
	Signaldalselva, Lyngen V	473	467	415	27.7	28.0	27.7	4.29	4.1	2.9	37	22	1.24	0.37	0.41	0.000	0.004	0.103	0.103	0.004	0.004	0.412	0.53	0.103	0.103	0.000	0.412	
	Skibotnelva, Lyngen	770	770	724	18.0	16.8	18.0	2.99	0.8	0.2	39	18	2.86	0.24	0.20	0.004	0.004	0.012	0.012	0.004	0.004	0.612	0.39	0.012	0.012	0.000	0.612	
	Kålfjordelva, Lyngen Ø	358	358	348	20.0	23.0	20.0	4.34	0.3	0.1	38	27	0.78	0.29	0.16	0.003	0.003	0.005	0.005	0.003	0.003	0.260	0.07	0.005	0.005	0.000	0.260	
	Reisa, Reisafj.	2702	2702	16.0	13.6	16.0	3.76	2.3	0.6	0.6	132	57	11.59	1.62	2.20	0.035	0.035	0.209	0.209	0.035	0.035	1.159	1.54	0.209	0.209	0.000	1.159	
	Finnmark (10.)	Mattiselva, Kåfj. Altafj.	325	325	319	26.5	21.2	26.5	2.75	0.7	0.1	20	3	1.30	0.13	0.11	0.000	0.002	0.035	0.002	0.000	0.217	0.19	0.002	0.035	0.000	0.217	
		Tverrelva, Altafj.	234	233	233	15.1	12.0	15.1	4.27	0.4	0.2	12	4	0.62	0.05	0.04	0.001	0.001	0.009	0.001	0.001	0.088	0.05	0.001	0.009	0.000	0.088	
		Repparfjordv., Repparfj.	1090	1089	25.0	25.0	25.0	4.50	1.5	0.4	92	19	6.18	0.31	0.39	0.000	0.008	0.108	0.108	0.000	0.008	1.545	0.29	0.108	0.108	0.000	1.545	
		Stabburse., I. Porsangen V	1108	1102	870	18.3	15.2	18.3	3.02	1.1	0.3	55	13	4.75	0.21	0.69	0.048	0.048	1.231	1.231	0.048	0.048	0.528	0.39	1.231	1.231	0.000	0.528
		Lakse., Indre Porsangen S	1533	1532	941	15.9	12.8	15.9	4.41	3.1	0.6	83	9	1.86	0.62	0.62	0.006	0.006	0.458	0.458	0.006	0.006	0.618	1.49	0.458	0.458	0.000	0.618
Børseiva.Indre Porsangen Ø		883	883	863	29.8	29.0	29.8	3.74	0.8	0.4	48	11	8.08	0.16	0.97	0.008	0.008	0.129	0.129	0.008	0.008	0.808	0.50	0.129	0.129	0.000	0.808	
Mattusjåkkå, I. Laksefj. V		101	101	101	22.8	20.5	22.8	4.01	0.2	0.1	4	1	0.33	0.04	0.03	0.000	0.001	0.010	0.010	0.001	0.001	0.065	0.06	0.010	0.010	0.000	0.065	
Storelva.Indre Laksefj. V		690	690	760	19.9	19.0	19.9	2.10	0.4	0.2	37	31	1.24	0.21	1.61	0.017	0.017	0.215	0.215	0.017	0.017	0.413	0.04	0.017	0.017	0.000	0.413	
Soussjåkkå, I. Laksefj. V		92	92	102	25.3	22.8	25.3	4.68	0.1	0.0	5	2	0.20	0.02	0.11	0.001	0.001	0.009	0.009	0.001	0.001	0.066	0.02	0.009	0.009	0.000	0.066	
Adamselva, I. Laksefj. Ø		705	705	760	19.9	15.0	19.9	6.14	0.7	0.2	35	2	3.67	0.20	0.50	0.010	0.010	0.053	0.053	0.010	0.010	0.066	0.20	0.053	0.053	0.000	0.066	
Tanavassdraget. Tanafj. S	16389	15713	14169	11.5	9.2	11.5	3.96	27.4	9.1	843	46	91.18	3.19	2.28	0.046	0.046	1.459	1.459	0.046	0.046	11.397	7.20	1.459	1.459	0.000	11.397		
Vestereiva, Sytfeffj.	469	469	79	34.6	31.6	34.6	8.55	1.9	0.5	28	2	1.40	0.11	0.23	0.014	0.014	0.042	0.042	0.014	0.014	0.467	0.10	0.042	0.042	0.000	0.467		
V. Jakobse., Y. Varangerfj.	627	627	239	18.1	14.5	18.1	5.72	1.1	0.6	39	1	4.01	0.19	0.20	0.003	0.003	0.029	0.029	0.003	0.003	0.287	0.05	0.029	0.029	0.000	0.287		
Pasvikse., Bøkfj. Varang.fj.	18404	18400	18175	9.3	10.2	9.3	4.37	47.3	11.8	1095	30	124.29	12.43	11.25	0.000	0.000	1.243	1.243	0.000	0.000	11.837	19.47	1.243	1.243	0.000	11.837		
Nelden, Munkfj. Varang.fj.	2960	2960	2911	9.8	8.8	9.8	2.95	2.5	0.8	152	28	2.46	0.58	0.82	0.008	0.008	0.197	0.197	0.008	0.008	0.821	0.79	0.197	0.197	0.000	0.821		
Grønsa. Jakobse., Varang.fj.	234	234	18.0	18.0	18.0	4.20	0.4	0.1	0.1	23	1	3.59	0.35	0.23	0.003	0.003	0.179	0.179	0.003	0.003	0.398	0.11	0.179	0.179	0.000	0.398		

Table 9.2

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Table 9.2 TRIBUTARY RIVERS. ANNUAL LOAD 1994.

County	Watercourse	Parameters (mean values)																								
		PCB (The following Congeners) IUPAC NOS																								
		Gamma HCH kg		28		52		101		118		138		153		180		Sum : PCB		TOC		Cr- T		NI		As
zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero t.ons	limit t.ons	zero tons	limit tons	zero tons	limit tons	
Østfold (1.)	Tista, Iddefj.	0.479	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.162	0.162	5.18	1.31	1.31	0.61	0.61	0.21	0.21
	Mosseelva, Mossesundet	0.298	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.070	0.070	2.41	0.65	0.65	0.36	0.36	0.11	0.11
	Høieneelva, Drøbakundet Ø	0.015	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.011	0.011	0.50	0.14	0.14	0.13	0.13	0.03	0.03
	Arungelva, i Oslofj.	0.011	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.004	0.004	0.05	0.04	0.04	0.05	0.05	0.02	0.02
	Gjersjøelva, i Oslofj. (1.)	0.021	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.007	0.007	0.17	0.07	0.07	0.06	0.06	0.01	0.01
Oslo & Akershus (1.)	Ljanselva, i Oslofj.	0.009	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.006	0.006	0.11	0.03	0.03	0.02	0.02	0.00	0.00
	Loelva/Alna, i Oslofj.	0.020	0.014	0.014	0.009	0.009	0.013	0.013	0.009	0.009	0.014	0.014	0.011	0.011	0.006	0.006	0.075	0.075	0.23	0.00	0.02	0.02	0.02	0.02	0.02	0.02
	Akerselva, i Oslofj.	0.075	0.003	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.004	0.004	0.003	0.003	0.003	0.019	0.021	0.34	0.09	0.09	0.06	0.06	0.02	0.02	
	Frognerelva, i Oslofj.	0.008	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.006	0.007	0.05	0.02	0.02	0.02	0.02	0.01	0.01	
	Lysakerelva, i Oslofj.	0.081	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.031	0.031	0.77	0.11	0.11	0.12	0.12	0.01	0.01
	Sandvikselva, i Oslofj.	0.022	0.000	0.003	0.000	0.003	0.000	0.004	0.000	0.004	0.000	0.005	0.005	0.007	0.007	0.003	0.003	0.024	0.031	0.55	0.08	0.08	0.11	0.11	0.04	0.04
	Aroselva, i Oslofj.	0.011	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.012	0.012	0.30	0.06	0.06	0.06	0.06	0.02	0.02
	Lierelva, Drammensfj. Ø	0.063	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.051	0.051	0.82	0.29	0.29	0.28	0.28	0.05	0.05
	Sandeeelva, Sandebukta	0.016	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.020	0.020	0.35	0.12	0.12	0.08	0.08	0.04	0.04
	Vestfold (3.)	Aulleelva, Tønsbergfj.	0.032	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.035	0.035	1.05	0.43	0.43	0.41	0.41	0.07
Farriselva, Larvikfj.		0.166	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.070	0.070	1.36	0.10	0.10	0.15	0.15	0.05	0.05
Telemark (4.)	Tokkeelva, Kragerø	1.082	0.000	0.032	0.000	0.032	0.000	0.032	0.000	0.032	0.000	0.032	0.000	0.032	0.000	0.032	0.000	0.227	0.227	3.68	1.21	1.21	0.31	0.31	0.34	0.34
	Gjerstadelva, Søndeledfj.	0.363	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.076	0.076	1.67	0.19	0.19	0.41	0.41	0.11	0.11
Aust-Agder (5.)	Vegårdselva, Sandnesfj.	0.417	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.088	0.088	2.01	0.40	0.40	0.20	0.20	0.08	0.08
	Nidelva, Arendal	3.968	0.000	0.119	0.000	0.119	0.000	0.119	0.000	0.119	0.000	0.119	0.000	0.119	0.000	0.119	0.000	0.833	0.833	11.31	2.02	2.02	0.44	0.44	0.71	0.71

Table 9.2 TRIBUTARY RIVERS. ANNUAL LOAD 1994.

County	Watercourse	Parameters (mean values)																										
		PCB (The following Congeners) IUPAC NOS																										
		Gamma		28		52		101		118		138		153		180		Sum : PCB		TOC		Cr- T		Ni		As		
HCH kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero kg	limit kg	zero t.ons	limit t.ons	zero tons	limit tons	zero tons	limit tons		
Hordaland (7.)	Etneslva, Etnesfj. Bømlafj.	0.230	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.097	0.24	0.53	0.53	0.07	0.05	0.05
	Opo, Sørfj. Hardangerfj.	0.564	0.000	0.042	0.000	0.042	0.000	0.042	0.000	0.042	0.000	0.042	0.000	0.042	0.000	0.042	0.000	0.042	0.000	0.042	0.000	0.296	0.99	1.41	1.41	0.07	0.14	0.14
	Tysso, Sørfj. Hardangerfj.	0.443	0.000	0.033	0.000	0.033	0.000	0.033	0.000	0.033	0.000	0.033	0.000	0.033	0.000	0.033	0.000	0.033	0.000	0.033	0.000	0.233	0.33	0.94	0.94	0.06	0.03	0.03
	Klinsø, Sørfj. Hardangerfj.	0.173	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.110	0.26	0.18	0.18	0.00	0.01	0.05
	Veig, Eldfjv. Hardangerfj.	0.166	0.000	0.022	0.000	0.022	0.000	0.022	0.000	0.022	0.000	0.022	0.000	0.022	0.000	0.022	0.000	0.022	0.000	0.022	0.000	0.152	0.79	0.43	0.43	0.11	0.01	0.01
	Bjorela, " , Hardangerfj.	0.123	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.112	0.59	0.32	0.32	0.08	0.01	0.01
	Sima, Eldfj. Hardangerfj.	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.074	0.11	0.32	0.32	0.01	0.01	0.01
	Austdøla, Osafj. Eldfj.	0.067	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.071	0.07	0.01	0.01	0.01	0.01	0.01
	Norddøla, Osafj. Eldfj.	0.020	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.021	0.02	0.07	0.07	0.08	0.06	0.06
	Tysseelva, Fusafj.	0.142	0.000	0.021	0.000	0.021	0.000	0.021	0.000	0.021	0.000	0.021	0.000	0.021	0.000	0.021	0.000	0.021	0.000	0.021	0.000	0.149	1.27	0.99	0.99	0.04	0.04	0.07
	Oselva, Fusafj.	0.063	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.066	0.76	0.44	0.44	0.02	0.02	0.03
	Bergsdalse, Veafj. Herdiafj.	0.108	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.113	0.49	0.62	0.62	0.11	0.01	0.01
	Vosso, Veafj. Sørfj.	0.707	0.000	0.106	0.000	0.106	0.000	0.106	0.000	0.106	0.000	0.106	0.000	0.106	0.000	0.106	0.000	0.106	0.000	0.106	0.000	0.742	3.18	3.00	3.00	0.00	0.04	0.35
	Ekso, Osterfj.	0.243	0.000	0.037	0.000	0.037	0.000	0.037	0.000	0.037	0.000	0.037	0.000	0.037	0.000	0.037	0.000	0.037	0.000	0.037	0.000	0.256	1.51	0.06	0.06	0.01	0.01	0.18
Modalselva, Osterfj.	0.254	0.000	0.038	0.000	0.038	0.000	0.038	0.000	0.038	0.000	0.038	0.000	0.038	0.000	0.038	0.000	0.038	0.000	0.038	0.000	0.267	0.95	0.06	0.06	0.01	0.01	0.19	

Table 9.2 TRIBUTARY RIVERS. ANNUAL LOAD 1994.

County	Watercourse	Parameters (mean values)																							
		PCB (The following Congeners) IUPAC NOS														TOC		Cr- T		Ni		As			
		Gamma HCH		28		52		101		118		138		153		180		Sum : PCB		zero tons	limit tons	zero tons	limit tons	zero tons	limit tons
Møre og Romsdal (8.)	Ørstaæ., Ørstafl.	0.018	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.075	0.48	0.43	0.43	0.11	0.11	0.00	0.00
	Valldøla, Nordafj. Storfj.	0.351	0.000	0.021	0.000	0.021	0.000	0.021	0.000	0.021	0.000	0.021	0.000	0.021	0.000	0.021	0.000	0.148	0.35	0.28	0.28	0.00	0.01	0.01	0.01
	Rauma, Romsdalsfj. Moldefj.	0.645	0.000	0.039	0.000	0.039	0.000	0.039	0.000	0.039	0.000	0.039	0.000	0.039	0.000	0.039	0.000	0.271	0.90	1.55	1.55	0.13	0.13	0.06	0.06
	Isa, isfj. Moldefj.	0.128	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.067	0.26	0.30	0.30	0.03	0.03	0.02	0.02
	Eira, Eresfj. Moldefj.	0.396	0.255	0.255	0.102	0.102	0.051	0.051	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.409	0.64	1.28	1.28	0.00	0.01	0.19	0.19
	Litledøla, Sunndalsfj.	0.179	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.094	0.27	0.27	0.27	0.02	0.02	0.00	0.00
	Driva, Sunnd.fj. Tingvollfj.	0.441	0.000	0.066	0.000	0.066	0.000	0.066	0.000	0.066	0.000	0.066	0.000	0.066	0.000	0.066	0.000	0.463	2.42	1.54	1.54	0.33	0.33	0.02	0.02
	Uivåa, Alvundfj.	0.074	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.011	0.000	0.077	0.52	0.24	0.24	0.01	0.01	0.00	0.00
	Toåa, Todalsfj.	0.095	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.100	0.53	0.21	0.21	0.02	0.02	0.01	0.01
	Surna, Sunndalsfj.	0.946	0.000	0.057	0.000	0.057	0.000	0.057	0.000	0.057	0.000	0.057	0.000	0.057	0.000	0.057	0.000	0.397	4.96	1.32	1.32	0.38	0.38	0.09	0.09
	Bøvra, Hammesfj. Halsafj.	0.307	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.013	0.000	0.092	1.14	0.26	0.26	0.09	0.09	0.04	0.04
Sør-Trøndelag (8.)	Børse, Gaulosen Tr.h.fj.	0.081	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.019	0.51	0.03	0.03	0.12	0.12	0.01	0.01
	Vigda, Gaulosen Tr.h.fj.	0.108	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.028	0.51	0.38	0.38	0.37	0.37	0.05	0.05
	Gaula, Gaulosen Tr.h.fj.	1.660	0.000	0.071	0.000	0.071	0.000	0.071	0.000	0.071	0.000	0.071	0.000	0.071	0.000	0.071	0.000	0.498	7.59	0.66	0.66	2.02	2.02	0.55	0.55
	Nideiva, Trondhelmsfj.	1.549	0.000	0.082	0.000	0.082	0.000	0.082	0.000	0.082	0.000	0.082	0.000	0.082	0.000	0.082	0.000	0.571	7.59	0.54	0.54	1.58	1.58	0.43	0.43
	Homia, Sjøerd.fj. Tr.h.fj.	0.079	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.030	0.51	0.05	0.05	0.11	0.11	0.10	0.10
	Sjøerdalsv., Tr.h.fj.	1.318	0.000	0.072	0.000	0.072	0.000	0.072	0.000	0.072	0.000	0.072	0.000	0.072	0.000	0.072	0.000	0.503	7.59	0.86	0.86	1.22	1.22	0.14	0.14
Nord-Trøndelag (8.)	Gråæ., Tr.h.fj.	0.040	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.015	0.51	0.03	0.03	0.09	0.09	0.02	0.02
	Verdalsvassdr., Tr.h.fj.	0.730	0.000	0.040	0.000	0.040	0.000	0.040	0.000	0.040	0.000	0.040	0.000	0.040	0.000	0.040	0.000	0.279	7.59	3.41	3.41	0.16	0.16	0.28	0.28
	Figga/Leksdøla, Tr.h.fj.	0.139	0.000	0.008	0.000	0.008	0.000	0.008	0.000	0.008	0.000	0.008	0.000	0.008	0.000	0.008	0.000	0.054	0.51	0.14	0.14	0.21	0.21	0.01	0.01
	Snesavassdr., Trondh.fj.	0.851	0.000	0.051	0.000	0.051	0.000	0.051	0.000	0.051	0.000	0.051	0.000	0.051	0.000	0.051	0.000	0.357	4.96	4.31	4.31	0.09	0.09	0.41	0.41
	Argårdselva, Namsfj.	0.132	0.000	0.020	0.000	0.020	0.000	0.020	0.000	0.020	0.000	0.020	0.000	0.020	0.000	0.020	0.000	0.138	15.50	2.74	2.74	0.26	0.26	0.26	0.26
	Namsen, Namsfj. Ø	2.114	0.000	0.264	0.000	0.264	0.000	0.264	0.000	0.264	0.000	0.264	0.000	0.264	0.000	0.264	0.000	1.850	15.50	15.50	15.50	2.82	2.82	0.97	0.97
	Salsvatneiva, Follafj.	0.243	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.170	3.56	3.56	3.56	0.25	0.25	0.17	0.17

Table 9.2 TRIBUTARY RIVERS. ANNUAL LOAD 1994.

County	Watercourse	Parameters (mean values)																									
		PCB (The following Congeners) IUPAC NOS																		TOC		Cr- T		NI		As	
		Gamma HCH kg	28		52		101		118		138		153		180		Sum : PCB		zero	limit	zero	limit	zero	limit	zero	limit	zero
Nordland (9.)	Abjøra, Bindalsfj. S	0.290	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.203	2.44	0.30	0.14	0.14	0.14
	Skjerva, Veisenfj. S	0.048	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.025	0.31	0.00	0.03	0.03	0.03
	Fusta, Veisenfj. N	0.390	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.029	0.000	0.205	1.81	0.20	0.24	0.24	0.24
	Drevja, Veisenfj. N	0.130	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.068	0.56	0.05	0.06	0.06	0.06
	Røssåga, Sørfj.	1.007	0.000	0.101	0.000	0.101	0.000	0.101	0.000	0.101	0.000	0.101	0.000	0.101	0.000	0.101	0.000	0.101	0.000	0.101	0.000	0.705	5.03	0.37	0.50	0.50	0.50
	Bjerka, Sørfj.	0.177	0.000	0.018	0.000	0.018	0.000	0.018	0.000	0.018	0.000	0.018	0.000	0.018	0.000	0.018	0.000	0.018	0.000	0.018	0.000	0.124	0.54	0.05	0.04	0.04	0.04
	Dalselva, Ranafj. N	0.059	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.050	0.33	0.06	0.02	0.02	0.02
	Ranavassdraget, Ranafj. N	1.516	0.000	0.182	0.000	0.182	0.000	0.182	0.000	0.182	0.000	0.182	0.000	0.182	0.000	0.182	0.000	0.182	0.000	0.182	0.000	1.274	8.00	1.33	0.55	0.55	0.55
	Fykanåga, Glomfjord	0.234	0.000	0.028	0.000	0.028	0.000	0.028	0.000	0.028	0.000	0.028	0.000	0.028	0.000	0.028	0.000	0.028	0.000	0.028	0.000	0.197	1.24	0.21	0.14	0.14	0.14
	Belare, Belarfj. Nordfj.	0.418	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.176	1.66	0.14	0.14	0.14	0.14
	Saltålsavassdr., Saltåfj.S	0.906	0.000	0.039	0.000	0.039	0.000	0.039	0.000	0.039	0.000	0.039	0.000	0.039	0.000	0.039	0.000	0.039	0.000	0.039	0.000	0.272	3.09	0.14	0.34	0.34	0.34
	Sulltjelmavassdr., Saltåfj.N	0.672	0.000	0.027	0.000	0.027	0.000	0.027	0.000	0.027	0.000	0.027	0.000	0.027	0.000	0.027	0.000	0.027	0.000	0.027	0.000	0.191	17.71	0.20	1.58	1.58	1.58
	Kobbe-, Leirfj. Sørfolda N	0.400	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.168	1.03	0.28	0.07	0.07	0.07
	Skjoma, Ofotfj. S	0.307	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.161	0.60	0.28	0.08	0.08	0.08

Table 9.2 TRIBUTARY RIVERS. ANNUAL LOAD 1994.

County	Watercourse	Parameters (mean values)																													
		PCB (The following Congeners) IUPAC NOS																													
		Gamma		28		52		101		118		138		153		180		Sum : PCB		TOC		Cr- T		NI		As					
HCH	kg	zero	kg	limit	kg	zero	kg	limit	kg	zero	kg	limit	kg	zero	kg	limit	kg	zero	kg	limit	t.tons	zero	tons	limit	tons	zero	tons	limit	tons		
Troms (9.)	Spanselva, Astafj. Vågsfj.	0.080	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.048	0.25	0.25	0.05	0.01	0.01	0.01	0.01	0.01	
	Salangse., Astafj. Vågsfj.	0.303	0.000	0.026	0.000	0.026	0.000	0.026	0.000	0.026	0.000	0.026	0.000	0.026	0.000	0.026	0.000	0.026	0.000	0.026	0.000	0.182	0.99	0.99	0.10	1.52	1.52	0.03	0.03	0.03	
	Rossiforde., Malangen	0.082	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.052	0.75	0.75	0.05	0.05	0.05	0.03	0.03	0.03	
	Målse., Målselvfj. "	0.567	0.000	0.085	0.000	0.085	0.000	0.085	0.000	0.085	0.000	0.085	0.000	0.085	0.000	0.085	0.000	0.085	0.000	0.085	0.000	0.596	2.69	2.69	0.06	0.06	0.06	0.20	0.20	0.20	
	Bardue., Målselva	0.510	0.000	0.076	0.000	0.076	0.000	0.076	0.000	0.076	0.000	0.076	0.000	0.076	0.000	0.076	0.000	0.076	0.000	0.076	0.000	0.535	2.42	2.42	0.05	0.05	0.05	0.18	0.18	0.18	
	Nordkjøselva, Balsfj.	0.017	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.035	0.17	0.17	0.02	0.02	0.02	0.02	0.02	0.02	
	Signaldaiselva, Lyngen V	0.041	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.087	0.49	0.49	0.19	0.04	0.04	0.04	0.04	0.04	
	Skibotnelva, Lyngen	0.020	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.086	0.39	0.39	0.27	0.04	0.04	0.04	0.04	0.04	
	Kålfjordeiva, Lyngen Ø	0.013	0.000	0.008	0.000	0.008	0.000	0.008	0.000	0.008	0.000	0.008	0.000	0.008	0.000	0.008	0.000	0.008	0.000	0.008	0.000	0.055	0.24	0.24	0.09	0.03	0.03	0.03	0.03	0.03	
	Reisa, Reisafj.	0.058	0.000	0.035	0.000	0.035	0.000	0.035	0.000	0.035	0.000	0.035	0.000	0.035	0.000	0.035	0.000	0.035	0.000	0.035	0.000	2.20	1.34	1.34	0.17	0.15	0.15	0.15	0.15	0.15	
	Finnmark (10.)	Mattselva, Kåfj. Altafj.	0.022	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.046	0.47	0.47	0.30	0.03	0.03	0.03	0.03	0.03
		Tverrelva, Altafj.	0.013	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.019	0.23	0.23	0.12	0.01	0.01	0.01	0.01	0.01
		Repparfjordv., Repparfj.	0.116	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.023	0.000	0.162	3.05	3.05	1.16	0.08	0.08	0.08	0.08	0.08
Stabburse., I. Porsangen V		0.079	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.016	0.000	0.111	1.29	1.29	0.77	0.06	0.06	0.06	0.06	0.06	
Lakse., Indre Porsangen S		0.093	0.000	0.019	0.000	0.019	0.000	0.019	0.000	0.019	0.000	0.019	0.000	0.019	0.000	0.019	0.000	0.019	0.000	0.019	0.000	0.130	1.55	1.55	0.54	0.04	0.04	0.04	0.04	0.04	
Børselva, Indre Porsangen Ø		0.121	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.024	0.000	0.170	1.46	1.46	0.25	0.09	0.09	0.09	0.09	0.09	
Mattusjåkka, I. Laksefj. V		0.010	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.014	0.08	0.08	0.03	0.01	0.01	0.01	0.01	0.01	
Storrelva, Indre Laksefj. V		0.062	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.012	0.000	0.087	0.53	0.53	0.21	0.05	0.05	0.05	0.05	0.05	
Soussjåkka, I. Laksefj. V		0.010	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.014	0.08	0.08	0.03	0.01	0.01	0.01	0.01	0.01	
Storrelva, I. Laksefj. Ø		0.050	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.070	1.48	1.48	0.38	0.07	0.07	0.07	0.07	0.07	
Tanavassdraget, Tanafj. S		0.501	0.000	0.137	0.000	0.137	0.000	0.137	0.000	0.137	0.000	0.137	0.000	0.137	0.000	0.137	0.000	0.137	0.000	0.137	0.000	0.957	10.76	10.76	3.74	0.68	0.68	0.68	0.68	0.68	
Vesterelva, Syltefj.		0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.014	0.000	0.098	2.31	2.31	0.47	0.20	0.20	0.20	0.20	0.20	
V. Jakobse., Y. Varangerfj.		0.086	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.009	0.000	0.060	0.88	0.88	0.41	0.04	0.04	0.04	0.04	0.04	
Passvike., Bakfj. Varangfj.	1.894	0.000	0.178	0.000	0.178	0.000	0.178	0.000	0.178	0.000	0.178	0.000	0.178	0.000	0.178	0.000	0.178	0.000	0.178	0.000	1.243	14.09	14.09	51.91	1.60	1.60	1.60	1.60	1.60		
Nelden, Munkfj. Varangfj.	0.288	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.025	0.000	0.173	1.68	1.68	1.08	0.08	0.08	0.08	0.08	0.08		
Grønselva, Varangfj.	0.046	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.004	0.000	0.028	0.46	0.46	0.98	0.04	0.04	0.04	0.04	0.04		

APPENDIX X :	"MEAN" TOTAL DISCHARGES (Mean concentrations of main and tributary rivers multiplied with mean runoff 1961-90 (main rivers), 1931-60 (tributary rivers)).	Page:
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* Measurements below detection limits are treated in two ways: "Detection limit = Zero", and "Detection limit = limit". This concerns the substances Cd, Pb, Hg and PCBs. In Table 10.5A the "limit-values" are shown, in Table 10.5B the "zero-values" are presented.

**Table X "MEAN" TOTAL DISCHARGES from MAINLAND NORWAY
to convention waters (Mean runoff 1961 - 90, main rivers,
1931 - 60, tributary rivers (Fig. I)).**

Substance:	Area runoff	Direct Discharges	Tributary Inputs	Main Riverine Inputs	Grand Total	
Cadmium		1.2	4.3 *	3.7 *	9.2	tonnes
Cadmium			4.6 **	3.7 **	9.5	tonnes
Mercury		105	135 *	108 *	347	kg
Mercury			203 **	135 **	442	kg
Copper		49	101	102	252	tonnes
Zinc		140	382	390	912	tonnes
Lead		6.3	48.8 *	36.5 *	91.6	tonnes
Lead			48.9 **	36.5 **	91.7	tonnes
Arsenic		0.5	23.2	16.4 *	40.1	tonnes
Arsenic			23.2	16.4 **	40.2	tonnes
Cr-T		6.5	199.6 *	67.2 *	273.2	tonnes
Cr-T			199.6 **	67.2 **	273.2	tonnes
Ni		14.2	87.2 *	46.1 *	147.5	tonnes
Ni			87.2 **	46.1 **	147.5	tonnes
PCBs ***			0.5 *	32.1 *	32.6	kg
PCBs			29.7 **	34.4 **	64.1	kg
gamma-HCH			55	37	92	kg
NH4-N	1637	11263	1730	1344	15974	tonnes
NO3-N	14020	194	17100	16416	47730	tonnes
PO4-P	201	1163	199	199	1763	tonnes
Total N	22364	17783	32791	26850	99788	tonnes
Total P	766	2180	672	510	4128	tonnes
S.P.M.		5675905	219552	240780	6136236	tonnes
TOC		18053	173	192090	210316	tonnes
COD		215420			215420	tonnes
AOX		210			210	tonnes

Measurements below detection limits are treated in two ways :

- *) Detection limit = Zero
- **) Detection limit = Limit

*** the following congeners: IUPAC Nos. 28,52,101,118,153,138,180

**Table 10.1 "MEAN" TOTAL DISCHARGES to The Skagerrak Region
(Mean runoff 1961 - 90, main rivers,
1931 - 60, tributary rivers (Fig. I.I)).**

The Skagerrak Region with main rivers (1) Glomma, (2) Drammenselva, (3) Numedalslågen, (4) Skienselva, (5) Otra

Substance:	Area runoff	Direct Discharges	Tributary Inputs	Main Riverine Inputs	Grand Total	
Cadmium		0.09	0.8 *	3.1 *	4.0	tonnes
Cadmium			0.8 **	3.1 **	4.0	tonnes
Mercury		42.07	12 *	87 *	141	kg
Mercury			17 **	109 **	168	kg
Copper		20.65	9	54	83	tonnes
Zinc		19.07	99	276	395	tonnes
Lead		0.91	6.9 *	27.0 *	34.8	tonnes
Lead			6.9 **	27.0 **	34.8	tonnes
Arsenic		0.28	3.3 *	12.6 *	16.2	tonnes
Arsenic			3.3 **	12.6 **	16.2	tonnes
Cr-T		4.38	11.5 *	49.6 *	65.6	tonnes
Cr-T			11.6 **	49.6 **	65.6	tonnes
Ni		10.82	4.6 *	34.9 *	50.3	tonnes
Ni			4.6 **	34.9 **	50.3	tonnes
PCBs ***			0.1 *	26.4 *	26.5	kg
PCBs			2.8 **	27.6 **	30.4	kg
gamma-HCH			11	33	44	kg
NH4-N	158	4616	523	1129	6426	tonnes
NO3-N	1560	150	4690	14659	21059	tonnes
PO4-P	18	106	32	158	314	tonnes
Total N	2393	7497	7494	22709	40093	tonnes
Total P	70	265	109	427	871	tonnes
S.P.M.		16466	28662	217490	262618	tonnes
TOC		6838	49	153780	160666	tonnes
COD		117370			117370	tonnes
AOX		210			210	tonnes

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

*** the following congeners: IUPAC Nos. 28,52,101,118,153,138,180

**Table 10.2 "MEAN" TOTAL DISCHARGES to The Remaining North Sea
(Mean runoff 1961 - 90, main rivers,
1931 - 60, tributary rivers (Fig. I.II).**

The North Sea Region with main rivers : (6) Orreelva, (7) Suldalslågen

Substance:	Area runoff	Direct Discharges	Tributary Inputs	Main Riverine Inputs	Grand Total	
Cadmium		0.99	1.1 *	0.1 *	2.2	tonnes
Cadmium			1.2 **	0.1 **	2.2	tonnes
Mercury		42.39	28 *	0 *	70	kg
Mercury			54 **	3 **	99	kg
Copper		6.76	13	1	21	tonnes
Zinc		75.75	144	6	226	tonnes
Lead		4.59	10.2 *	0.4 *	15.2	tonnes
Lead			10.3 **	0.4 **	15.3	tonnes
Arsenic		0.00	5.7 *	0.3 *	6.0	tonnes
Arsenic			5.7 **	0.3 **	6.0	tonnes
Cr-T		1.34	37.4 *	4.0 *	42.7	tonnes
Cr-T			37.4 **	4.0 **	42.7	tonnes
Ni		2.19	6.0 *	2.1 *	10.3	tonnes
Ni			6.0 **	2.1 **	10.3	tonnes
PCBs ***			0.0 *	0.0 *	0.0	kg
PCBs			9.1 **	0.6 **	9.7	kg
gamma-HCH			16	2	18	kg
NH4-N	579	3103	521	24	4228	tonnes
NO3-N	5161	21	7386	583	13151	tonnes
PO4-P	56	275	53	2	386	tonnes
Total N	8286	4742	11467	782	25277	tonnes
Total P	198	537	181	9	925	tonnes
S.P.M.		2106041	39171	2440	2147652	tonnes
TOC		5287	72	2024	7383	tonnes
COD		38768			38768	tonnes

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

*** the following congeners: IUPAC Nos. 28,52,101,118,153,138,180

**Table 10.3 "MEAN" TOTAL DISCHARGES to The Norwegian Sea
(Mean runoff 1961 - 90, main rivers,
1931 - 60, tributary rivers (Fig. I.III)).**

The Norwegian Sea Region with main rivers (8) Orkla, (9) Vefsna

Substance:	Area runoff	Direct Discharges	Tributary Inputs	Main Riverine Inputs	Grand Total	
Cadmium		0.14	2.1 *	0.4 *	2.7	tonnes
Cadmium			2.3 **	0.4 **	2.9	tonnes
Mercury		19.00	67 *	17 *	103	kg
Mercury			99 **	19 **	136	kg
Copper		21.58	60	44	126	tonnes
Zinc		44.71	119	105	269	tonnes
Lead		0.81	25.6 *	8.8 *	35.2	tonnes
Lead			25.6 **	8.8 **	35.2	tonnes
Arsenic		0.27	10.9 *	2.6 *	13.8	tonnes
Arsenic			10.9 **	2.6 **	13.8	tonnes
Cr-T		0.70	106.2 *	10.2 *	117.2	tonnes
Cr-T			106.2 **	10.2 **	117.2	tonnes
Ni		1.15	16.9 *	7.0 *	25.1	tonnes
Ni			16.9 **	7.0 **	25.1	tonnes
PCBs ***			0.4 *	5.2 *	5.6	kg
PCBs			14.0 **	5.6 **	19.6	kg
gamma-HCH			24	2	26	kg
NH4-N	808	3284	414	173	4679	tonnes
NO3-N	6289	22	4795	1039	12145	tonnes
PO4-P	110	755	87	18	969	tonnes
Total N	10004	5195	11046	2868	29113	tonnes
Total P	410	1331	288	39	2068	tonnes
S.P.M.		1421222	119930	12242	1553393	tonnes
TOC		5588	30	26691	32309	tonnes
COD		57745			57745	tonnes
AOX		1			1	tonnes

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

*** the following congeners: IUPAC Nos. 28,52,101,118,153,138,180

**Table 10.4 "MEAN" TOTAL DISCHARGES to The Barents Sea
(Mean runoff 1961 - 90, main rivers,
1931 - 60, tributary rivers (Fig. I.IV).**

The Barents Sea Region with main river (10) Alta

Substance:	Area runoff	Direct Discharges	Tributary Inputs	Main Riverine Inputs	Grand Total	
Cadmium		0.00	0.2 *	0.11 *	0.3	tonnes
Cadmium			0.3 **	0.11 **	0.4	tonnes
Mercury		1.35	28 *	4.11 *	33	kg
Mercury			33 **	4.11 **	38	kg
Copper		0.37	19	3.02	22	tonnes
Zinc		0.43	21	2.03	23	tonnes
Lead		0.01	6.1 *	0.25 *	6.4	tonnes
Lead			6.1 **	0.25 **	6.4	tonnes
Arsenic		0.00	3.2 *	0.88 *	4.1	tonnes
Arsenic			3.2 **	0.88 **	4.1	tonnes
Cr-T		0.04	44.4 *	3.29 *	47.7	tonnes
Cr-T			44.4 **	3.29 **	47.7	tonnes
Ni		0.06	59.8 *	2.06 *	61.9	tonnes
Ni			59.8 **	2.06 **	61.9	tonnes
PCBs ***			0.0 *	0.49 *	0.5	kg
PCBs			3.7 **	0.66 **	4.3	kg
gamma-HCH			4	0.14	4	kg
NH4-N	91	260	273	16	640	tonnes
NO3-N	1010	2	229	134	1375	tonnes
PO4-P	18	28	27	21	94	tonnes
Total N	1681	349	2784	491	5305	tonnes
Total P	88	46	95	35	264	tonnes
S.P.M.		2132176	31789	8608	2172572	tonnes
TOC		340	23	9595	9958	tonnes
COD		1537			1537	tonnes

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

*** the following congeners: IUPAC Nos. 28,52,101,118,153,138,180

Table 10.5 A Main rivers. "Mean" load (Mean concentrations multiplied with mean runoff 1961-90) (Limit-values=limits).

Watercourse	Runoff data						Parameters (mean values)											
	Drainage area		Discharge		Disch. gaug. station	gauging station	Cond ms/m	Tot-P tons	PO4-P tons	Tot-N tons	NO3-N tons	NH4-N Tons	Cu tons	Zn tons	Cd limit tons	Pb limit tons	S.P.M. t.tons	
	Outlet sq.km	Sampi. station sq.km	Normal 1994 l/s sq.km	1994 Normal l/s sq.km														
Glomma, Hvaler-Singlefj.	41918	41218	40221	16.5	15.7	16.9	16.1	6.07	295.98	117.96	12311	686.32	35.17	182.09	2.145	19.088	152.28	
Drammensvassdr, Dr.fj. V	17034	17028	16020	17.1	17.5	18.2	18.6	3.58	51.42	15.61	4711	146.92	7.81	29.75	0.275	2.663	23.69	
Numealslåggen, Larvikfj.	5577	5513	5197	21.2	22.3	21.2	22.3	3.05	28.38	11.43	1589	103.20	3.83	19.98	0.184	1.917	15.00	
Sklensvassdr, Grenlandsfj.	10772	10348	10348	25.3	25.1	25.3	25.1	2.18	26.42	7.27	2774	132.10	4.54	21.05	0.330	1.404	8.92	
Otra, Kr.Sandsfj.	3738	3730	3668	39.8	42.6	39.8	42.6	2.48	24.58	6.09	1325	60.86	2.34	23.60	0.187	1.966	17.60	
Orreelva, Orresanden	105	105	54	36.7	31.1	40.7	34.6	20.48	4.73	1.12	164	5.47	0.17	0.31	0.007	0.043	0.60	
Suldalsl.,Sandsfj.Boknafj.	1457	1457	1457	59	36	59	36	2.86	4.74	1.36	618	18.98	0.92	5.42	0.054	0.380	1.84	
Orkla, Orkdalsfj.Tr.h.fj.	3053	2872	2247	21.7	14.7	21.7	14.7	7.00	9.18	2.30	653	19.65	15.41	51.16	0.157	0.334	3.30	
Vefsna, Vefsenfj. S	4122	4113	3323	43.9	30.9	43.9	30.9	6.40	29.44	15.20	2215	153.74	28.64	54.32	0.285	8.484	8.94	
Altaelva, Altafj.	7373	7367	6257	11.8	9.3	11.8	9.3	12.61	34.95	20.92	491	16.45	3.02	2.03	0.110	0.247	8.61	

Watercourse	Parameters (mean values)																	
	Hg limit kg	Gamma HCH kg	PCB (The following Congeners) IUPAC NOS						TOC t.tons	Cr-T limit tons	Ni limit tons	As limit tons						
			28. limit kg	52. limit kg	101. limit kg	118. limit kg	138. limit kg	153. limit kg					SUM: limit kg					
Glomma, Hvaler-Singlefj.	69.276	12.440	0.643	1.501	2.788	2.574	2.574	1.930	0.429	12.440	28.096	19.732	8.579					
Drammensvassdr, Dr.fj. V	9.183	6.244	0.275	0.551	1.010	0.918	0.918	0.735	0.184	4.591	8.081	5.418	1.561					
Numealslåggen, Larvikfj.	17.655	1.622	0.111	0.258	0.590	0.516	0.553	0.369	0.147	2.543	3.133	2.285	0.700					
Sklensvassdr, Grenlandsfj.	8.256	8.669	0.165	0.743	1.156	1.156	1.321	0.826	0.330	5.697	4.706	2.972	0.991					
Otra, Kr.Sandsfj.	4.682	3.886	0.140	0.234	0.515	0.468	0.468	0.328	0.140	2.294	5.618	4.448	0.796					
Orreelva, Orresanden	0.122	0.157	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.026	0.314	0.358	0.033					
Suldalsl.,Sandsfj.Boknafj.	2.711	2.250	0.081	0.081	0.081	0.081	0.081	0.081	0.081	0.569	3.687	1.762	0.244					
Orkla, Orkdalsfj.Tr.h.fj.	1.965	0.373	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.413	2.260	1.336	1.101					
Vefsna, Vefsenfj. S	16.855	1.310	1.765	1.310	0.740	0.342	0.285	0.285	0.456	5.182	7.972	5.694	1.537					
Altaelva, Altafj.	4.112	0.137	0.082	0.082	0.164	0.110	0.082	0.055	0.082	0.658	3.290	2.056	0.877					

Table 10.5 B Main rivers. "Mean" load (Mean concentrations multiplied with mean runoff 1961-90) (Limit-values=zero).

Watercourse	Runoff data						Parameters (mean values)										
	Drainage area		Discharge		Conductivity		Tot-P t/ons	PO4-P t/ons	Tot-N t/ons	NO3-N t/ons	NH4-N t/ons	Cu t/ons	Zn t/ons	Cd zero t/ons	Pb zero t/ons	S.P.M. t/ons	
	Outlet sq.km	Sampl. station sq.km	Disch. gaug. station sq.km	Normal 1994 l/s sq.km	Normal 1994 l/s sq.km	gauging station 1994 l/s sq.km											Cond mS/m
Glomma, Hvaler-Singløfj.	41918	41218	40221	16.5	15.7	16.1	295.98	117.96	12311	8150	686.32	35.17	182.09	2.145	19.088	152.28	
Drammensvassdr, Dr.fj. V	17034	17028	16020	17.1	17.5	18.2	51.42	15.61	4711	3039	146.92	7.81	29.75	0.275	2.663	23.69	
Nurmedalslågen, Larvikfj.	5577	5513	5197	21.2	22.3	21.2	28.38	11.43	1589	921	103.20	3.83	19.98	0.184	1.917	15.00	
Skilensvassdr, Grenlandsfj.	10772	10348	10348	25.3	25.1	25.3	26.42	7.27	2774	1874	132.10	4.54	21.05	0.330	1.404	8.92	
Øtra, Kr.Sandsfj.	3738	3730	3668	39.8	42.6	39.8	24.58	6.09	1325	674	60.86	2.34	23.60	0.187	1.966	17.60	
Ørreelva, Ørresanden	105	105	54	36.7	31.1	40.7	4.73	1.12	164	92	5.47	0.17	0.31	0.007	0.043	0.60	
Suldalsl., Sandsfj. Boknafj.	1457	1457	1457	59	36	59	2.86	4.74	618	491	18.98	0.92	5.42	0.054	0.380	1.84	
Ørkla, Ørkdalsfj. Tr.h.fj.	3053	2872	2247	21.7	14.7	21.7	7.00	2.30	653	425	19.65	15.41	51.16	0.157	0.334	3.30	
Vefsna, Vefsenfj. S	4122	4113	3323	43.9	30.9	43.9	29.44	15.20	2215	615	153.74	28.64	54.32	0.285	8.484	8.94	
Altaelva, Altafj.	7373	7367	6257	11.8	9.3	11.8	34.95	20.92	491	134	16.45	3.02	2.03	0.110	0.247	8.61	

Watercourse	Parameters (mean values)													
	Hg zero kg	Gamma HCH kg	PCB (The following Congeners) IUPAC NOS						TOC t/ons	Cr-T zero t/ons	Ni zero t/ons	As zero t/ons		
			28 zero kg	52 zero kg	101 zero kg	118 zero kg	138 zero kg	153 zero kg					180 zero kg	SUM : zero kg
Glomma, Hvaler-Singløfj.	69.276	12.440	0.000	1.501	2.788	2.574	2.574	1.930	0.429	11.796	79.356	28.096	19.732	8.579
Drammensvassdr, Dr.fj. V	0.000	6.244	0.000	0.551	1.010	0.918	0.918	0.735	0.184	4.316	28.466	8.081	5.418	1.561
Nurmedalslågen, Larvikfj.	17.655	1.622	0.000	0.258	0.590	0.516	0.553	0.369	0.147	2.433	12.532	3.133	2.285	0.700
Skilensvassdr, Grenlandsfj.	0.000	8.669	0.165	0.743	1.156	1.321	1.321	0.826	0.330	5.697	18.164	4.706	2.972	0.991
Øtra, Kr.Sandsfj.	0.000	3.886	0.000	0.234	0.515	0.468	0.468	0.328	0.140	2.154	15.262	5.618	4.448	0.796
Ørreelva, Ørresanden	0.000	0.157	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.668	0.314	0.358	0.033
Suldalsl., Sandsfj. Boknafj.	0.000	2.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.355	3.687	1.762	0.244
Ørkla, Ørkdalsfj. Tr.h.fj.	0.000	0.373	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.331	2.260	1.336	1.101
Vefsna, Vefsenfj. S	16.855	1.310	1.765	1.310	0.740	0.342	0.285	0.285	0.456	5.182	19.360	7.972	5.694	1.537
Altaelva, Altafj.	4.112	0.137	0.000	0.082	0.164	0.110	0.082	0.055	0.000	0.493	9.595	3.290	2.056	0.877

**Table 10.6 The Skagerrak Region. "Mean" inputs from tributary rivers in
The Sub-areas (1 - 5)
(Mean concentrations 1994 multiplied with mean runoff, 1931-60)**

The Skagerrak Region with sub-areas: (1A) Glomma, (1B) Inner Oslofj., (2) Drammenselva,
(3) Numedalslågen, (4) Skienselva, (5) Otra

Total quantity of substance discharged per year:							Were 70 % of measurements above the detection limit ?	Precision of the estimate of the load
Sub-areas :	1A	1B	2	3	4	5		
Substance:								
Cd *	0.11	0.03	0.01	0.02	0.05	0.60 tonnes	YES	_____ %
Cd **	0.11	0.03	0.01	0.02	0.05	0.60 tonnes		_____ %
Hg *	0.61	0.70	0.16	0.10	1.01	9.37 kg	YES	_____ %
Hg **	1.32	0.85	0.16	0.61	1.01	13.38 kg		_____ %
Cu	0.9	0.5	0.1	0.8	0.6	5.7 tonnes	YES	_____ %
Zn	8.0	2.4	1.3	9.1	7.7	70.6 tonnes	YES	_____ %
Pb *	0.33	0.14	0.05	0.29	0.37	5.68 tonnes	YES	_____ %
Pb **	0.33	0.14	0.05	0.29	0.37	5.68 tonnes		_____ %
Arsenic *	0.33	0.13	0.03	0.16	0.31	2.35 tonnes	YES	_____ %
Arsenic **	0.33	0.13	0.03	0.16	0.31	2.35 tonnes		_____ %
Cr-T *	1.97	0.51	0.19	0.66	1.13	7.08 tonnes	YES	_____ %
Cr-T **	1.97	0.53	0.19	0.66	1.13	7.08 tonnes		_____ %
Ni *	1.05	0.51	0.18	0.65	0.29	1.90 tonnes	YES	_____ %
Ni **	1.05	0.51	0.18	0.65	0.29	1.90 tonnes		_____ %
PCBs *	0.00	0.11	0.00	0.00	0.00	0.00 kg	NO	_____ %
PCBs **	0.23	0.16	0.03	0.13	0.21	2.08 kg		_____ %
gamma-HCl	0.74	0.25	0.04	0.22	1.01	8.80 kg	YES	_____ %
NH4-N	25.77	33.77	6.71	24.33	39.41	392.7 tonnes	YES	_____ %
NO3-N	953	408	136	612	227	2354 tonnes	YES	_____ %
PO4-P	5.5	4.6	5.9	10.1	0.5	5.5 tonnes	YES	_____ %
Total N	1145	558	171	922	404	4293 tonnes	YES	_____ %
Total P	20	15	9	16	4	44 tonnes	YES	_____ %
S.P.M.	3319	3660	2216	4919	1051	13497 tonnes	YES	_____ %
TOC	8	2	1	3	3	32 tonnes	YES	_____ %

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

**Table 10.7 The remaining North Sea. "Mean" inputs from tributary rivers
in The Subareas (6-7).
(Mean concentrations 1994 multiplied with mean runoff, 1931-60)**

The remaining North Sea Region with sub-areas: (6) Orreelva, (7) Suldalslågen

Total quantity of substance discharged per year:			Were 70 % of measurements above the detection limit ?	Precision of the estimate of the load
Sub-areas :	6	7		
Substance:				
Cd *	0.38	0.73	tonnes YES	_____ %
Cd **	0.38	0.79	tonnes	_____ %
Hg *	5.39	22.63	kg YES	_____ %
Hg **	16.04	38.13	kg	_____ %
Cu	4.2	8.8	tonnes YES	_____ %
Zn	71.8	72.3	tonnes YES	_____ %
Pb *	7.49	2.74	tonnes YES	_____ %
Pb **	7.49	2.80	tonnes	_____ %
Arsenic *	3.85	1.86	tonnes YES	_____ %
Arsenic **	3.85	1.88	tonnes	_____ %
Cr-T *	17.00	20.39	tonnes YES	_____ %
Cr-T **	17.00	20.39	tonnes	_____ %
Ni *	4.03	1.93	tonnes YES	_____ %
Ni **	4.03	1.96	tonnes	_____ %
PCBs *	0.00	0.00	kg NO	_____ %
PCBs **	3.09	6.02	kg	_____ %
gamma-HCl	8.56	7.40	kg YES	_____ %
NH4-N	321.42	199.96	tonnes YES	_____ %
NO3-N	3639	3747	tonnes YES	_____ %
PO4-P	23.0	29.7	tonnes YES	_____ %
Total N	5409	6057	tonnes YES	_____ %
Total P	80	101	tonnes YES	_____ %
S.P.M.	17313	21858	tonnes YES	_____ %
TOC	44	28	tonnes YES	_____ %

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

**Table 10.8 The Norwegian Sea. "Mean" inputs from tributary rivers
in The Subareas (8-9).
(Mean concentrations 1994 multiplied with mean runoff, 1931-60)**

The Norwegian Sea Region with sub-areas: (8) Orkla, (9) Vefsna

Total quantity of substance discharged per year:			Were 70 % of	Precision
Sub-areas :	8	9	measurements above the detection limit ?	of the estimate of the load
Substance:				
Cd *	1.77	0.38	tonnes YES	_____ %
Cd **	1.82	0.47	tonnes	_____ %
Hg *	58.95	8.22	kg YES	_____ %
Hg **	68.94	29.58	kg	_____ %
Cu	29.3	31.1	tonnes YES	_____ %
Zn	65.8	52.9	tonnes YES	_____ %
Pb *	10.70	14.86	tonnes YES	_____ %
Pb **	10.74	14.86	tonnes	_____ %
Arsenic *	4.59	6.34	tonnes YES	_____ %
Arsenic **	4.61	6.34	tonnes	_____ %
Cr-T *	45.46	60.77	tonnes YES	_____ %
Cr-T **	45.46	60.77	tonnes	_____ %
Ni *	11.80	5.08	tonnes YES	_____ %
Ni **	11.82	5.08	tonnes	_____ %
PCBs *	0.39	0.00	kg NO	_____ %
PCBs **	7.94	6.09	kg	_____ %
gamma-HCH	15.02	9.00	kg YES	_____ %
NH4-N	267.36	146.19	tonnes YES	_____ %
NO3-N	3641	1154	tonnes YES	_____ %
PO4-P	56.8	30.3	tonnes YES	_____ %
Total N	7931	3115	tonnes YES	_____ %
Total P	193	95	tonnes YES	_____ %
S.P.M.	57568	62361	tonnes YES	_____ %
TOC	24	6	tonnes YES	_____ %

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit

**Table 10.9 The Barents Sea. "Mean" inputs from tributary rivers
in The Sub-area (10).
(Mean concentrations 1994 multiplied with mean runoff, 1931-60)**

The Barents Sea Region with sub-area: (10) Alta

Total quantity of substance discharged per year:		Were 70 % of measurements above the detection limit ?	Precision of the estimate of the load
Sub-area :	10		
Substance:			
Cd *	0.19	tonnes YES	_____ %
Cd **	0.26	tonnes	_____ %
Hg *	27.51	kg YES	_____ %
Hg **	32.62	kg	_____ %
Cu	19.0	tonnes YES	_____ %
Zn	20.6	tonnes YES	_____ %
Pb *	6.14	tonnes YES	_____ %
Pb **	6.14	tonnes	_____ %
Arsenic *	3.21	tonnes YES	_____ %
Arsenic **	3.21	tonnes	_____ %
Cr-T *	44.40	tonnes YES	_____ %
Cr-T **	44.40	tonnes	_____ %
Ni *	59.76	tonnes YES	_____ %
Ni **	59.76	tonnes	_____ %
PCBs *	0.00	kg NO	_____ %
PCBs **	3.69	kg	_____ %
gamma-HCH	3.51	kg YES	_____ %
NH4-N	272.65	tonnes	_____ %
NO3-N	229	tonnes YES	_____ %
PO4-P	27.3	tonnes YES	_____ %
Total N	2784	tonnes YES	_____ %
Total P	95	tonnes YES	_____ %
S.P.M.	31789	tonnes YES	_____ %
TOC	23	tonnes YES	_____ %

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit