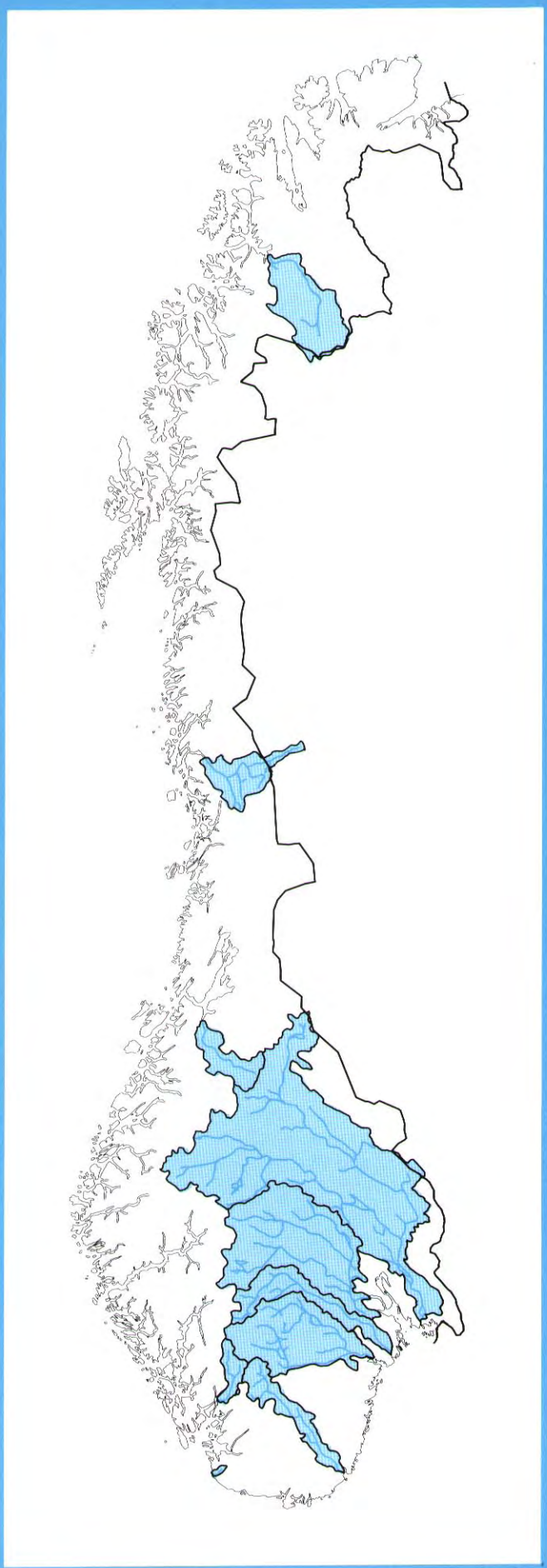

Norwegian Pollution Control Authority

Contractor	SFT Norway
Performing institute	NIVA

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Paris Convention

Annual report on direct and riverine inputs to Norwegian coastal waters during the year 1996

A Principles, results and discussions

B Data report

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NIVA Norwegian Institute for Water Research

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Abstract:

Riverine inputs of nutrients, selected heavy metals and persistent organic pollutants to Norwegian coastal waters from 10 main and 145 tributary rivers have been monitored during 1996. In addition, 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 3400 tonnes of phosphorus and 90.000 tonnes of nitrogen. About 34 per cent of the phosphorus and 54 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 65 % of the Hg-analyses except for the "Skagerrak-rivers", where more than 75 % of the Hg-values are above the detection limit. Most values of the different congeners of PCB are below the detection limit. The pesticide lindane is detected in most analyses in small amounts. Total load of this compound is estimated to about 76 kg. The largest yields from heavy metals comprise copper and zinc, with input estimates of 289 and 1002 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

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4. Direct discharges

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The National Environmental Monitoring Programme

Paris Convention

Annual report on direct and riverine inputs to Norwegian coastal waters during the year 1996

A Principles, results and discussion
B Data report

Oslo, November 1997
Project manager: Gjertrud Holtan
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Hans Holtan
Terje Hopen

NIVA Norwegian Institute for Water Research

PREFACE

The report presents the data from the 1996 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 1996-investigation lasted from January throughout December. This report is the Norwegian part of the 1996 study, divided into two parts:

A: Principles - Results and Discussion
B: Data Report.

The Programme Committee has consisted of Dag Rosland (SFT) and Gjertrud Holtan (NIVA). Principal collaborators have been Dag Berge and Hans 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 continous 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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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 commense 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 phosphorus 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 persistent organic pollutants to the whole North Sea area are to be reduced by 50-70% depending on the micropollutant in question.

In this report the results (1996) 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.

In connection with the high flood in Norwegian rivers in the South-Eastern part of the country in May-June 1995, an intensive investigation of Glomma (at Sarpsfoss) and Drammenselva (at Gamle Mjøndalen bro) was carried out. To be able to compare the 1995-results with results in a "normal" year, the investigation was repeated in 1996. These data are also presented in this report.

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 Norways total loads are 25 per cent of the phosphorus and 38 per cent of the nitrogen yield. In this region where 90 per cent of the area is river- monitored, about 60 per cent of the P- and 70 per cent of the N- loads, are found in the riverine inputs.

According to the results of the 1996 investigation total annual nutrient loads to coastal waters from landbased sources in Norway are approximately 3400 tonnes of phosphorus and 90.000 tonnes of nitrogen. Respectively 34 and 54 per cent of the grand total inputs of phosphorus and nitrogen are monitored in the main and tributary rivers. Riverine inputs of metals and persistent organic pollutants 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 5.2 and 6.1 tonnes, mercury between 397 and 443 kg. The "below detection limit problem" also applies for the inputs of PCBs which are measured to be between 0.06 and 33 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 77 kg. The largest share of heavy metals comprise copper and zinc, with input estimates of 289 and 1002 tonnes, of which 79 and 87 % respectively, is river-monitored.

Retention of nutrients and persistent organic pollutants in the many treshold fjords of Norway is not included in the above given input figures. Estimates of retention of these substances would presumedly 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 1996 are in addition "normalized", i.e. 1996 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 eight 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, persistent organic pollutants 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 calender 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 phosphorus 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 persistent organic pollutants 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 - 1996).

These investigations have mainly concentrated on nutrients. Hence data on the load of the nutrients are satisfactory, while the data on heavy metals and persistent organic pollutants are rather insufficient. In addition to the ten rivers it was decided to estimate the load of 145 other rivers (tributaries) based on other 1996-monitoring programmes, and existing knowledge of the river systems concerned, supplemented with random samples taken in 1996.

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 $70^0$30"N, $70^0$30"E), to about $70^0$30"N, 21^0E

Norwegian Sea: Southwards of $70^0$30"N, to about 62^0 N

North Sea : Southwards of 62^0 N, to the Swedish border

- Skagerrak : From Lindesnes (the southernmost point of Norway), about $57^0$44"N to Sweden about $58^0$58"N, 11^0E.

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
Area:	
- Mainland Norway	323878 km²
- The whole country incl. Svalbard and Jan Mayen	386958 km²
Coastline:	
- 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 1990-1995 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 recources and energy administration.
Design: NIVA.

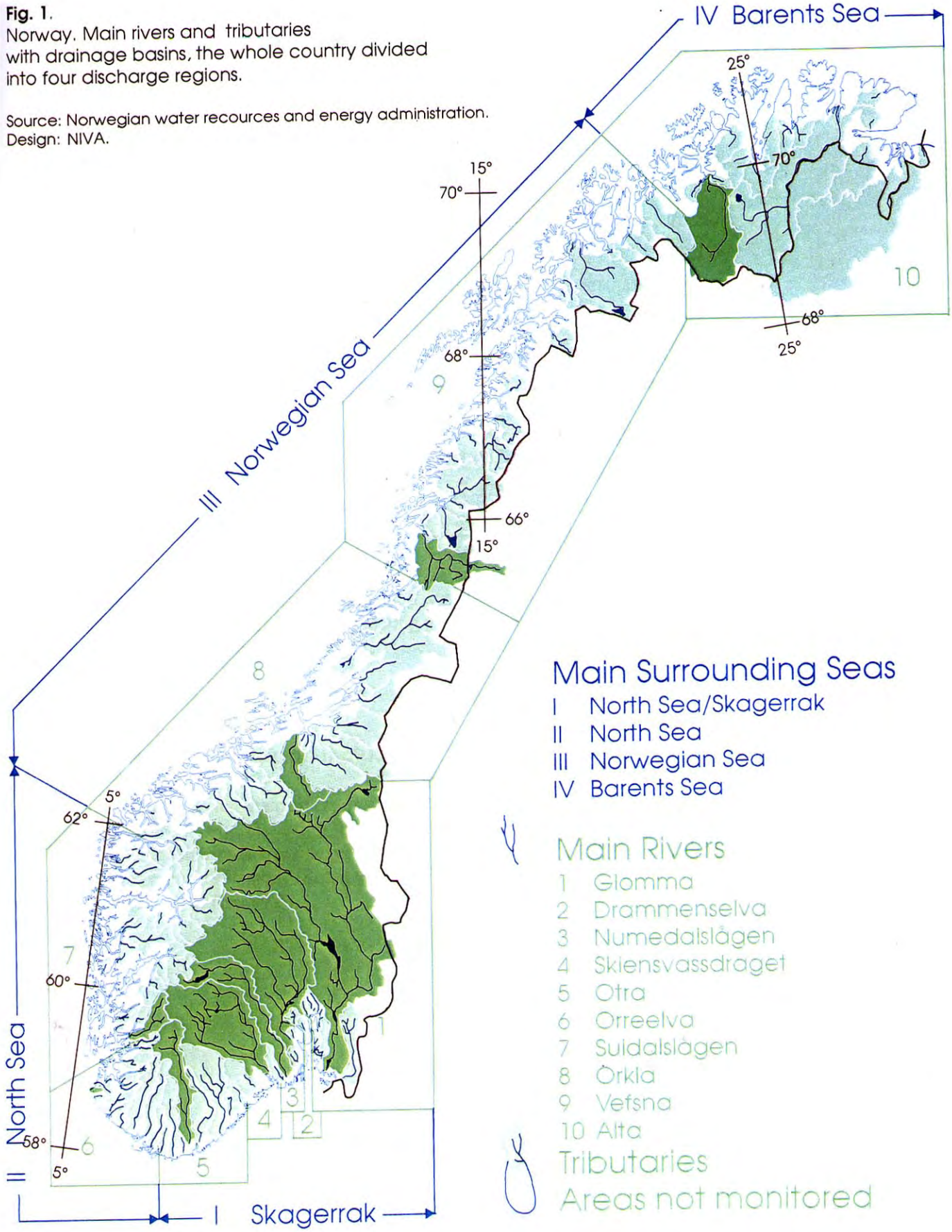


Table 2. The main rivers with catchment areas and long term average flow (LTA) 1961-90.

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 additon to the ten main rivers, it was determined to assess inputs from the same 145 river systems as in 1990 - 1995 (Fig. 1) using "best estimates" of concentrations and flows. In total all Norwegian rivers with catchment areas larger than 500 km^2, and several of the minor rivers (streams) also are included in the 1996 study. Some information about these rivers are shown in Tables 8.1-8.2 (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 refered 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 1993-1995, and also in 1996.

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 1996 as prescribed in PARCOM 10/3/2/E.

In connection with the high flood in Norwegian rivers in the South-Eastern part of the country in May-June 1995, an intensive investigation of Glomma (at Sarpsfoss) and Drammenselva (at Gamle Mjøndalen bro) was carried out. To be able to compare the 1995-results with results in a "normal" year, this investigation was repeated in 1996.

From the last part of May and also in June both rivers were sampled every second day for determination of nutrients and particular matter, and weekly for determination of heavy metals. In addition samples from both rivers were gathered every second week for determination of PCBs and HCH. To follow the situation it was also in July taken weekly samples from both rivers for determination of nutrients and particular matter. Data from this investigation are also reported.

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.

As mentioned above the parameters lindane and PCBs were monitored 4 times in Glomma and Drammenselva in June-July 1996, that is 6 times altogether. For the other main rivers except Suldalslågen and Alta the parameters lindane and PCBs have been monitored three times in 1996, in Suldalslågen and Alta, twice.

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 for most rivers in the Skagerrak region. As for the rivers draining to the rest of the North Sea, the Norwegian Sea and the Barents Sea, all rivers except 2 in the Orkla and 1 in the Vefsna area are sampled at least once in 1996. The concentrations are based on measurements of these samples and compared with measurements from the last decade. With regard to the 3 rivers not sampled in 1996, most data are from samples gathered/analysed in 1994.

PCBs and lindane were only sampled/analysed in 2 of the Oslo rivers in 1996. As for Hg, this parameter was analysed once in all rivers except the 3 mentioned above. In addition 2 rivers in the Orre area, 1 in the Suldalslågen and 10 in the Orkla area were not sampled/analysed for Hg. For all rivers not sampled/analysed for lindane, PCBs and Hg, the concentrations of these parameters 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 1990-1994 (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[1)]	x	x	x	x	x	x	x	x	x	x	x	x
Drammenselva upstr. outl.[1)]	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		

[1)] Every second day from the last part of May till the end of June, weekly in July.

In 1996 the water samples were taken by local persons as in 1990 - 1995. 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 1996 the following parameters were monitored in accordance with the mandate: 5 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 7 of the main rivers were positive (from 75 to 100%) and correspondingly in all main rivers for Pb (100%). As for the tributaries draining to the Skagerrak area, 95% of the Cd-samples were above the detection limit, and in the area draining to the rest of the North Sea, 65%. As for the Pb-samples all findings were above the detection limit. In the Norwegian Sea area 42% of the Cd-findings were positive and in the Barents Sea area only 13%. More than 70% of the Pb-findings, however, were in both areas above the detection limit.

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 optimalization of the methods. As for mercury more than 70% of the findings in the 1996-samples from 4 of the main rivers were above the detection limit, Glomma 100%, the others 75-83%. As for the findings from the "Skagerrak" rivers 20 of 24 river samples were higher than the detection limit (83%). 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 1996-study. In those cases were 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 km^2. Expressed in volumetric units this amounts to 438 km^3 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, 1990-1996 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).

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).

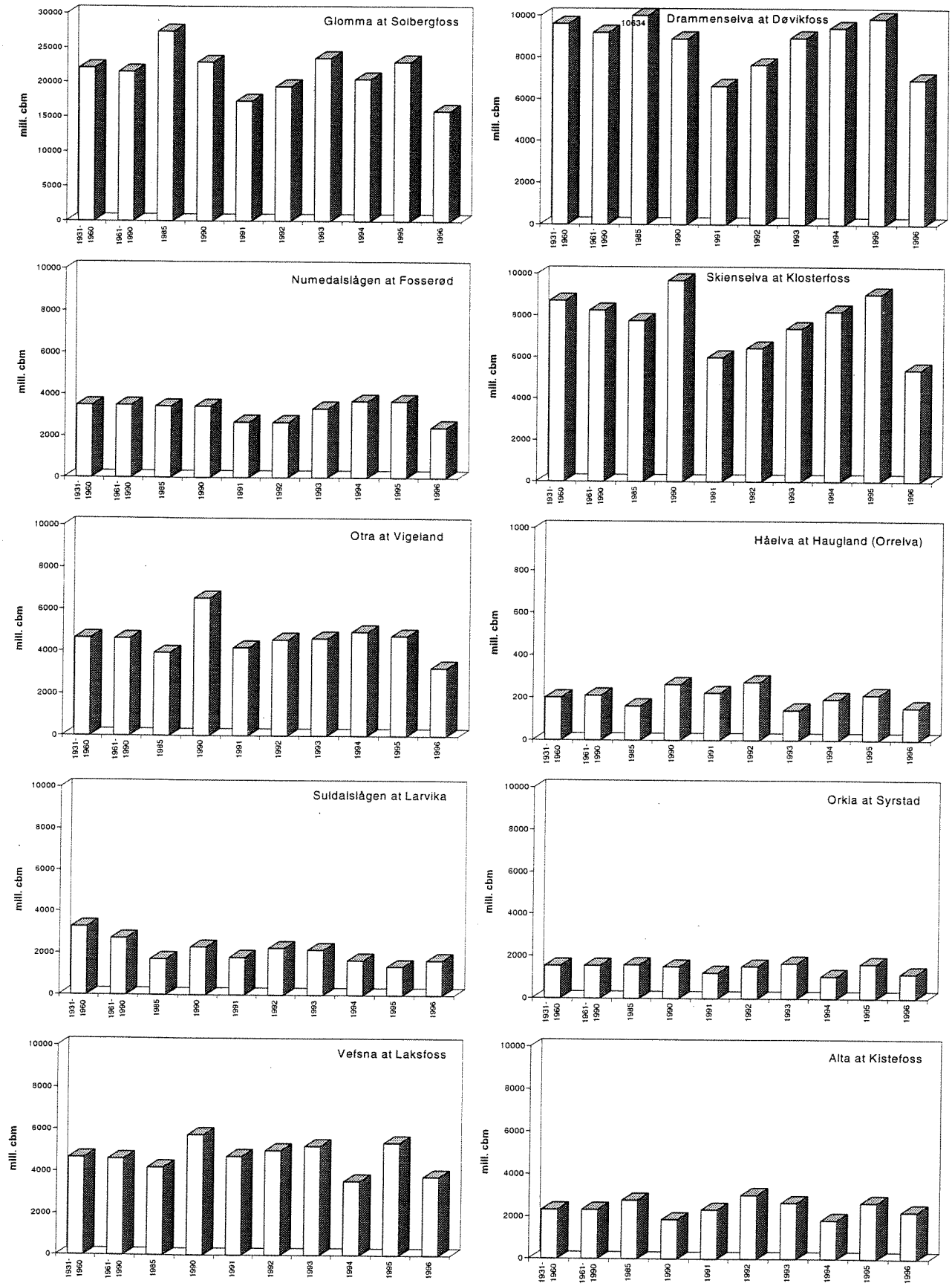


Fig. 2 Main Rivers. Mean Annual Runoff (1931-60 and 1961-90) and Annual Runoff for the Years 1985, 1990 - 1996 (mill.cbm.).
Source: Norwegian Water Resources and Energy Administration

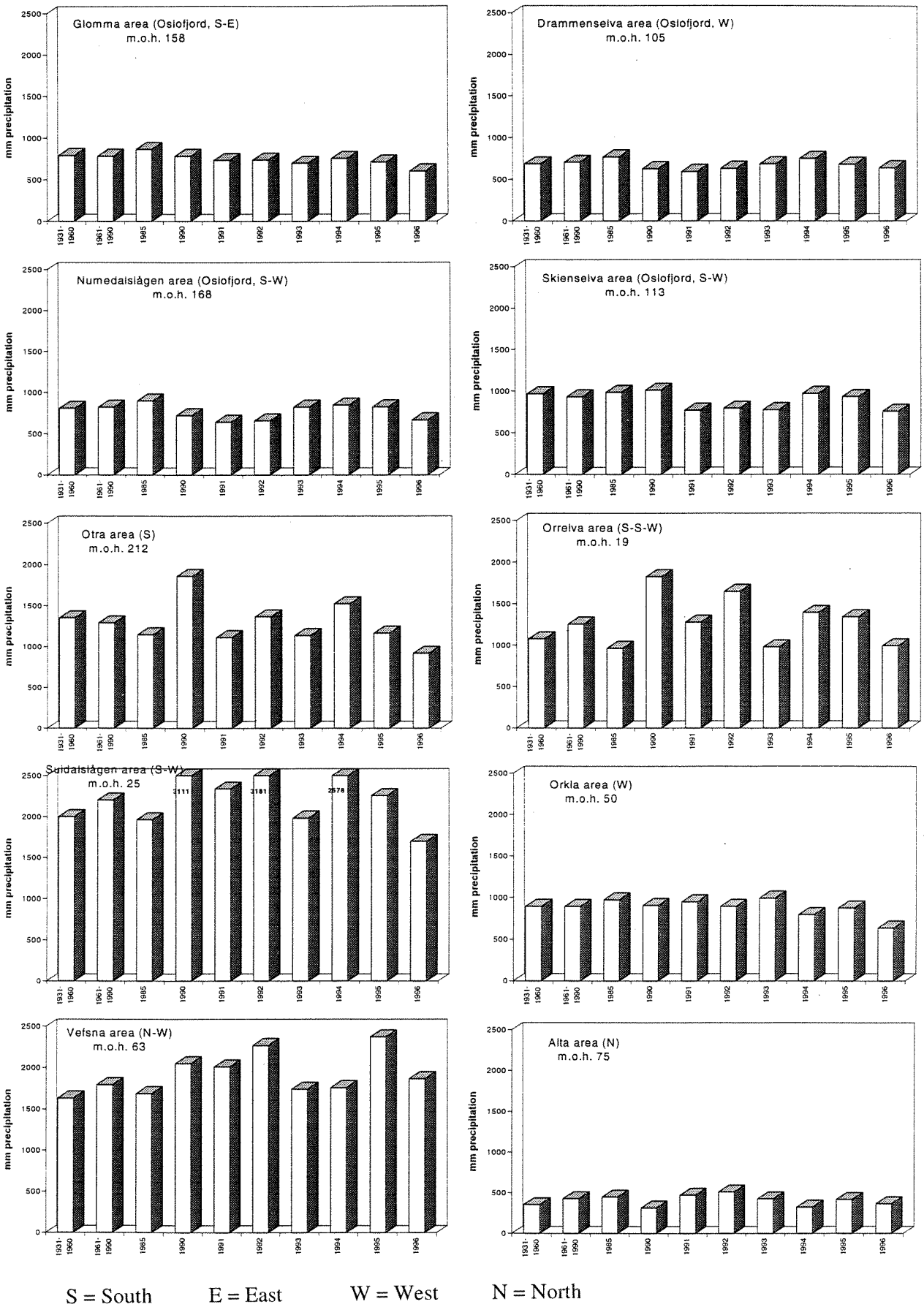


Fig. 3 Main Rivers. Mean Annual Precipitation (1931-60 and 1961-90) at Stations near Outlet and Annual Precipitation in the Years 1985, 1990 - 1996 (mm/year).
Source: The Norwegian Meteorological Institute

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 continous observations of the rate of flow are collected. For most rivers these stations are located upstream the sampling stations (NVE, 1997). The additional water supplied is estimated using measured rainfall data from the local catchment areas (DNMI, 1997).

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 1996, are shown in Fig. 4. In Fig. 5 monthly precipitation for the same period together with mean precipitation in 1996, are shown.

For the other rivers (tributaries) the runoff data partly are from continous 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 (1996) are used for flow estimates.

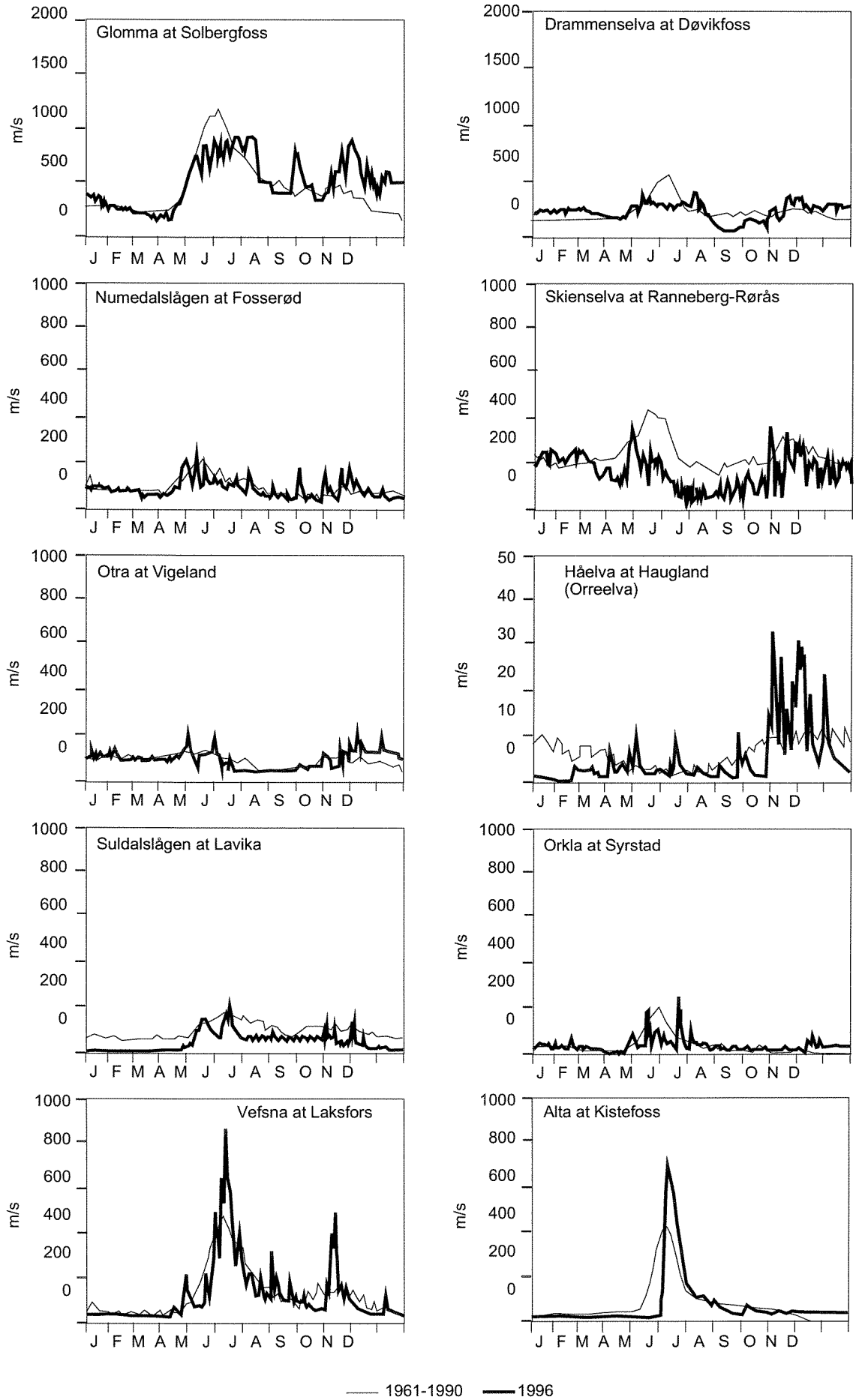


Fig. 4 Seasonal Changes in Daily Runoff (m^3/s)
Source: Norwegian Water Resources and Energy Administration

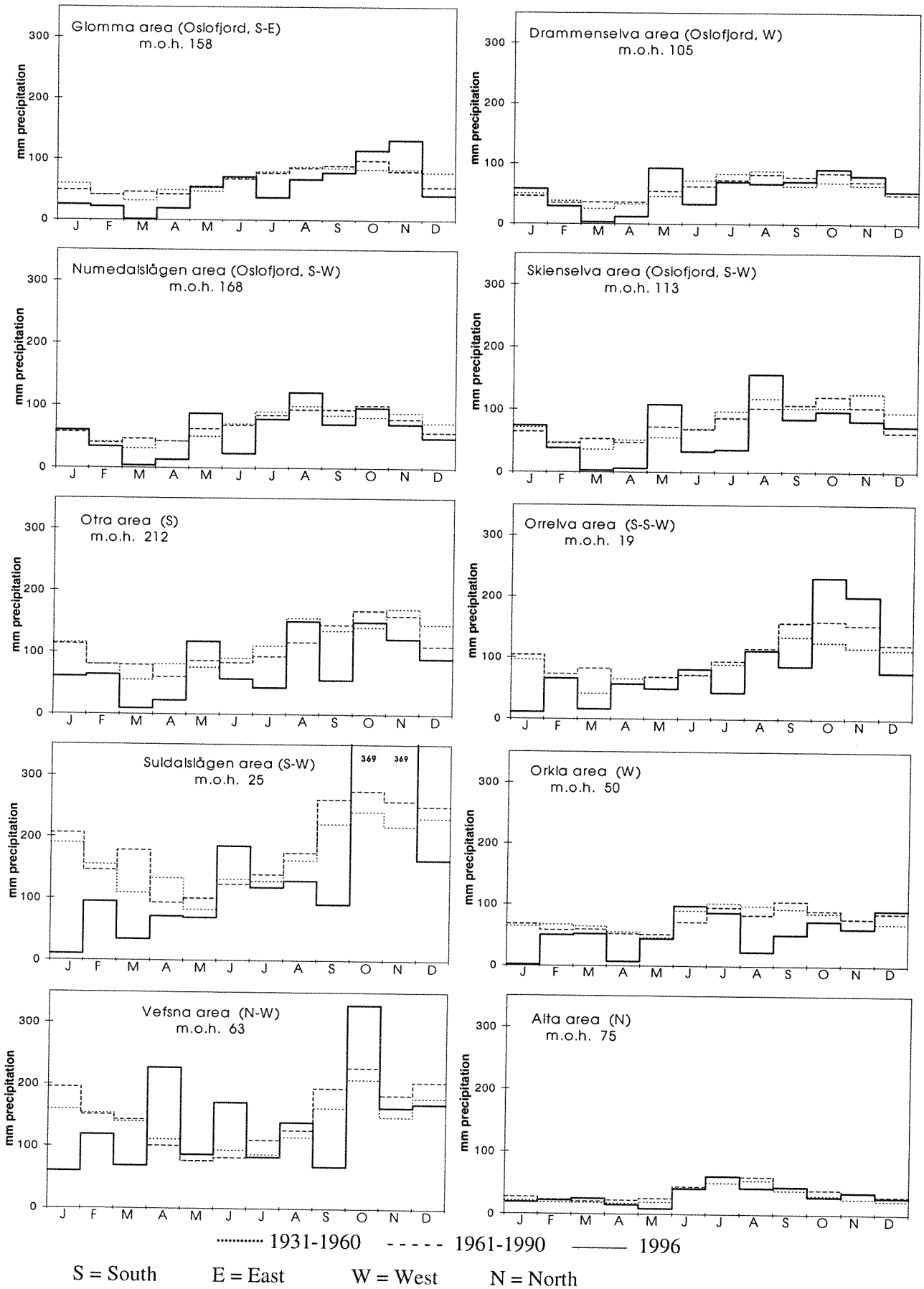


Fig. 5 Monthly Changes in Precipitation (mm/month).
(m.o.h. = meters above sea level)
Source: The Norwegian Meteorological Institute

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.

This equation is a formula suited for estimating annual load when sampling dates are evenly spaced in time. Essentially it expresses the annual load (L) as the product of a flow weighted estimate of annual mean concentration and annual flow (Qa). Then the annual load estimate can be strongly biased if the sampling frequency increases during periods of high flow. Incidents with high flow will have a great influence on the estimate, and high concentrations during such periods will eventually lead to an overestimated annual load. A better method for estimating annual load when the sampling frequency increases with flow would be to use the above mentioned formula to make estimates of monthly loads and sum these to an estimate of annual load. 1995 and 1996-data from Glomma and Drammenselva areas are treated in this way.

The second formula was used where continous 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 km²		Down Stream areas km²	Total km²	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 1996, 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 watercourses.

In Eastern and Southern Norway a large proportion 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 2020 plants that were registered at the end of 1995, 18 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, 1997).

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	0.0016	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 1996 are the same as those used for calculations in 1992 - 1995. 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 (1997), SFT (1993), VEAS (1997),

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 persistent organic pollutants 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 persistent organic pollutants.

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 1996-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 (1996), 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 1996 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 -1995 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 1996 were 25 per cent of the phosphorus and 38 per cent of the nitrogen yield.

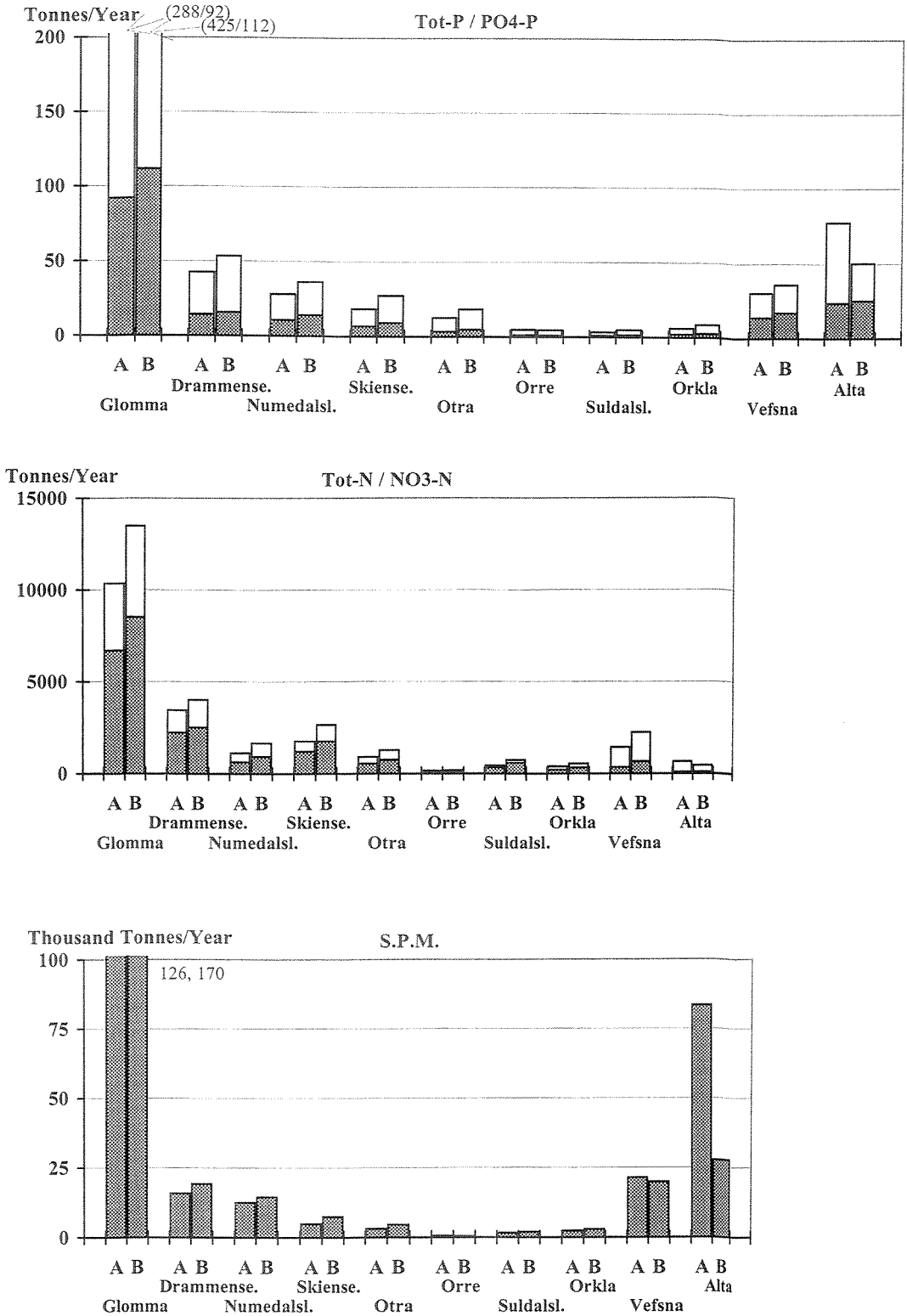
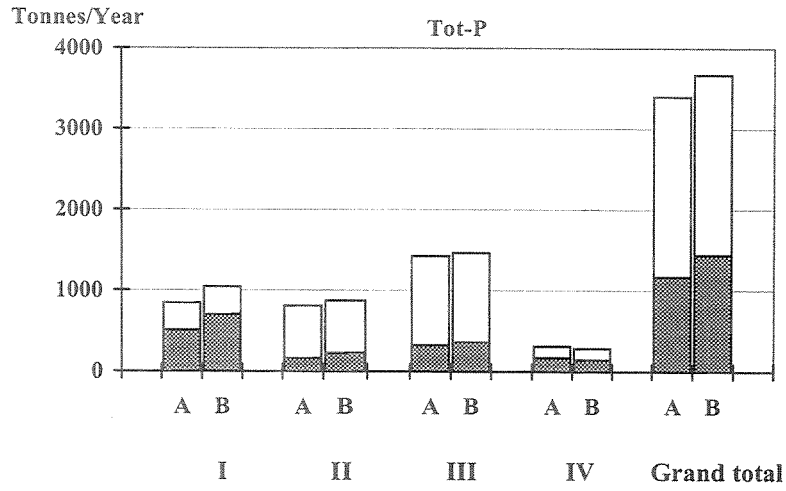
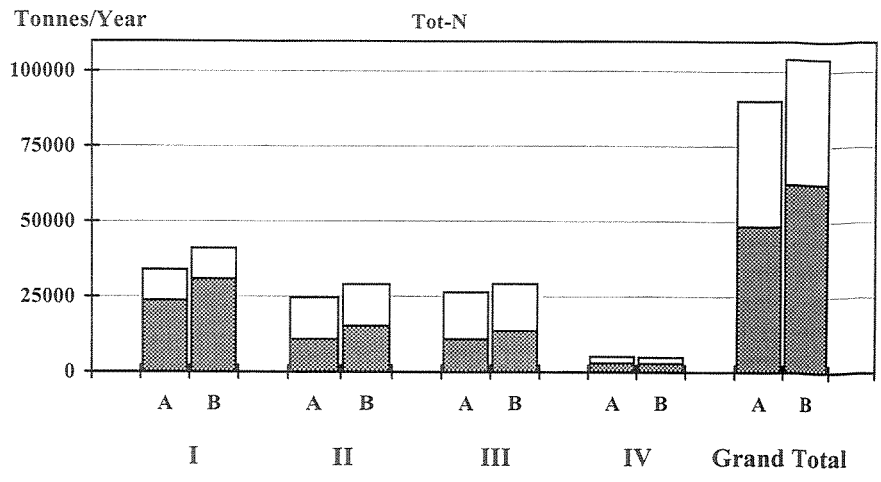


Fig. 6 Main rivers. Nutrients and S.P.M. Total loads 1996 (A) and Total normalized loads (B) in the different rivers.

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





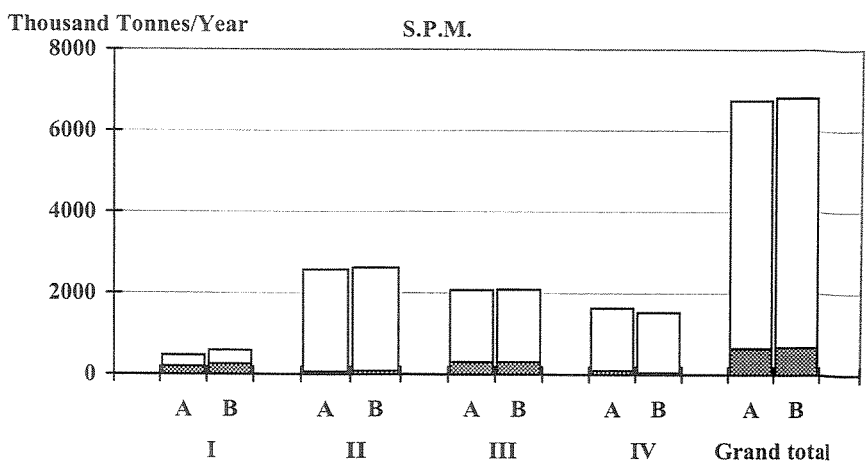


Fig. 7 Nutrients and S.P.M. Total and river discharges 1996 (A) and Total normalized loads (B) from mainland Norway to convention waters and the four subregions: I: Skagerrak, II: The remaining North Sea, III: The Norwegian Sea, IV: The Barents Sea.

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, about 60 per cent of the P-load and 70 per cent of the N-load were found in the riverine inputs.

According to the results from the 1996 investigation, total annual nutrient load to coastal waters from landbased Norwegian sources, is approximately 3400 tonnes of phosphorus and 90.000 tonnes of nitrogen (Fig. 7). About 34 per cent of the phosphorus and 54 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 1996 amounted to about 289 and 1002 tonnes, of which 79 and 87 per cent respectively, were river monitored (Fig. 8).

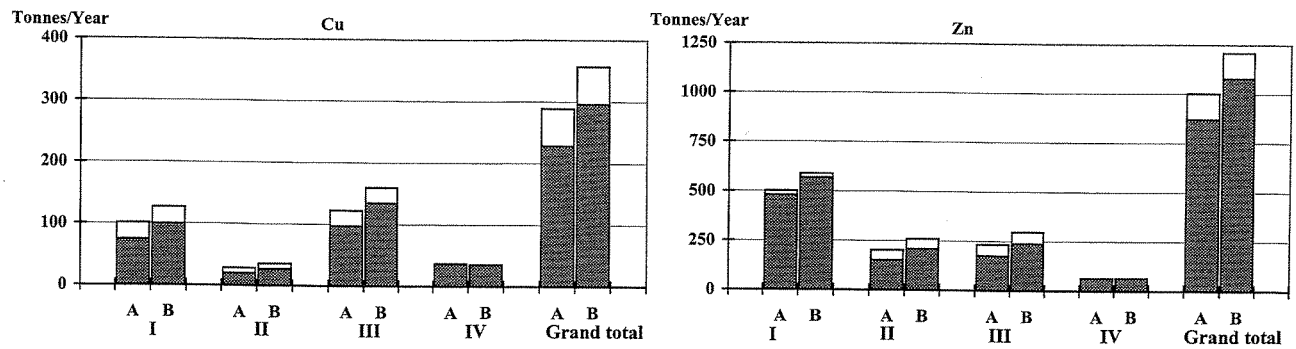


Fig. 8 Cu and Zn. Total- and river-discharges 1996 (A) and Total normalized loads (B) from mainland Norway to convention waters and the four subregions:
I: Skagerrak, II: The remaining, North Sea, III: The Norwegian Sea, IV: The Barents Sea
Whole columns = Grand total
Light hatching = Direct discharges
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 1996 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 5.5 and 6.1 tonnes, lead between 62.2 and 62.3 tonnes, mercury between 397 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 0.06 and 33 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 76 kg.

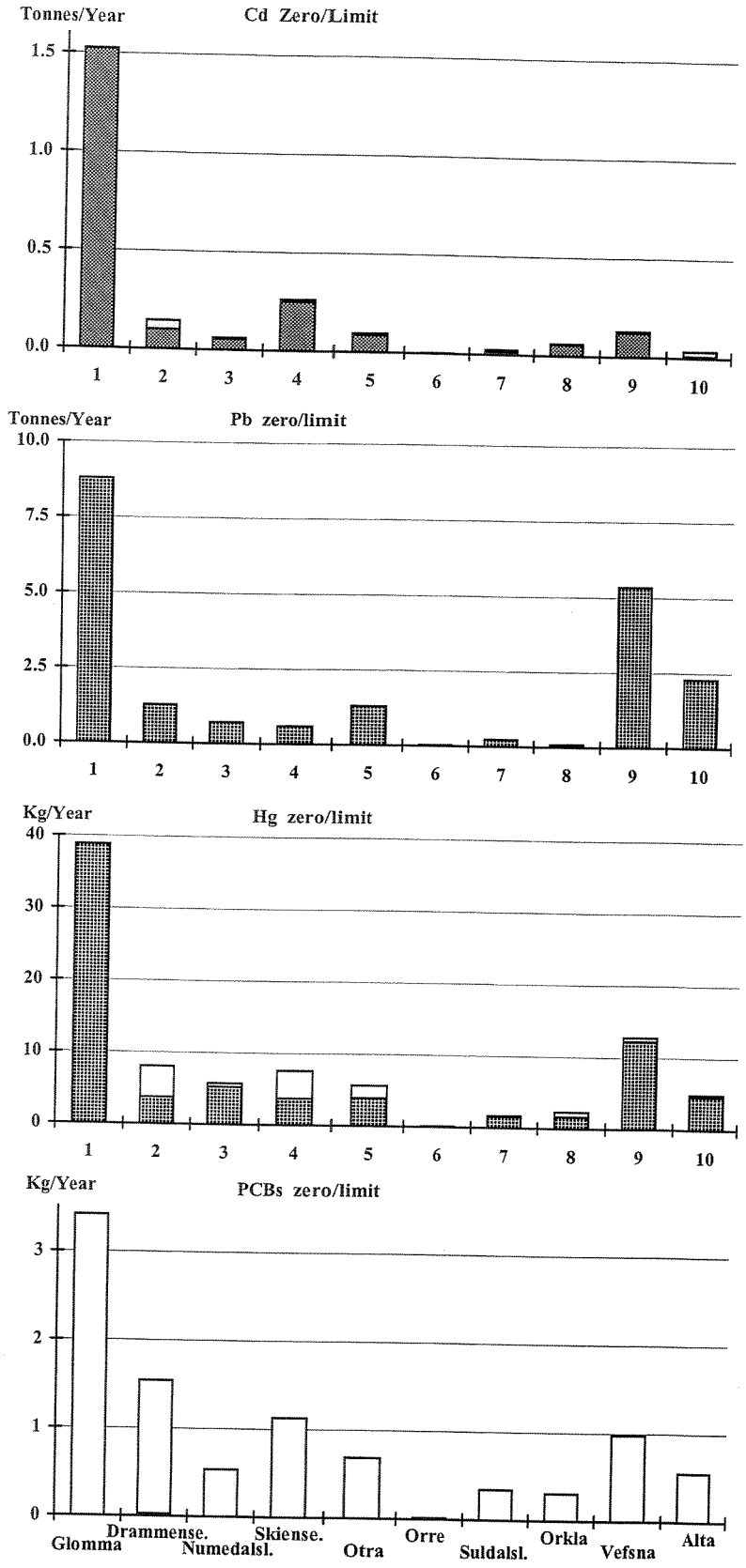


Fig. 9 Main rivers. Cd, Pb, Hg and PCBs. Total loads of the different rivers 1996 (lower and upper boundaries for the estimates).

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

In most areas the riverine inputs, both of Total-P, Total-N and S.P.M , were lower in 1996 than the years before, mainly due to precipitation/runoff-conditions (paragraph 4.3). The conditions were particularly noticeable in the Skagerrak area with low spring flood in June, especially in Glomma, but also in the other rivers.

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 - 1995, most calculated mean concentrations were in about the same level in 1996. Total flow for all "Skagerrak rivers, and accordingly the calculated loads for most of the substances were lower in 1996 than the year before, especially the loads of Total P and S.P.M. of Glomma, due to the spring flood well below normal. As for the other main rivers, total flow was also 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, 1990-1996, and annual variations in total discharges of the nutrients total N and P for the same years.

In order to adjust the 1996 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 1996-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 and also 1995), soil especially in plowed field is exposed to more frequent and larger flood erosion also during the winter (eg. Glomma). As 1996 was more like a "normal winter" (or even colder), we suppose this is the main reason for lower concentrations/loads especially in Glomma, but also in the other rivers.

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 1996 annual precipitation were lower (75 per cent of normal) in the Southern and Western part of Norway, and normal or a little higher in the rest of the country (Fig 3). On an annual basis runoff was lower in most of the Southern and Western part of Norway, but varied about normal or was somewhat higher in the Northern part of the country (ex. the Vefsna area). 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

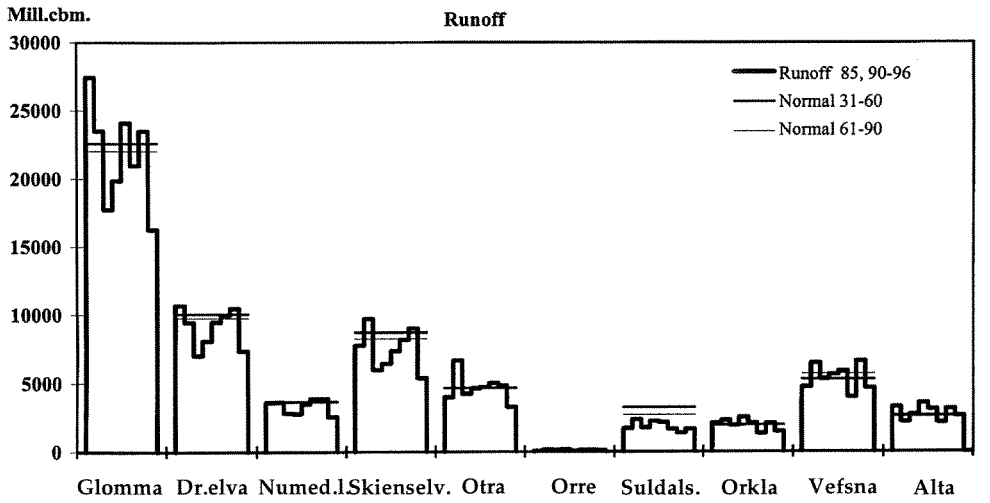
Both phosphorus and nitrogen retention in watercourses is taken into account in the calculation of the Norwegian contribution to marine pollution, but in a conservative way. However, no corrections are so far made for retention in fjords and other marine areas.

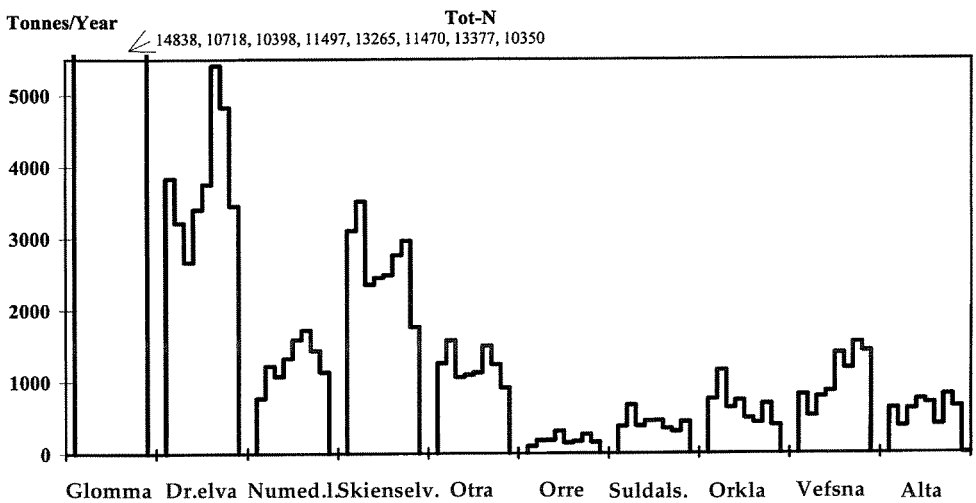
Considering the nutrient input to the open marine waters, one should also take into account retention in fjords, at least in well defined threshold fjords. As a result of high salinity compared to freshwater, marine waters have better conditions for sedimentation than lakes. For example clay settles 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 over all 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 treshold 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 to early, at this stage of knowlege, to include these correction 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.





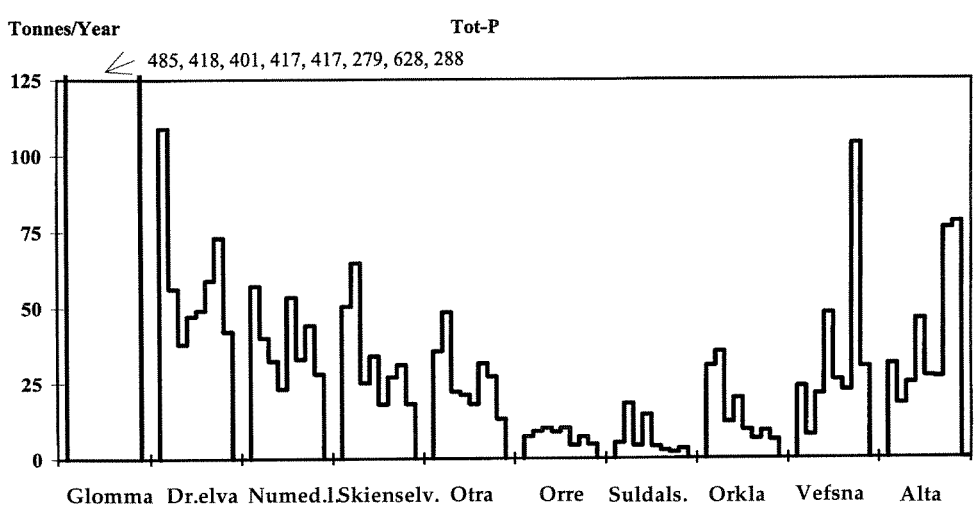


Fig. 10 Main rivers. Annual runoff and nutrient load in 1985, 1990-96.

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5.1 Project Personnel

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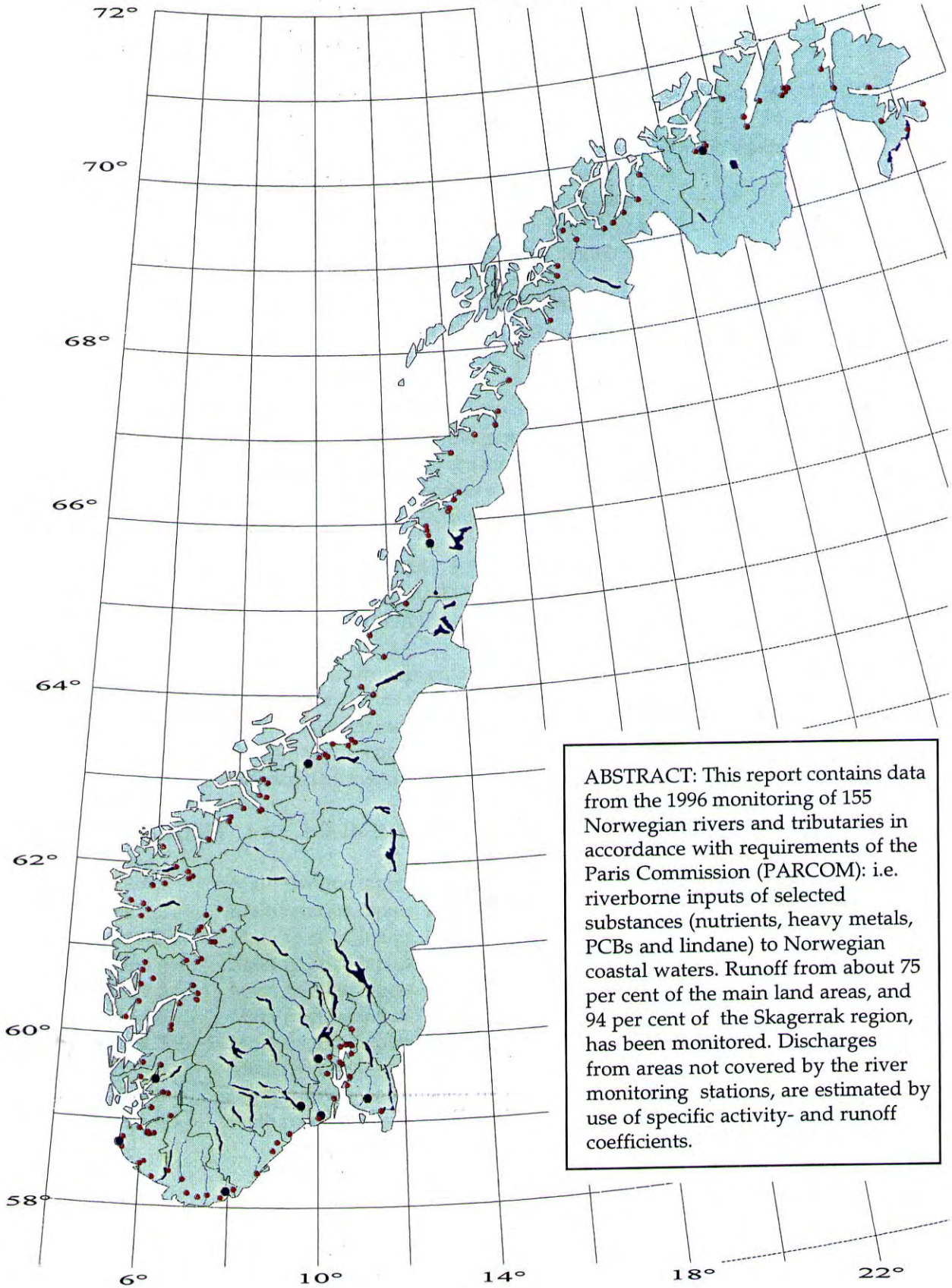
B Data report



ABSTRACT: This report contains data from the 1996 monitoring of 155 Norwegian rivers and tributaries in accordance with requirements of the Paris Commission (PARCOM): i.e. riverborne inputs of selected substances (nutrients, heavy metals, PCBs and lindane) to Norwegian coastal waters. Runoff from about 75 per cent of the main land areas, and 94 per cent of the Skagerrak region, has been monitored. Discharges from areas not covered by the river monitoring stations, are estimated by use of specific activity- and runoff coefficients.

CONTENTS Page:

(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	"tributarties"	: Saudaelva	- Hornindalselva
(8)	Orkla	"tributaries"	: Ørstaelva	- Salsvatnelva
(9)	Vefsna	"tributaries"	: Åbjøra	- Reisa
(10)	Alta	"tributaries	: Mattiselva	- Grense Jacobse.

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

APPENDIX I : TOTAL DISCHARGES 1996 (Paragraph 4 - 6) **Page:**

Table I TOTAL DISCHARGES from MAINLAND NORWAY to convention waters 1996 (Fig. I).

Substance:	Area runoff	Direct Discharges	Tributary Inputs		Main Riverine Inputs		Grand Total	
Cadmium		1.2	2.1	*	2.2	*	5.5	tonnes
Cadmium			2.6	**	2.3	**	6.1	tonnes
Mercury		116.5	205	*	76	*	397	kg
Mercury			239	**	88	**	443	kg
Copper		60.6	129		99		289	tonnes
Zinc		130.3	452		420		1002	tonnes
Lead		5.0	36.5	*	20.6	*	62.2	tonnes
Lead			36.6	**	20.6	**	62.3	tonnes
Arsenic		0.7	20.5	*	6.3		27.4	tonnes
Arsenic			24.8	**	7.6		33.1	tonnes
Cr-T		5.2	44.4	*	2.9	*	52.4	tonnes
Cr-T			82.1	**	25.4	**	112.6	tonnes
Ni		18.1	108.6	*	41.7	*	168.4	tonnes
Ni			113.6	**	41.8	**	173.5	tonnes
PCBs ***			0.04	*	0.02	*	0	kg
PCBs			23.8	**	9.5	**	33	kg
gamma-HCH			43		33		76	kg
NH4-N	1374	10992	1599		1169	*	15134	tonnes
NH4-N					1176	**	15141	tonnes
NO3-N	15295	188	14537		12387		42407	tonnes
PO4-P	190	718	274		167	*	1349	tonnes
PO4-P					168	**	1350	tonnes
Total N	24065	17677	27670		20652		90065	tonnes
Total P	778	1450	657		511		3396	tonnes
SiO2			201929		105102		307031	tonnes
S.P.M.		5462918	367907		271635		6102460	tonnes
TOC		23138	165789		168801		357728	tonnes
COD		213094					213094	tonnes
BOD		44866					44866	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 1996 (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		0.12	1.0	*	2.0	*	3.1	tonnes
Cadmium			1.0	**	2.1	**	3.2	tonnes
Mercury		51.98	14	*	55	*	122	kg
Mercury			15	**	66	**	133	kg
Copper		26.85	17		57		101	tonnes
Zinc		20.84	146		334		501	tonnes
Lead		0.91	11.0	*	12.7	*	24.6	tonnes
Lead			11.0	**	12.7	**	24.6	tonnes
Arsenic		0.10	1.71	*	4.0		5.9	tonnes
Arsenic			2.15	**	4.8		7.1	tonnes
Cr-T		3.12	0.4	*	0.0	*	3.6	tonnes
Cr-T			5.2	**	17.4	**	25.7	tonnes
Ni		6.28	7.6	*	30.8	*	44.8	tonnes
Ni			7.6	**	30.8	**	44.8	tonnes
PCBs ***			0.04	*	0.02	*	0.06	kg
PCBs			2.1	**	7.3	**	9.5	kg
gamma-HCH			8.2		26		34	kg
NH4-N	164	4645	408		1051	*	6269	tonnes
NH4-N			408		1053	**	6271	tonnes
NO3-N	1793	145	3931		11324		17193	tonnes
PO4-P	18	101	43		127	*	288	tonnes
PO4-P					127	**	288	
Total N	2777	7358	6127		17602		33864	tonnes
Total P	73	266	118		389		846	tonnes
SiO2			27580		80579		108158	tonnes
S.P.M.		78282	31076		162488		271846	tonnes
TOC		8286	38581		137862		184729	tonnes
COD		118620					118620	tonnes
BOD		15440					15440	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

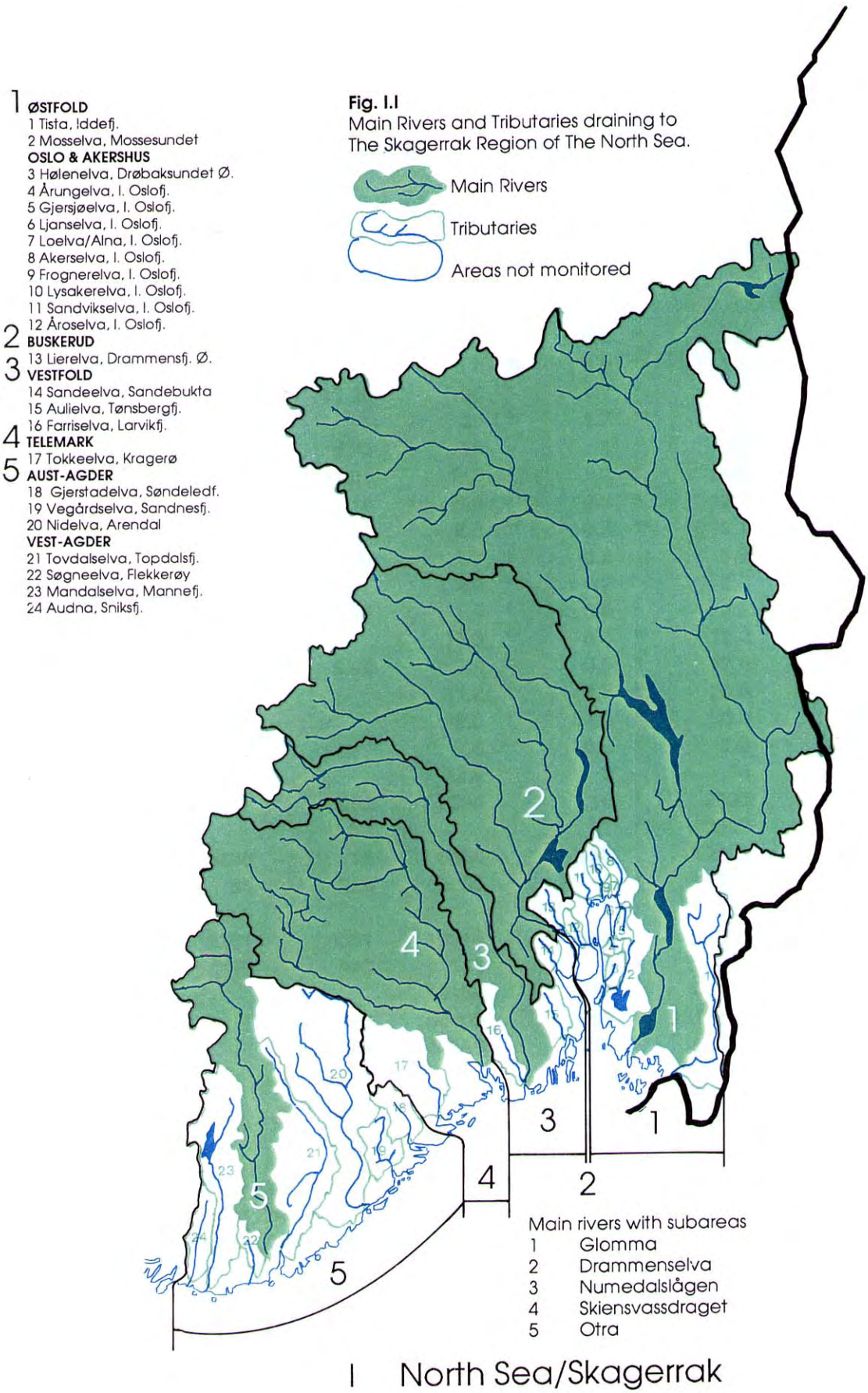

1 ØSTFOLD
1 Tista, Iddefj.
2 Mosselva, Mossesundet
OSLO & AKERSHUS
3 Hølenelva, Drøbaksundet Ø.
4 Årungelva, I. Oslofj.
5 Gjersjøelva, I. Oslofj.
6 Ljanselva, I. Oslofj.
7 Loelva/Alna, I. Oslofj.
8 Akerselva, I. Oslofj.
9 Frognerelva, I. Oslofj.
10 Lysakerelva, I. Oslofj.
11 Sandvikselva, I. Oslofj.
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 Vegårdselva, Sandnesfj.
20 Nidelva, Arendal
VEST-AGDER
21 Tovdalselva, Topdalsfj.
22 Søgneelva, Flekkerøy
23 Mandalselva, Mannefj.
24 Audna, Sniksfj.
Fig. I.I
Main Rivers and Tributaries draining to
The Skagerrak Region of The North Sea.
Main Rivers
Tributaries
Areas not monitored
Main rivers with subareas
1 Glomma
2 Drammenselva
3 Numedalslågen
4 Skiensvassdraget
5 Otra
I North Sea/Skagerrak

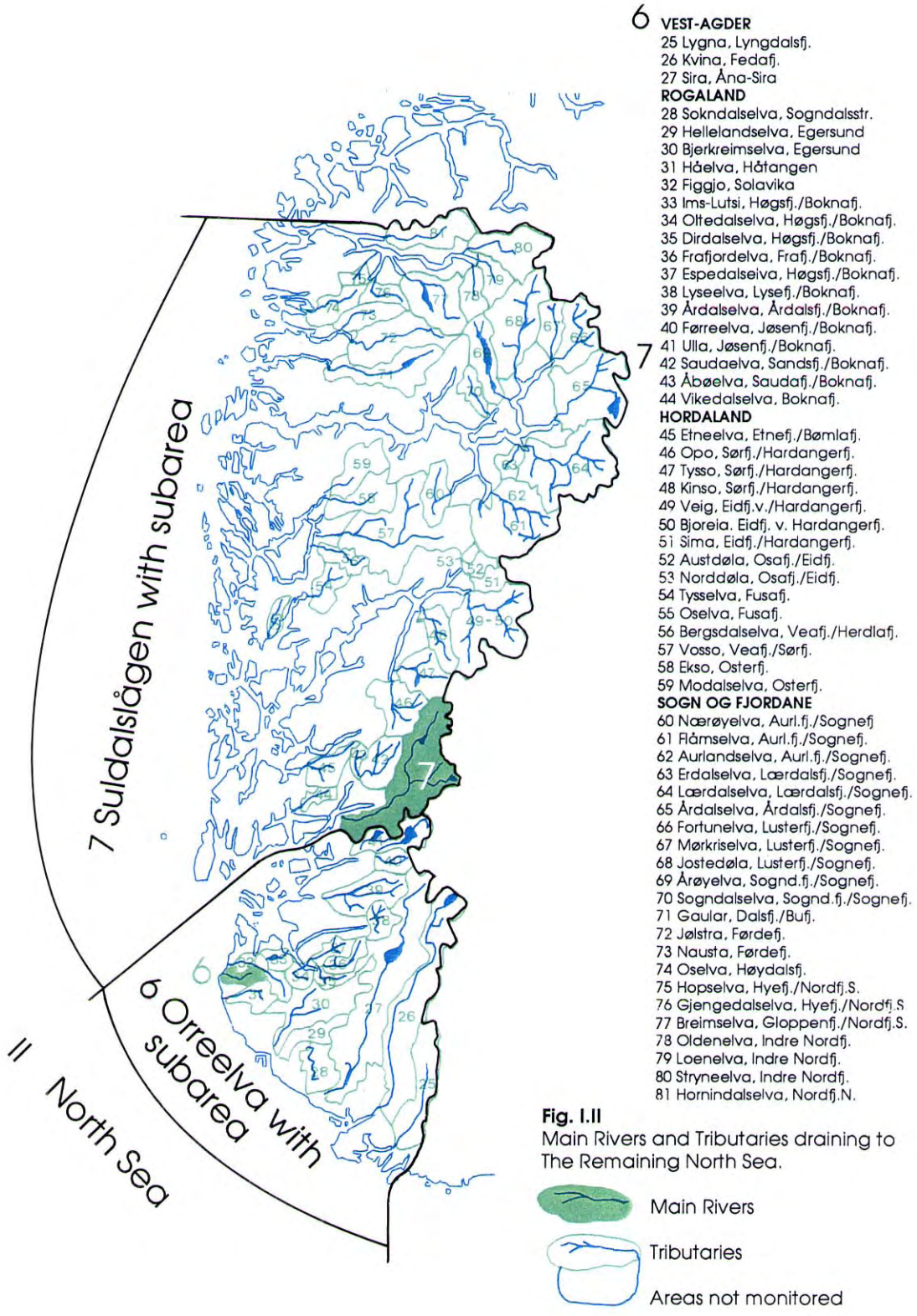
Table 1.2 TOTAL DISCHARGES to The Remaining North Sea 1996 (Fig. I.II).

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

Substance:	Area runoff	Direct Discharges	Tributary Inputs		Main Riverine Inputs		Grand Total	
Cadmium		0.97	0.5	*	0.0	*	1.5	tonnes
Cadmium			0.6	**	0.0	**	1.6	tonnes
Mercury		43.30	26	*	1.7	*	71	kg
Mercury			39	**	1.7	**	84	kg
Copper		8.32	19		1		28	tonnes
Zinc		51.01	148		3		202	tonnes
Lead		3.19	8.6	*	0.3	*	12.1	tonnes
Lead			8.6	**	0.3	**	12.1	tonnes
Arsenic		0.00	1.7	*	0.2		1.9	tonnes
Arsenic			4.0	**	0.2		4.2	tonnes
Cr-T		0.95	1.4	*	0.0	*	2.3	tonnes
Cr-T			17.3	**	0.9	**	19.2	tonnes
Ni		8.95	7.8	*	0.6	*	17.4	tonnes
Ni			11.2	**	0.7	**	20.8	tonnes
PCBs ***			0.0	*	0.00	*	0.0	kg
PCBs			7.0	**	0.4	**	7.3	kg
gamma-HCH			12.0		2		14	kg
NH4-N	517	2660	394		19	*	3591	tonnes
NH4-N					21	**	3592	
NO3-N	5835	18	6650		430		12933	tonnes
PO4-P	51	224	55		1	*	331	tonnes
PO4-P					2	**	332	
Total N	9281	4581	10216		588		24667	tonnes
Total P	197	448	158		8		811	tonnes
SiO2			40954		1817		42772	tonnes
S.P.M.		2457146	54403		2068		2513616	tonnes
TOC		6890	44895		1272		53058	tonnes
COD		37509					37509	tonnes
BOD		13518					13518	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



6 **VEST-AGDER**
25 Lygna, Lyngdalsfj.
26 Kvina, Fedafj.
27 Sira, Åna-Sira
ROGALAND
28 Sokndalselva, Sogndalsstr.
29 Hellelandselva, Egersund
30 Bjerkreimselva, Egersund
31 Håelva, Håtangen
32 Figgjo, Solavika
33 Ims-Lutsi, Høgsfj./Boknafj.
34 Oltedalselva, Høgsfj./Boknafj.
35 Dirdalselva, Høgsfj./Boknafj.
36 Frafjordelva, Frafj./Boknafj.
37 Espedalseiva, Høgsfj./Boknafj.
38 Lyseelva, Lysefj./Boknafj.
39 Årdalselva, Årdalsfj./Boknafj.
40 Førreelva, Jøsenfj./Boknafj.
7 41 Ulla, Jøsenfj./Boknafj.
42 Saudaelva, Sandsfj./Boknafj.
43 Åbøelva, Saudafj./Boknafj.
44 Vikedalselva, Boknafj.
HORDALAND
45 Etneelva, Etnefj./Bømlafj.
46 Opo, Sørfj./Hardangerfj.
47 Tysso, Sørfj./Hardangerfj.
48 Kinso, Sørfj./Hardangerfj.
49 Veig, Eidfj.v./Hardangerfj.
50 Bjoreia. Eidfj. v. Hardangerfj.
51 Sima, Eidfj./Hardangerfj.
52 Austdøla, Osafj./Eidfj.
53 Norddøla, Osafj./Eidfj.
54 Tysselva, Fusafj.
55 Oselva, Fusafj.
56 Bergsdalselva, Veafj./Herdlafj.
57 Vosso, Veafj./Sørfj.
58 Ekso, Osterfj.
59 Modalselva, Osterfj.
SOGN OG FJORDANE
60 Nærøyelva, Aurl.fj./Sognefj
61 Flåmselva, Aurl.fj./Sognefj.
62 Aurlandselva, Aurl.fj./Sognefj.
63 Erdalselva, Lærdalsfj./Sognefj.
64 Lærdalselva, Lærdalsfj./Sognefj.
65 Årdalselva, Årdalsfj./Sognefj.
66 Fortunelva, Lusterfj./Sognefj.
67 Mørkriselva, Lusterfj./Sognefj.
68 Jostedøla, Lusterfj./Sognefj.
69 Årøyelva, Sognd.fj./Sognefj.
70 Sogndalselva, Sognd.fj./Sognefj.
71 Gaular, Dalsfj./Bufj.
72 Jølstra, Førdefj.
73 Nausta, Førdefj.
74 Oselva, Høydalsfj.
75 Hopselva, Hyefj./Nordfj.S.
76 Gjengedalselva, Hyefj./Nordfj.S
77 Breimselva, Gloppenfj./Nordfj.S.
78 Oldenelva, Indre Nordfj.
79 Loenelva, Indre Nordfj.
80 Stryneelva, Indre Nordfj.
81 Hornindalselva, Nordfj.N.

Fig. I.II
Main Rivers and Tributaries draining to The Remaining North Sea.

Main Rivers

Tributaries

Areas not monitored

Table 1.3 TOTAL DISCHARGES to The Norwegian Sea 1996 (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		0.10	0.4	*	0.2	*	0.7	tonnes
Cadmium			0.7	**	0.2	**	1.0	tonnes
Mercury		21.19	154	*	14	*	189	kg
Mercury			161	**	15	**	197	kg
Copper		25.10	63		34		122	tonnes
Zinc		58.04	97		79		234	tonnes
Lead		0.92	11.6	*	5.4	*	17.9	tonnes
Lead			11.6	**	5.4	**	18.0	tonnes
Arsenic		0.55	13.6	*	0.2		14.4	tonnes
Arsenic			14.9	**	0.7		16.2	tonnes
Cr-T		1.05	36.8	*	2.9		40.7	tonnes
Cr-T			47.8	**	5.8		54.6	tonnes
Ni		2.73	55.0	*	6.4	*	64.1	tonnes
Ni			55.7	**	6.4	**	64.8	tonnes
PCBs ***			0.0	*	0.0	*	0.0	kg
PCBs			11.0	**	1.3	**	12.3	kg
gamma-HCH			19.0		5		24	kg
NH4-N	607	3355	672		82	*	4717	tonnes
NH4-N					86	**	4720	
NO3-N	6652	22	3560		546		10781	tonnes
PO4-P	103	363	142		16	*	623	tonnes
PO4-P					16	**	623	
Total N	10327	5294	9007		1814		26442	tonnes
Total P	419	684	288		36		1426	tonnes
SiO2			52651		10341		62991	tonnes
S.P.M.		1484670	270039		23714		1778424	tonnes
TOC		7599	42555		20458		70612	tonnes
COD		55736					55736	tonnes
BOD		15181					15181	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

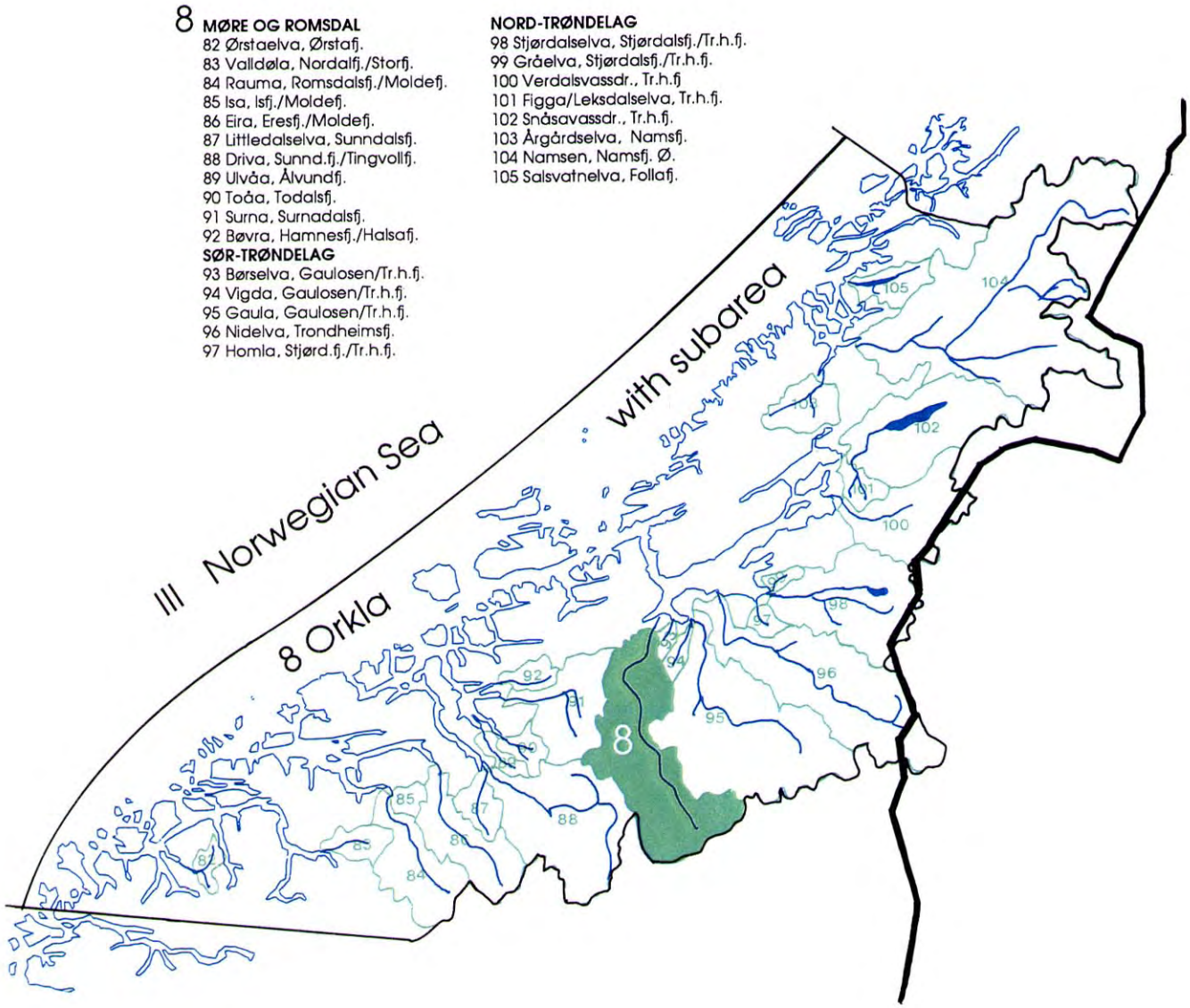


Fig. I.III A
Main Rivers and Tributaries draining to The Norwegian Sea (Southern Part).

Main Rivers

Tributaries

Areas not monitored

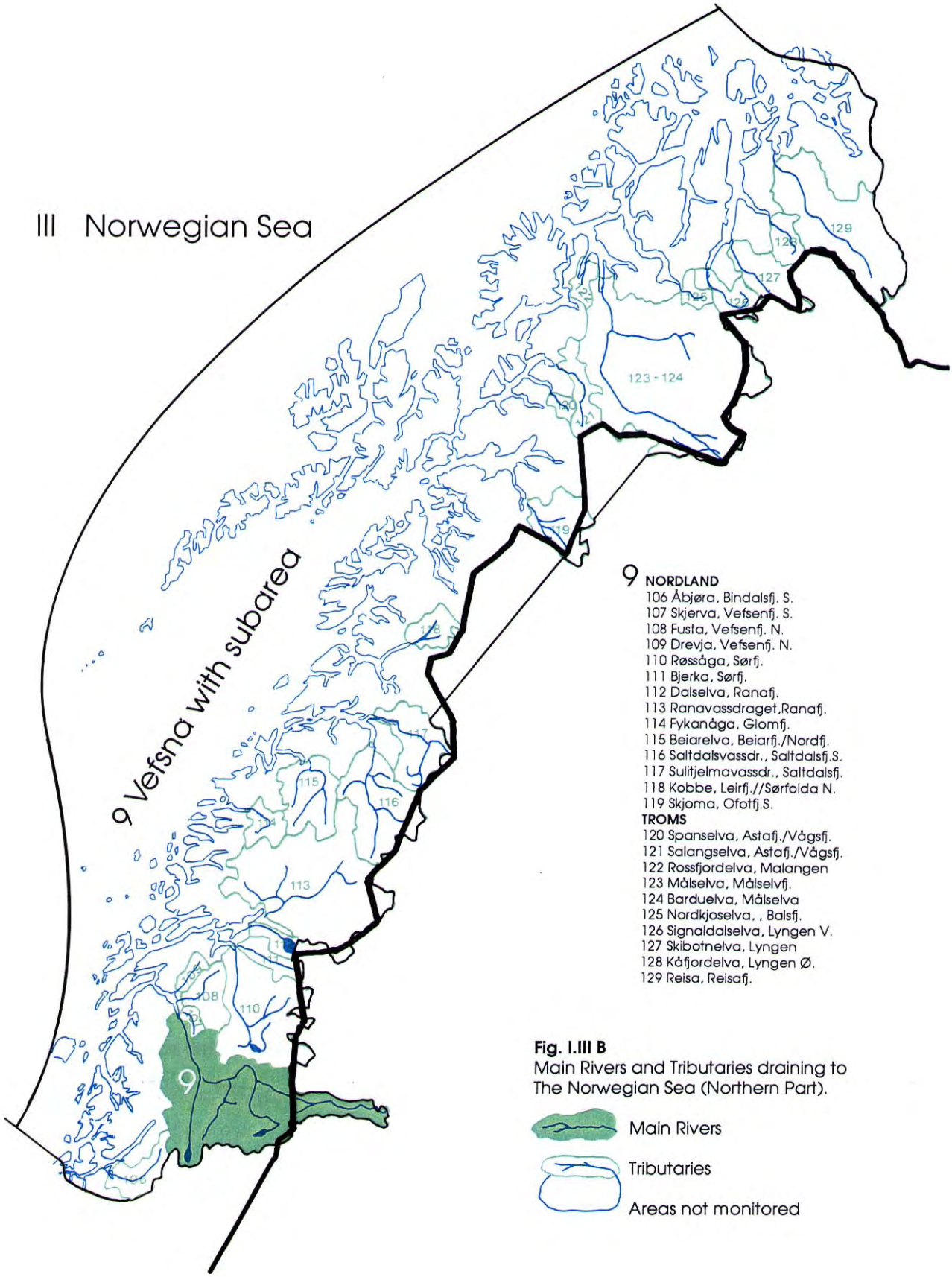


Fig. I.III B
Main Rivers and Tributaries draining to The Norwegian Sea (Northern Part).

Table 1.4 TOTAL DISCHARGES to The Barents Sea 1996 (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	*	0.01	*	0.2	tonnes
Cadmium			0.3	**	0.03	**	0.3	tonnes
Mercury		0.00	11	*	4.62	*	16	kg
Mercury			25	**	4.90	**	29	kg
Copper		0.37	31		6.07		37	tonnes
Zinc		0.43	60		3.82		65	tonnes
Lead		0.01	5.3	*	2.29	*	7.6	tonnes
Lead			5.4	**	2.29	**	7.7	tonnes
Arsenic		0.00	3.5	*	1.76		5.3	tonnes
Arsenic			3.8	**	1.76		5.5	tonnes
Cr-T		0.04	5.8	*	0.00	*	5.9	tonnes
Cr-T			11.8	**	1.32	**	13.1	tonnes
Ni		0.12	38.2	*	3.83	*	42.2	tonnes
Ni			39.1	**	3.83	**	43.0	tonnes
PCBs ***			0.0	*	0.00	*	0.0	kg
PCBs			3.7	**	0.55	**	4.2	kg
gamma-HCH			3.5		0.33		4	kg
NH4-N	85	331.50	124		16.13	*	557	tonnes
NH4-N					16.81	**	557	
NO3-N	1015	2.21	396		87.25		1501	tonnes
PO4-P	18	31.45	34		23.78	*	107	tonnes
PO4-P					23.78	**	107	
Total N	1681	444	2320		646.45		5091	tonnes
Total P	88	52.92	93		77.62		312	tonnes
SiO2			80744		12366		93110	tonnes
S.P.M.		1442820	12388		83364		1538573	tonnes
TOC		363	39758		9209		49330	tonnes
COD		1230					1230	tonnes
BOD		726					726	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**

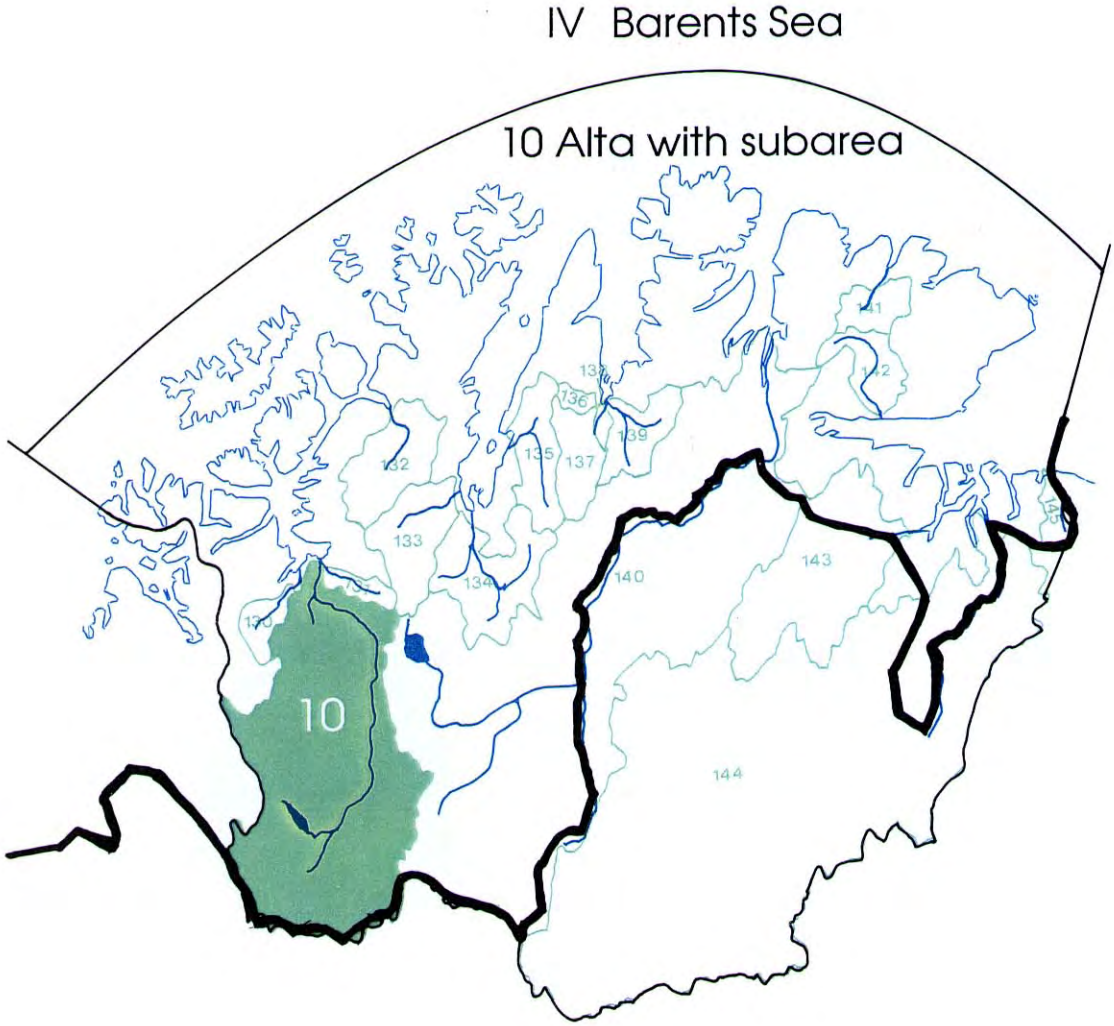


Fig. I.IV
Main Rivers and Tributaries draining to The Barents Sea.

Main Rivers

Tributaries

Areas not monitored

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 Munkfj./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 1996 (Paragraph 7 - 8) **Page:**

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 - 1997)

Municipal sewage includes a portion of industrial effluents

Table II Sewage Effluents from down stream areas of mainland Norway to convention waters (1996).

Total quantity of substance discharged per year:

Regions:	I	II	III	IV		
	The Skagerrak	The North	The Norwegian	The Barents	Sum	
Substance:	Region	Sea	Sea	Sea		
Cd	111	52	48	1	212	kg
Hg	48	33	21	0	102	kg
Cu	16.8	7.8	9.2	0.4	34.2	tonnes
Zn	19.8	12.1	10.7	0.4	43.1	tonnes
Pb	825	278	283	12	1398	kg
Cr-T	2.2	0.8	0.9	0.0	4.0	tonnes
Ni	3.4	1.5	1.8	0.1	6.8	tonnes
PCBs						kg
gamma-HCH						kg
NH4-N	4645	2660	3355	332	10992	tonnes
NO3-N	145	18	22	2	188	tonnes
PO4-P	101	224	363	31	718	tonnes
Tot-N	5850	3547	4474	442	14313	tonnes
Tot-P	168	373	604	52	1197	tonnes
S.P.M.	7435	10818	12492	663	31408	tonnes
TOC	8262	6759	7590	363	22975	tonnes
COD	31789	24099	25117	1230	82235	tonnes
BOD	15440	13518	15181	726	44866	tonnes

Table 2.1 Sewage Effluents to The Skagerrak Region (1996).

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

	Total quantity of substance discharged per year:							Precision of the estimate of the load
Sub-areas :	**1**	**2**	**3**	**4**	**5**			
Substance:								
Cd	56	11	18	6	20	kg		%
Hg	19	6	11	3	9	kg		%
Cu	9.20	1.75	1.80	0.92	3.16	tonnes		%
Zn	10.14	2.04	2.84	1.07	3.74	tonnes		%
Pb	552	57	78	30	108	kg		%
Cr-T	1.27	0.18	0.34	0.09	0.31	tonnes		%
Ni	1.95	0.29	0.47	0.15	0.53	tonnes		
PCBs						kg		%
gamma-HCH						kg		%
NH4-N	2868	296	558	229	695	tonnes		
NO3-N	133	2	4	2	5	tonnes		%
PO4-P	31	10	19	6	34	tonnes		%
Tot-N	3480	394	744	306	927	tonnes		%
Tot-P	52	17	31	10	57	tonnes		%
S.P.M.	2997	396	1489	288	2265	tonnes		%
TOC	4474	533	1290	320	1645	tonnes		%
COD	17309	2131	4916	1175	6259	tonnes		%
BOD	7865	1066	2581	639	3289	tonnes		%

Table 2.2 Sewage Effluents to The Remaining North Sea Region (1996).

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

	Total quantity of substance discharged per year:				Precision of the estimate of the load
Sub-areas :	**6**	**7**			
Substance:					
Cd	**28**	**24**	**kg**		**%**
Hg	**22**	**11**	**kg**		**%**
Cu	**2.99**	**4.82**	**tonnes**		**%**
Zn	**6.48**	**5.62**	**tonnes**		**%**
Pb	**126**	**152**	**kg**		**%**
Cr-T	**0.35**	**0.48**	**tonnes**		**%**
Ni	**0.68**	**0.80**	**tonnes**		
PCBs			**kg**		**%**
gamma-HCH			**kg**		**%**
NH4-N	**1216**	**1444**	**tonnes**		
NO3-N	**8**	**10**	**tonnes**		**%**
PO4-P	**73**	**151**	**tonnes**		**%**
Tot-N	**1622**	**1925**	**tonnes**		**%**
Tot-P	**121**	**252**	**tonnes**		**%**
S.P.M.	**3598**	**7220**	**tonnes**		**%**
TOC	**2573**	**4187**	**tonnes**		**%**
COD	**9827**	**14272**	**tonnes**		**%**
BOD	**5145**	**8373**	**tonnes**		**%**

Table 2.3 Sewage Effluents to The Norwegian Sea Region (1996).

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

	Total quantity of substance discharged per year:				Precision of the estimate of the load
Sub-areas :	**8**	**9**			
Substance:					
Cd	**38**	**10**	**kg**		**%**
Hg	**14**	**7**	**kg**		**%**
Cu	**6.65**	**2.52**	**tonnes**		**%**
Zn	**7.76**	**2.94**	**tonnes**		**%**
Pb	**212**	**71**	**kg**		**%**
Cr-T	**0.66**	**0.25**	**tonnes**		**%**
Ni	**1.10**	**0.74**	**tonnes**		
PCBs			**kg**		**%**
gamma-HCH			**kg**		**%**
NH4-N	**1798**	**1558**	**tonnes**		
NO3-N	**12**	**10**	**tonnes**		**%**
PO4-P	**215**	**147**	**tonnes**		**%**
Tot-N	**2397**	**2077**	**tonnes**		**%**
Tot-P	**359**	**245**	**tonnes**		**%**
S.P.M.	**7511**	**4982**	**tonnes**		**%**
TOC	**4862**	**2728**	**tonnes**		**%**
COD	**16516**	**8601**	**tonnes**		**%**
BOD	**9724**	**5456**	**tonnes**		**%**

Table 2.4 Sewage Effluents to The Barents Sea Region (1996).

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

	Total quantity of substance discharged per year:			Precision of the estimate of the load
Sub-area :	**10**			
Substance:				
Cd	**1**	**kg**		**%**
Hg	**0**	**kg**		**%**
Cu	**0.37**	**tonnes**		**%**
Zn	**0.43**	**tonnes**		**%**
Pb	**12**	**kg**		**%**
Cr-T	**0.04**	**tonnes**		**%**
Ni	**0.12**	**tonnes**		
PCBs		**kg**		**%**
gamma-HCH		**kg**		**%**
NH4-N	**332**	**tonnes**		
NO3-N	**2**	**tonnes**		**%**
PO4-P	**31**	**tonnes**		**%**
Tot-N	**442**	**tonnes**		**%**
Tot-P	**52**	**tonnes**		**%**
S.P.M.	**663**	**tonnes**		**%**
TOC	**363**	**tonnes**		**%**
COD	**1230**	**tonnes**		**%**
BOD	**726**	**tonnes**		**%**

APPENDIX III : INDUSTRIAL EFFLUENTS FROM DOWN STREAM AREAS OF MAIN AND TRIBUTARY RIVERS AND RIVERS NOT MONITORED 1996 (Paragraph 11 - 13) **Page:**

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 - 1997)

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 (1996).

Total quantity of substance discharged per year:

Regions:	I	II	III	IV		
	The Skagerrak	The North Sea	The Norwegian Sea	The Barents Sea	Sum	
Substance:						
Cd	10	913	56		979	kg
Hg	4	10	0		14	kg
Cu	10.03	0.51	15.93		26	tonnes
Zn	1.02	38.91	47.34		87	tonnes
Pb	88	2907	636		3631	kg
Arsenic	103	0	552	0	655	kg
Cr-T	0.93	0.12	0.14	0	1.20	tonnes
Ni	2.90	7.47	0.89		11.26	tonnes
PCBs						kg
gamma-HCH						kg
NO3-N						tonnes
PO4-P						tonnes
Tot-N	1507	1034	821	2	3364	tonnes
Tot-P	98	75	79	1	253	tonnes
S.P.M.	70847	2446328	1472178	1442157	5431509	tonnes
TOC	24	131	9		163	tonnes
COD	86831	13410	30619		130859	tonnes

Table 3.1 Industrial Effluents to The Skagerrak Region (1996).

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: 1	2	3	4	5			Precision of the estimate of the load
Cd	1.68				8.00	kg	_____	%
Hg	3.91			0.07		kg	_____	%
Cu	8793		2	31	1200	kg	_____	%
Zn	742		5	17	252	kg	_____	%
Pb	10.9	0.0	9.5	0.2	67.0	kg	_____	%
Arsenic	0.0				103.0	kg	_____	%
Cr-T	931.9		2.7		0.0	kg	_____	%
Ni	336.3		332.4	100.0	2130	kg	_____	%
PCBs						kg	_____	%
gamma-HCH						kg	_____	%
NO3-N						tonnes	_____	%
PO4-P						tonnes	_____	%
Tot-N	134.9	20.4	206.4	1137.7	8.0	tonnes	_____	%
Tot-P	43.6	0.6	39.8	12.0	1.9	tonnes	_____	%
S.P.M.	638	163	958	68885	201	tonnes	_____	%
TOC	0.0		16.0	7.8		tonnes	_____	%
COD	55378	515	22630	8308		tonnes	_____	%

Table 3.2 Industrial Effluents to The Remaining North Sea Region (1996).

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

	Total quantity of substance discharged per year:				Precision of the estimate of the load
Sub-areas :	**6**	**7**			
Substance:					
Cd		**913**	**kg**	_____	**%**
Hg		**10.10**	**kg**	_____	**%**
Cu	**0**	**509**	**kg**	_____	**%**
Zn	**9**	**38898**	**kg**	_____	**%**
Pb		**2907**	**kg**	_____	**%**
Arsenic			**kg**	_____	**%**
Cr-T	**0.0**	**119.1**	**kg**	_____	**%**
Ni	**5529.7**	**1940**	**kg**	_____	**%**
PCBs			**kg**	_____	**%**
gamma-HCH			**kg**	_____	**%**
NO3-N			**tonnes**	_____	**%**
PO4-P			**tonnes**	_____	**%**
Tot-N	**49.8**	**985**	**tonnes**	_____	**%**
Tot-P	**4.3**	**71.0**	**tonnes**	_____	**%**
S.P.M.	**2005853**	**440475**	**tonnes**	_____	**%**
TOC	**42.7**	**88.0**	**tonnes**	_____	**%**
COD	**70**	**13340**	**tonnes**	_____	**%**

Table 3.3 Industrial Effluents to The Norwegian Sea Region (1996).

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

	Total quantity of substance discharged per year:				Precision of the estimate of the load
Sub-areas :	**8**	**9**			
Substance:					
Cd	**47.34**	**9.00**	**kg**	_____	**%**
Hg	**0.19**		**kg**	_____	**%**
Cu	**1559**	**14375**	**kg**	_____	**%**
Zn	**7938**	**39400**	**kg**	_____	**%**
Pb	**216.3**	**420.0**	**kg**	_____	**%**
Arsenic		**552.0**	**kg**	_____	**%**
Cr-T	**140.8**	**1.6**	**kg**	_____	**%**
Ni	**57.6**	**832.0**	**kg**	_____	**%**
PCBs			**kg**	_____	**%**
gamma-HCH			**kg**	_____	**%**
NO3-N			**tonnes**	_____	**%**
PO4-P			**tonnes**	_____	**%**
Tot-N	**158.4**	**662.2**	**tonnes**	_____	**%**
Tot-P	**41.0**	**38.3**	**tonnes**	_____	**%**
S.P.M.	**281318**	**1190859**	**tonnes**	_____	**%**
TOC		**8.7**	**tonnes**	_____	**%**
COD	**30618.7**		**tonnes**	_____	**%**

Table 3.4 Industrial Effluents toThe Barents Sea Region (1996).

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

	Total quantity of substance discharged per year:			Precision of the estimate of the load
Sub-area :	**10**			
Substance:				
Cd		**kg**	_____	**%**
Hg		**kg**	_____	**%**
Cu		**kg**	_____	**%**
Zn		**kg**	_____	**%**
Pb		**kg**	_____	**%**
Arsenic	**0.0**	**kg**	_____	**%**
Cr-T	**0.0**	**kg**	_____	**%**
Ni		**kg**	_____	**%**
PCBs		**kg**	_____	**%**
gamma-HCH		**kg**	_____	**%**
NO3-N		**tonnes**	_____	**%**
PO4-P		**tonnes**	_____	**%**
Tot-N	**2.0**	**tonnes**	_____	**%**
Tot-P	**0.5**	**tonnes**	_____	**%**
S.P.M.	**1442157**	**tonnes**	_____	**%**
TOC		**tonnes**	_____	**%**
COD		**tonnes**	_____	**%**

APPENDIX IV : MAIN RIVERINE INPUTS 1996 (Paragraph 14 - 16) **Page:**

Paragraph 14: Main Rivers ./.

Paragraph15: 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 - 1997)

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

Table 4.1 MAIN RIVERINE INPUTS 1996 (1) Glomma

Total volume: 44537 1000 m3/day
Minimum flow: 13280 1000 m3/day
Maximum flow: 81899 1000 m3/day

Long term average flow (LTA): 60324 1000 m3/day
LTA period : 1961 to 1990

	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	18	0.01	0.25	µg/l	1.52	tonnes	YES	____	%
Cadmium **	0.08	18	0.01	0.25	µg/l	1.52	tonnes		____	%
Mercury *	2.33	18	1.0	7.0	ng/l	38.9	kg	YES	____	%
Mercury **	2.33	18	1.0	7.0	ng/l	38.9	kg		____	%
Copper	2.24	18	1.5	2.9	µg/l	35.9	tonnes	YES	____	%
Zinc	13.8	18	1.4	45.2	µg/l	269	tonnes	YES	____	%
Lead *	0.51	18	0.11	1.02	µg/l	8.79	tonnes	YES	____	%
Lead **	0.51	18	0.11	1.02	µg/l	8.79	tonnes		____	%
Arsenic *	0.12	1	0.12	0.12	µg/l	1.95	tonnes	YES	____	%
Arsenic **	0.12	1	0.12	0.12	µg/l	1.95	tonnes		____	%
Total Cr-T *	0.00	1	0.0	0.0	µg/l	0.00	tonnes	NO	____	%
Total Cr-T **	0.50	1	0.5	0.5	µg/l	8.13	tonnes		____	%
Ni *	1.19	18	0.6	2.0	µg/l	19.6	tonnes	YES	____	%
Ni **	1.19	18	0.6	2.0	µg/l	19.6	tonnes		____	%
PCBs *		6			ng/l	0.00	kg	NO	____	%
PCBs **		6			ng/l	3.41	kg		____	%
gamma-HCH (lindane)	0.61	6	0.51	0.81	ng/l	9.74	kg	YES	____	%
Ammonia (NH4-N)	45.37	27	5	154	µg/l	683	tonnes	YES	____	%
Ammonia (NH4-N)	45.37	27	5	154	µg/l	683	tonnes		____	%
Nitrates (NO3-N)	397.2	27	230	640	µg/l	6697	tonnes	YES	____	%
Orthoph. (PO4-P)	5.23	19	1.0	28.0	µg/l	92.0	tonnes	YES	____	%
Orthoph. (PO4-P)	5.23	19	1.0	28.0	µg/l	92.0	tonnes		____	%
Total N	628.7	27	385	1000	µg/l	10350	tonnes	YES	____	%
Total P	19.80	27	5	54	µg/l	288	tonnes	YES	____	%
SiO2	2.67	18	1.9	3.6	mg/l	43618	tonnes	YES	____	%
Susp. Part. Matter	7.94	27	0.84	36.5	mg/l	126108	tonnes	YES	____	%
TOC	5.03	18	3.4	6.8	mg/l	81148	tonnes	YES	____	%

Measurements below detection limits are treated in two ways :

***) Detection limit = Zero**

****) Detection limit = Limit**

Table 4.2 MAIN RIVERINE INPUTS 1996 (2) Drammenselva

Total volume:	**20142**	**1000 m3/day**	**Long term average flow (LTA): 26743 1000 m3/day**
Minimum flow:	**4130**	**1000 m3/day**	**LTA period : 1961 to 1990**
Maximum flow:	**35813**	**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 *	0.01	19	0.00	0.06	µg/l	0.10	tonnes	NO		%
Cadmium **	0.02	19	0.01	0.06	µg/l	0.14	tonnes			%
Mercury *	0.60	20	0.00	2.50	ng/l	3.73	kg	NO		%
Mercury **	1.15	20	1.00	2.50	ng/l	8.03	kg			%
Copper	0.91	19	0.70	1.20	µg/l	6.84	tonnes	YES		%
Zinc	2.81	19	1.80	5.40	µg/l	21.66	tonnes	YES		%
Lead *	0.17	19	0.05	0.42	µg/l	1.27	tonnes	YES		%
Lead **	0.17	19	0.05	0.42	µg/l	1.27	tonnes			%
Arsenic *	0.24	1	0.24	0.24	µg/l	1.76	tonnes	YES		%
Arsenic **	0.24	1	0.24	0.24	µg/l	1.76	tonnes			%
Total Cr-T *	0.00	1	0.00	0.00	µg/l	0.00	tonnes	NO		%
Total Cr-T **	0.50	1	0.50	0.50	µg/l	3.68	tonnes			%
Ni *	0.67	19	0.50	0.90	µg/l	4.74	tonnes	YES		%
Ni **	0.67	19	0.50	0.90	µg/l	4.74	tonnes			%
PCBs *		6			ng/l	0.02	kg	NO		%
PCBs **		6			ng/l	1.54	kg			%
gamma-HCH (lindane)	0.83	6	0.72	0.98	ng/l	6.03	kg	YES		%
Ammonia (NH4-N)	15.31	29	0.00	33.00	µg/l	143.2	tonnes	YES		%
Ammonia (NH4-N)	15.41	29	3.00	33.00	µg/l	143.4	tonnes			%
Nitrates (NO3-N)	275.3	29	220	630	µg/l	2241	tonnes	YES		%
Orthoph. (PO4-P)	1.68	28	1.00	6.00	µg/l	14.18	tonnes	YES		%
Orthoph. (PO4-P)	1.68	28	1.00	6.00	µg/l	14.18	tonnes			%
Total N	438.1	29	250	830	µg/l	3451	tonnes	YES		%
Total P	5.76	29	3.00	15.00	µg/l	42	tonnes	YES		%
SiO2	2.18	20	1.70	2.80	mg/l	16257	tonnes	YES		%
Susp. Part. Matter	2.09	29	0.93	6.76	mg/l	15854	tonnes	YES		%
TOC	3.50	20	2.90	5.50	mg/l	28775	tonnes	YES		%

Measurements below detection limits are treated in two ways :

***) Detection limit = Zero**

****) Detection limit = Limit**

Table 4.3 MAIN RIVERINE INPUTS 1996 (3) Numedalslågen

Total volume:	**7000**	**1000 m3/day**	**Long term average flow (LTA):**	**10082 1000 m3/day**
Minimum flow:	**1616**	**1000 m3/day**	**LTA period :**	**1961 to 1990**
Maximum flow:	**20555**	**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	12	0.00	0.09	µg/l	0.05	tonnes	YES	_____	%
Cadmium **	0.02	12	0.01	0.09	µg/l	0.06	tonnes		_____	%
Mercury *	2.29	12	0.00	6.00	ng/l	5.23	kg	YES	_____	%
Mercury **	2.46	12	1.00	6.00	ng/l	5.74	kg		_____	%
Copper	1.19	12	0.40	2.30	µg/l	2.90	tonnes	YES	_____	%
Zinc	4.35	12	1.60	9.20	µg/l	10.8	tonnes	YES	_____	%
Lead *	0.26	12	0.10	0.50	µg/l	0.71	tonnes	YES	_____	%
Lead **	0.26	12	0.10	0.50	µg/l	0.71	tonnes		_____	%
Arsenic *	0.00	1	0.00	0.00	µg/l	0.00	tonnes	YES	_____	%
Arsenic **	0.10	1	0.10	0.10	µg/l	0.26	tonnes		_____	%
Total Cr-T *	0.00	1	0.00	0.00	µg/l	0.00	tonnes	NO	_____	%
Total Cr-T **	0.50	1	0.50	0.50	µg/l	1.28	tonnes		_____	%
Ni *	0.57	12	0.20	1.10	µg/l	1.42	tonnes	YES	_____	%
Ni **	0.57	12	0.20	1.10	µg/l	1.42	tonnes		_____	%
PCBs *		3			ng/l	0.00	kg	NO	_____	%
PCBs **		3			ng/l	0.54	kg		_____	%
gamma-HCH (lindane)	0.76	3	0.51	0.91	ng/l	2.11	kg	YES	_____	%
Ammonia (NH4-N)	33.6	12	7.00	64.0	µg/l	76.8	tonnes	YES	_____	%
Ammonia (NH4-N)	33.6	12	7.00	64.0	µg/l	76.8	tonnes		_____	%
Nitrates (NO3-N)	251	12	86	715	µg/l	632	tonnes	YES	_____	%
Orthoph. (PO4-P)	3.75	12	1.00	14.0	µg/l	10.65	tonnes	YES	_____	%
Orthoph. (PO4-P)	3.75	12	1.00	14.0	µg/l	10.65	tonnes		_____	%
Total N	448	12	210	965	µg/l	1129	tonnes	YES	_____	%
Total P	9.75	12	4.00	24.0	µg/l	28	tonnes	YES	_____	%
SiO2	2.34	12	0.42	5.0	mg/l	5841	tonnes	YES	_____	%
Susp. Part. Matter	3.93	12	1.36	19.30	mg/l	12517	tonnes	YES	_____	%
TOC	3.40	1	3.40	3.40	mg/l	8687	tonnes	YES	_____	%

Measurements below detection limits are treated in two ways :

***) Detection limit = Zero**

****) Detection limit = Limit**

Table 4.4 MAIN RIVERINE INPUTS 1996 (4) Skienselva

Total volume:	**14723**	**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:	**31968**	**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	0.33	µg/l	0.24	tonnes	YES		%
Cadmium **	0.05	12	0.01	0.33	µg/l	0.26	tonnes			%
Mercury *	1.21	12	0.00	5.00	ng/l	3.73	kg	NO		%
Mercury **	1.79	12	1.00	5.00	ng/l	7.58	kg			%
Copper	1.79	12	0.30	6.70	µg/l	10.2	tonnes	YES		%
Zinc	3.17	12	1.60	6.10	µg/l	17.9	tonnes	YES		%
Lead *	0.11	12	0.04	0.21	µg/l	0.60	tonnes	YES		%
Lead **	0.11	12	0.04	0.21	µg/l	0.60	tonnes			%
Arsenic *	0.00	1	0.00	0.00	µg/l	0.00	tonnes	NO		%
Arsenic **	0.10	1	0.10	0.10	µg/l	0.54	tonnes			%
Total Cr-T *	0.00	1	0.00	0.00	µg/l	0.00	tonnes	NO		%
Total Cr-T **	0.50	1	0.50	0.50	µg/l	2.69	tonnes			%
Ni *	0.39	12	0.30	0.60	µg/l	2.17	tonnes	YES		%
Ni **	0.39	12	0.30	0.60	µg/l	2.17	tonnes			%
PCBs *		3			ng/l	0.00	kg	NO		%
PCBs **		3			ng/l	1.13	kg			%
gamma-HCH (lindane)	0.83	3	0.72	0.90	ng/l	4.35	kg	YES		%
Ammonia (NH4-N)	16.5	12	3.0	51.0	µg/l	90.7	tonnes	YES		%
Ammonia (NH4-N)	16.5	12	3.0	51.0	µg/l	90.7	tonnes			%
Nitrates (NO3-N)	213	12	160	295	µg/l	1206	tonnes	YES		%
Orthoph. (PO4-P)	1.05	12	0.00	3.00	µg/l	6.49	tonnes	YES		%
Orthoph. (PO4-P)	1.09	12	0.50	3.00	µg/l	6.66	tonnes			%
Total N	322	12	225	410	µg/l	1760	tonnes	YES		%
Total P	3.33	12	2	6	µg/l	18	tonnes	YES		%
SiO2	1.81	12	1.40	2.00	mg/l	9980	tonnes	YES		%
Susp. Part. Matter	0.90	12	0.39	1.99	mg/l	4862	tonnes	YES		%
TOC	2.20	1	2.20	2.20	mg/l	11823	tonnes	YES		%

Measurements below detection limits are treated in two ways :

***) Detection limit = Zero**

****) Detection limit = Limit**

Table 4.5 MAIN RIVERINE INPUTS 1996 (5) Otra

Total volume:	**8970**	**1000 m3/day**	**Long term average flow (LTA):**	**12841 1000 m3/day**
Minimum flow:	**4346**	**1000 m3/day**	**LTA period :**	**1961 to 1990**
Maximum flow:	**19008**	**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**	**12**	**0.00**	**0.06**	**µg/l**	**0.09**	**tonnes**	**YES**	**____**	**%**
Cadmium **	**0.03**	**12**	**0.01**	**0.06**	**µg/l**	**0.09**	**tonnes**		**____**	**%**
Mercury *	**1.25**	**12**	**0.00**	**3.50**	**ng/l**	**3.90**	**kg**	**NO**	**____**	**%**
Mercury **	**1.75**	**12**	**1.00**	**3.50**	**ng/l**	**5.65**	**kg**		**____**	**%**
Copper	**0.50**	**12**	**0.40**	**0.70**	**µg/l**	**1.67**	**tonnes**	**YES**	**____**	**%**
Zinc	**4.19**	**12**	**2.50**	**6.30**	**µg/l**	**14.7**	**tonnes**	**YES**	**____**	**%**
Lead *	**0.34**	**12**	**0.10**	**1.75**	**µg/l**	**1.30**	**tonnes**	**YES**	**____**	**%**
Lead **	**0.34**	**12**	**0.10**	**1.75**	**µg/l**	**1.30**	**tonnes**		**____**	**%**
Arsenic *	**0.10**	**1**	**0.10**	**0.10**	**µg/l**	**0.33**	**tonnes**	**YES**	**____**	**%**
Arsenic **	**0.10**	**1**	**0.10**	**0.10**	**µg/l**	**0.33**	**tonnes**		**____**	**%**
Total Cr-T *	**0.00**	**1**	**0.00**	**0.00**	**µg/l**	**0.00**	**tonnes**	**NO**	**____**	**%**
Total Cr-T **	**0.50**	**1**	**0.50**	**0.50**	**µg/l**	**1.64**	**tonnes**		**____**	**%**
Ni *	**0.85**	**12**	**0.30**	**1.90**	**µg/l**	**2.96**	**tonnes**	**YES**	**____**	**%**
Ni **	**0.85**	**12**	**0.30**	**1.90**	**µg/l**	**2.96**	**tonnes**		**____**	**%**
PCBs *		**3**			**ng/l**	**0.00**	**kg**	**NO**	**____**	**%**
PCBs **		**3**			**ng/l**	**0.69**	**kg**		**____**	**%**
gamma-HCH (lindane)	**1.10**	**3**	**1.03**	**1.15**	**ng/l**	**3.56**	**kg**	**YES**	**____**	**%**
Ammonia (NH4-N)	**14.7**	**12**	**0.0**	**34.0**	**µg/l**	**57.2**	**tonnes**	**YES**	**____**	**%**
Ammonia (NH4-N)	**15.7**	**12**	**3.0**	**34.0**	**µg/l**	**59.3**	**tonnes**		**____**	**%**
Nitrates (NO3-N)	**161**	**12**	**119**	**245**	**µg/l**	**547**	**tonnes**	**YES**	**____**	**%**
Orthoph. (PO4-P)	**0.96**	**12**	**0.5**	**3.0**	**µg/l**	**3.31**	**tonnes**	**YES**	**____**	**%**
Orthoph. (PO4-P)	**0.96**	**12**	**0.5**	**3.0**	**µg/l**	**3.31**	**tonnes**		**____**	**%**
Total N	**273**	**12**	**215**	**400**	**µg/l**	**912**	**tonnes**	**YES**	**____**	**%**
Total P	**3.92**	**12**	**2.0**	**7.0**	**µg/l**	**13**	**tonnes**	**YES**	**____**	**%**
SiO2	**1.40**	**12**	**0.83**	**1.80**	**mg/l**	**4882**	**tonnes**	**YES**	**____**	**%**
Susp. Part. Matter	**0.98**	**12**	**0.62**	**1.42**	**mg/l**	**3147**	**tonnes**	**YES**	**____**	**%**
TOC	**2.27**	**12**	**1.40**	**3.50**	**mg/l**	**7430**	**tonnes**	**YES**	**____**	**%**

Measurements below detection limits are treated in two ways :

***) Detection limit = Zero**

****) Detection limit = Limit**

Table 4.6 MAIN RIVERINE INPUTS 1996 (6) Orreelva

Total volume:	**221**	**1000 m3/day**	**Long term average flow (LTA):**	**333** **1000 m3/day**
Minimum flow:	**20**	**1000 m3/day**	**LTA period : 1961 to 1990**	
Maximum flow:	**1374**	**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 *	0.01	12	0.00	0.03	µg/l	0.00	tonnes	NO		%
Cadmium **	0.01	12	0.01	0.03	µg/l	0.00	tonnes			%
Mercury *	0.71	12	0.00	3.00	ng/l	0.07	kg	NO		%
Mercury **	1.21	12	1.00	3.00	ng/l	0.09	kg			%
Copper	1.86	12	1.00	5.30	µg/l	0.17	tonnes	YES		%
Zinc	1.98	12	0.40	5.70	µg/l	0.26	tonnes	YES		%
Lead *	0.17	12	0.06	0.60	µg/l	0.03	tonnes	YES		%
Lead **	0.17	12	0.06	0.60	µg/l	0.03	tonnes			%
Arsenic *	0.35	1	0.35	0.35	µg/l	0.03	tonnes	YES		%
Arsenic **	0.35	1	0.35	0.35	µg/l	0.03	tonnes			%
Total Cr-T *	0.00	1	0.00	0.00	µg/l	0.00	tonnes	NO		%
Total Cr-T **	0.50	1	0.50	0.50	µg/l	0.04	tonnes			%
Ni *	2.41	12	1.50	7.50	µg/l	0.18	tonnes	YES		%
Ni **	2.41	12	1.50	7.50	µg/l	0.18	tonnes			%
PCBs *		3			ng/l	0.00	kg	NO		%
PCBs **		3			ng/l	0.02	kg			%
gamma-HCH (lindane)	1.52	3	0.69	3.05	ng/l	0.08	kg	YES		%
Ammonia (NH4-N)	48.8	12	9	182	µg/l	4.05	tonnes	YES		%
Ammonia (NH4-N)	48.8	12	9	182	µg/l	4.05	tonnes			%
Nitrates (NO3-N)	832	12	1	1820	µg/l	99	tonnes	YES		%
Orthoph. (PO4-P)	7.67	12	2	26	µg/l	1.23	tonnes	YES		%
Orthoph. (PO4-P)	7.67	12	2	26	µg/l	1.23	tonnes			%
Total N	1455	12	610	2435	µg/l	154	tonnes	YES		%
Total P	38	12	24	84	µg/l	5	tonnes	YES		%
SiO2	3.20	1	3.20	3.20	mg/l	258	tonnes	YES		%
Susp. Part. Matter	4.07	12	0.63	9.79	mg/l	520	tonnes	YES		%
TOC	5.50	1	5.50	5.50	mg/l	443	tonnes	YES		%

Measurements below detection limits are treated in two ways :

***) Detection limit = Zero**

****) Detection limit = Limit**

Table 4.7 MAIN RIVERINE INPUTS 1996 (7) Suldalslågen

Total volume: 4545 1000 m3/day
Minimum flow: 1028 1000 m3/day
Maximum flow: 19302 1000 m3/day

Long term average flow (LTA): 7422 1000 m3/day
LTA period : 1961 to 1990

	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 *	0.01	4	0.00	0.02	µg/l	0.02	tonnes	NO	____	%
Cadmium **	0.01	4	0.01	0.02	µg/l	0.02	tonnes		____	%
Mercury *	0.75	4	0.00	1.00	ng/l	1.60	kg	YES	____	%
Mercury **	1.00	4	1.00	1.00	ng/l	1.66	kg		____	%
Copper	0.60	4	0.40	0.80	µg/l	1.15	tonnes	YES	____	%
Zinc	1.55	4	1.10	2.00	µg/l	2.67	tonnes	YES	____	%
Lead *	0.12	4	0.03	0.16	µg/l	0.24	tonnes	YES	____	%
Lead **	0.12	4	0.03	0.16	µg/l	0.24	tonnes		____	%
Arsenic *	0.13	1	0.13	0.13	µg/l	0.22	tonnes	YES	____	%
Arsenic **	0.13	1	0.13	0.13	µg/l	0.22	tonnes		____	%
Total Cr-T *	0.00	1	0.00	0.00	µg/l	0.00	tonnes	NO	____	%
Total Cr-T **	0.50	1	0.50	0.50	µg/l	0.83	tonnes		____	%
Ni *	0.23	4	0.00	0.40	µg/l	0.45	tonnes	YES	____	%
Ni **	0.28	4	0.20	0.40	µg/l	0.53	tonnes		____	%
PCBs *		2			ng/l	0.00	kg	NO	____	%
PCBs **		2			ng/l	0.35	kg		____	%
gamma-HCH (lindane)	0.94	2	0.93	0.95	ng/l	1.55	kg	YES	____	%
Ammonia (NH4-N)	5.50	4	0	17	µg/l	14.13	tonnes	YES	____	%
Ammonia (NH4-N)	7.00	4	3	17	µg/l	16.48	tonnes		____	%
Nitrates (NO3-N)	213	4	190	250	µg/l	330	tonnes	YES	____	%
Orthoph. (PO4-P)	0.00	4	0.0	0.0	µg/l	0.00	tonnes	NO	____	%
Orthoph. (PO4-P)	0.50	4	0.5	0.5	µg/l	0.83	tonnes		____	%
Total N	271	4	245	295	µg/l	435	tonnes	YES	____	%
Total P	1.75	4	1	3	µg/l	3	tonnes	YES	____	%
SiO2	0.94	1	0.94	0.94	mg/l	1559	tonnes	YES	____	%
Susp. Part. Matter	0.72	4	0.40	1.36	mg/l	1547	tonnes	YES	____	%
TOC	0.50	1	0.50	0.50	mg/l	830	tonnes	YES	____	%

Measurements below detection limits are treated in two ways :
***) Detection limit = Zero**
****) Detection limit = Limit**

Table 4.8 MAIN RIVERINE INPUTS 1996 (8) Orkla

Total volume:	**4058**	**1000 m3/day**	**Long term average flow (LTA):**	**5374 1000 m3/day**
Minimum flow:	**950**	**1000 m3/day**	**LTA period : 1961 to 1990**	
Maximum flow:	**28477**	**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	17	0.00	0.12	µg/l	0.06	tonnes	YES	____	%
Cadmium **	0.05	17	0.01	0.12	µg/l	0.06	tonnes		____	%
Mercury *	1.00	12	0.00	3.50	ng/l	1.65	kg	NO	____	%
Mercury **	1.50	12	1.00	3.50	ng/l	2.33	kg		____	%
Copper	7.25	17	3.50	16.80	µg/l	9.78	tonnes	YES	____	%
Zinc	21.0	17	8.40	47.30	µg/l	28.7	tonnes	YES	____	%
Lead *	0.05	17	0.00	0.12	µg/l	0.08	tonnes	YES	____	%
Lead **	0.05	17	0.02	0.12	µg/l	0.08	tonnes		____	%
Arsenic *	0.12	12	0.00	0.30	µg/l	0.22	tonnes	YES	____	%
Arsenic **	0.14	12	0.10	0.30	µg/l	0.25	tonnes		____	%
Total Cr-T *	1.10	12	0.00	11.90	µg/l	2.87	tonnes	NO	____	%
Total Cr-T **	1.52	12	0.50	11.90	µg/l	3.44	tonnes		____	%
Ni *	1.39	17	0.80	5.60	µg/l	2.14	tonnes	YES	____	%
Ni **	1.39	17	0.80	5.60	µg/l	2.14	tonnes		____	%
PCBs *		3			ng/l	0.00	kg	NO	____	%
PCBs **		3			ng/l	0.31	kg		____	%
gamma-HCH (lindane)	0.25	3	0.14	0.44	ng/l	0.42	kg	YES	____	%
Ammonia (NH4-N)	9.42	12	0.0	32.0	µg/l	16.48	tonnes	YES	____	%
Ammonia (NH4-N)	10.42	12	3.0	32.0	µg/l	17.32	tonnes	YES	____	%
Nitrates (NO3-N)	161	12	77	415	µg/l	207	tonnes	YES	____	%
Orthoph. (PO4-P)	1.33	14	0.7	5.0	µg/l	2.00	tonnes	YES	____	%
Orthoph. (PO4-P)	1.33	14	0.7	5.0	µg/l	2.00	tonnes	YES	____	%
Total N	275	14	195	555	µg/l	388	tonnes	YES	____	%
Total P	4.26	14	3.0	8.0	µg/l	6	tonnes	YES	____	%
SiO2	2.65	2	2.60	2.70	mg/l	3923	tonnes	YES	____	%
Susp. Part. Matter	1.49	12	0.52	6.46	mg/l	2314	tonnes	YES	____	%
TOC	2.73	12	1.70	5.00	mg/l	4141	tonnes	YES	____	%

Measurements below detection limits are treated in two ways :

***) Detection limit = Zero**

****) Detection limit = Limit**

Table 4.9 MAIN RIVERINE INPUTS 1996 (9) Vefsna

Total volume: 12773 1000 m3/day
Minimum flow: 2722 1000 m3/day
Maximum flow: 93234 1000 m3/day

Long term average flow (LTA): 15620 1000 m3/day
LTA period : 1961 to 1990

	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	12	0.00	0.08	µg/l	0.12	tonnes	YES	____ %
Cadmium **	0.03	12	0.01	0.08	µg/l	0.13	tonnes		____ %
Mercury *	6.25	12	0.0	56.0	ng/l	12.24	kg	YES	____ %
Mercury **	6.50	12	1.0	56.0	ng/l	12.82	kg		____ %
Copper	7.58	12	1.5	21.3	µg/l	24.1	tonnes	YES	____ %
Zinc	14.53	12	1.1	41.8	µg/l	49.9	tonnes	YES	____ %
Lead *	2.95	12	0.03	12.8	µg/l	5.35	tonnes	YES	____ %
Lead **	2.95	12	0.03	12.8	µg/l	5.35	tonnes		____ %
Arsenic *	0.00	1	0.00	0.00	µg/l	0.00	tonnes	NO	____ %
Arsenic **	0.10	1	0.10	0.10	µg/l	0.47	tonnes		____ %
Total Cr-T *	0.00	1	0.00	0.00	µg/l	0.00	tonnes	NO	____ %
Total Cr-T **	0.50	1	0.50	0.50	µg/l	2.33	tonnes		____ %
Ni *	1.04	12	0.40	2.50	µg/l	4.25	tonnes	YES	____ %
Ni **	1.04	12	0.40	2.50	µg/l	4.25	tonnes		____ %
PCBs *		3			ng/l	0.00	kg	NO	____ %
PCBs **		3			ng/l	0.98	kg		____ %
gamma-HCH (lindane)	0.54	3	0.20	1.17	ng/l	4.64	kg	YES	____ %
Ammonia (NH4-N)	19.3	12	0.0	44.0	µg/l	65.6	tonnes	YES	____ %
Ammonia (NH4-N)	19.8	12	3.0	44.0	µg/l	68.4	tonnes		____ %
Nitrates (NO3-N)	117	12	31	270	µg/l	339	tonnes	YES	____ %
Orthoph. (PO4-P)	2.98	12	0.0	10.0	µg/l	13.7	tonnes	YES	____ %
Orthoph. (PO4-P)	3.02	12	0.5	10.0	µg/l	13.8	tonnes		____ %
Total N	394	12	92	850	µg/l	1426	tonnes	YES	____ %
Total P	6.25	12	2.00	12.00	µg/l	30	tonnes	YES	____ %
SiO2	1.30	2	1.10	1.50	mg/l	6418	tonnes	YES	____ %
Susp. Part. Matter	3.50	12	0.65	10.00	mg/l	21400	tonnes	YES	____ %
TOC	3.50	1	3.50	3.50	mg/l	16317	tonnes	YES	____ %

Measurements below detection limits are treated in two ways :
***) Detection limit = Zero**
****) Detection limit = Limit**

Table 4.10 MAIN RIVERINE INPUTS 1996 (10) Altaelva

Total volume:	**7208**	**1000 m3/day**	**Long term average flow (LTA):**	**7487 1000 m3/day**
Minimum flow:	**1598**	**1000 m3/day**	**LTA period :**	**1961 to 1990**
Maximum flow:	**71004**	**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	0.00	0.06	µg/l	0.01	tonnes	NO		%
Cadmium **	0.02	4	0.01	0.06	µg/l	0.03	tonnes			%
Mercury *	0.75	4	0.00	2.00	ng/l	4.62	kg	NO		%
Mercury **	1.25	4	1.00	2.00	ng/l	4.90	kg			%
Copper	1.43	4	0.60	2.50	µg/l	6.07	tonnes	YES		%
Zinc	0.78	4	0.20	1.60	µg/l	3.82	tonnes	YES		%
Lead *	0.30	4	0.00	1.00	µg/l	2.29	tonnes	YES		%
Lead **	0.30	4	0.02	1.00	µg/l	2.29	tonnes			%
Arsenic *	0.67	1	0.67	0.67	µg/l	1.76	tonnes	YES		%
Arsenic **	0.67	1	0.67	0.67	µg/l	1.76	tonnes			%
Total Cr-T *	0.00	1	0.00	0.00	µg/l	0.00	tonnes	NO		%
Total Cr-T **	0.50	1	0.50	0.50	µg/l	1.32	tonnes			%
Ni *	0.83	4	0.50	1.60	µg/l	3.83	tonnes	YES		%
Ni **	0.83	4	0.50	1.60	µg/l	3.83	tonnes			%
PCBs *		2			ng/l	0.00	kg	NO		%
PCBs **		2			ng/l	0.55	kg			%
gamma-HCH (lindane)	0.11	2	0.04	0.18	ng/l	0.33	kg	YES		%
Ammonia (NH4-N)	2.25	4	0	7	µg/l	16.13	tonnes	NO		%
Ammonia (NH4-N)	3.75	4	2	7	µg/l	16.81	tonnes			%
Nitrates (NO3-N)	32.5	4	5	65	µg/l	87	tonnes	YES		%
Orthoph. (PO4-P)	9.24	4	0.95	15	µg/l	23.78	tonnes	YES		%
Orthoph. (PO4-P)	9.24	4	0.95	15	µg/l	23.78	tonnes			%
Total N	163	4	104	265	µg/l	646	tonnes	YES		%
Total P	18.25	4	5	32	µg/l	78	tonnes	YES		%
SiO2	4.70	1	4.70	4.70	mg/l	12366	tonnes	YES		%
Susp. Part. Matter	10.08	4	0.53	36.60	mg/l	83364	tonnes	YES		%
TOC	3.50	1	3.50	3.50	mg/l	9209	tonnes	YES		%

Measurements below detection limits are treated in two ways :

***) Detection limit = Zero**

****) Detection limit = Limit**

APPENDIX V : INPUTS FROM TRIBUTARY RIVERS 1996 (Paragraph 17 - 19) Page :

Paragraph 17: Tributary rivers ./.

Paragraph18: 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 - 1997)

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 1996 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 *	0.03	0.01	0.01	0.07	0.05	0.81	tonnes	YES	_____	%
Cd **	0.03	0.01	0.01	0.07	0.05	0.81	tonnes		_____	%
Hg *	0.81	0.76	0.21	0.60	0.60	11.48	kg	YES	_____	%
Hg **	1.39	0.79	0.21	0.92	0.60	11.48	kg		_____	%
Cu	1.8	1.0	0.3	1.4	0.3	12.0	tonnes	YES	_____	%
Zn	5.0	2.6	4.1	16.0	4.2	114.1	tonnes	YES	_____	%
Pb *	0.47	0.30	0.13	0.28	0.13	9.67	tonnes	YES	_____	%
Pb **	0.47	0.30	0.13	0.28	0.13	9.67	tonnes		_____	%
Arsenic *	0.23	0.08	0.06	0.08	0.17	1.09	tonnes	YES	_____	%
Arsenic **	0.23	0.08	0.06	0.12	0.17	1.50	tonnes		_____	%
Cr-T *	0.22	0.08	0.10	0.05	0.00	0.00	tonnes	NO	_____	%
Cr-T **	0.51	0.24	0.10	0.29	0.30	3.78	tonnes		_____	%
Ni *	1.23	0.67	0.40	0.80	0.30	4.24	tonnes	YES	_____	%
Ni **	1.23	0.67	0.40	0.80	0.30	4.24	tonnes		_____	%
PCBs *	0.00	0.04	0.00	0.00	0.00	0.00	kg	NO	_____	%
PCBs **	0.18	0.10	0.03	0.12	0.13	1.59	kg		_____	%
gamma-HCH	0.51	0.08	0.07	0.28	0.60	6.63	kg	YES	_____	%
NH4-N	31	21	7	56	9	285	tonnes	YES	_____	%
NO3-N	753	435	279	617	150	1697	tonnes	YES	_____	%
PO4-P	6	6	3	15	0	13	tonnes	YES	_____	%
Total N	1108	625	301	818	247	3029	tonnes	YES	_____	%
Total P	18	18	4	19	2	57	tonnes	YES	_____	%
SiO2	2780	1917	1059	2964	1564	17295	tonnes	YES	_____	%
S.P.M.	6087	2978	3302	3412	812	14485	tonnes	YES	_____	%
TOC	6022	1792	812	2338	2708	24909	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 1996 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 measurements above the detection limit ?		Precision of the estimate of the load	
Sub-areas :	6	7					
Substance:							
Cd *	0.26	0.26	tonnes	NO			%
Cd **	0.28	0.36	tonnes				%
Hg *	12.83	12.73	kg	NO			%
Hg **	13.57	24.99	kg				%
Cu	4.2	14.5	tonnes	YES			%
Zn	62.2	86.2	tonnes	YES			%
Pb *	4.55	4.07	tonnes	YES			%
Pb **	4.55	4.07	tonnes				%
Arsenic *	0.45	1.20	tonnes	NO			%
Arsenic **	1.20	2.80	tonnes				%
Cr-T *	0.00	1.35	tonnes	NO			%
Cr-T **	5.23	12.10	tonnes				%
Ni *	4.32	3.46	tonnes	NO			%
Ni **	4.59	6.56	tonnes				%
PCBs *	0.00	0.00	kg	NO			%
PCBs **	2.20	4.77	kg				%
gamma-HCH	6.02	6.02	kg	YES			%
NH4-N	218	176	tonnes	YES			%
NO3-N	3143	3507	tonnes	YES			%
PO4-P	17	38	tonnes	YES			%
Total N	4559	5657	tonnes	YES			%
Total P	52	105	tonnes	YES			%
SiO2	15164	25790	tonnes	YES			%
S.P.M.	8477	45926	tonnes	YES			%
TOC	23299	21596	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 1996 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 measurements above the detection limit ?	Precision of the estimate of the load
Sub-areas :	8	9			
Substance:					
Cd *	0.33	0.06	tonnes	NO	%
Cd **	0.40	0.29	tonnes		%
Hg *	63.5	90.5	kg	YES	%
Hg **	68.9	91.7	kg		%
Cu	38.2	25.1	tonnes	YES	%
Zn	53.4	43.6	tonnes	YES	%
Pb *	3.77	7.82	tonnes	YES	%
Pb **	3.77	7.86	tonnes		%
Arsenic *	4.98	8.65	tonnes	YES	%
Arsenic **	5.63	9.29	tonnes		%
Cr-T *	27.96	8.81	tonnes	NO	%
Cr-T **	31.02	16.75	tonnes		%
Ni *	32.99	21.98	tonnes	YES	%
Ni **	33.13	22.60	tonnes		%
PCBs *	0.00	0.00	kg	NO	%
PCBs **	5.40	5.58	kg		%
gamma-HCH	10.91	8.07	kg	YES	%
NH4-N	259	413	tonnes	YES	%
NO3-N	2153	1406	tonnes	YES	%
PO4-P	50	91	tonnes	YES	%
Total N	5250	3757	tonnes	YES	%
Total P	122	166	tonnes	YES	%
SiO2	21992	30659	tonnes	YES	%
S.P.M.	42523	227516	tonnes	YES	%
TOC	36790	5765	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 1996 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 *	0.17	tonnes	NO	_____	%
Cd **	0.29	tonnes		_____	%
Hg *	11.39	kg	NO	_____	%
Hg **	24.60	kg		_____	%
Cu	30.7	tonnes	YES	_____	%
Zn	60.4	tonnes	YES	_____	%
Pb *	5.33	tonnes	YES	_____	%
Pb **	5.37	tonnes		_____	%
Arsenic *	3.53	tonnes	NO	_____	%
Arsenic **	3.78	tonnes		_____	%
Cr-T *	5.83	tonnes	NO	_____	%
Cr-T **	11.78	tonnes		_____	%
Ni *	38.22	tonnes	NO	_____	%
Ni **	39.08	tonnes		_____	%
PCBs *	0.00	kg	NO	_____	%
PCBs **	3.66	kg		_____	%
gamma-HCH	3.53	kg	YES	_____	%
NH4-N	124	tonnes	YES	_____	%
NO3-N	396	tonnes	YES	_____	%
PO4-P	34	tonnes	YES	_____	%
Total N	2320	tonnes	YES	_____	%
Total P	93	tonnes	YES	_____	%
SiO2	80744	tonnes	YES	_____	%
S.P.M.	12388	tonnes	YES	_____	%
TOC	39758	tonnes	YES	_____	%

Measurements below detection limits are treated in two ways :
***) Detection limit = Zero**
****) Detection limit = Limit**

APPENDIX VI : OTHER INPUTS 1996 (Paragraph 20) **Page:**

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 - 1997)

Table 6.1 Nutrients from "Down Stream Areas" of main and tributary rivers and rivers not monitored 1996.

Direct runoff of P and N :

Sub-areas:		Back-ground tonnes	Agriculture Area tonnes	Sum tonnes
1 Glomma	P	18.4	10.6	29.0
	N	463.1	498.4	961.4
	PO4-P	3.7	3.2	6.9
	NO3-N	277.8	348.9	626.7
	NH4-N	23.2	34.9	58.0
1 Inner Oslofjord	P	3.4	2.2	5.6
	N	72.8	85.7	158.5
	PO4-P	0.7	0.6	1.3
	NO3-N	43.7	60.0	103.7
	NH4-N	3.6	6.0	9.6
2 Drammenselva	P	1.4	2.1	3.6
	N	64.0	68.3	132.3
	PO4-P	0.3	0.6	0.9
	NO3-N	38.4	47.8	86.2
	NH4-N	3.2	4.8	8.0
3 Numedalslågen	P	4.9	10.6	15.5
	N	184.7	427.6	612.3
	PO4-P	1.0	3.2	4.2
	NO3-N	110.8	299.3	410.2
	NH4-N	9.2	29.9	39.2
4 Skienselva	P	6.8	2.1	8.9
	N	331.3	89.5	420.7
	PO4-P	1.4	0.6	2.0
	NO3-N	198.8	62.6	261.4
	NH4-N	16.6	6.3	22.8
5 Otra	P	7.0	3.9	11.0
	N	391.8	99.5	491.3
	PO4-P	1.4	1.2	2.6
	NO3-N	235.1	69.7	304.7
	NH4-N	19.6	7.0	26.6
6 Orreelva	P	22.8	47.5	70.3
	N	1463.8	1307.0	2770.9
	PO4-P	4.6	14.3	18.8
	NO3-N	878.3	914.9	1793.2
	NH4-N	73.2	91.5	164.7
7 Suldalslågen	P	58.0	69.1	127.2
	N	5151.3	1359.0	6510.3
	PO4-P	11.6	20.7	32.3
	NO3-N	3090.8	951.3	4042.0
	NH4-N	257.6	95.1	352.7
8 Orkla	P	142.1	153.4	295.5
	N	3850.8	3626.9	7477.6
	PO4-P	28.4	46.0	74.4
	NO3-N	2310.5	2538.8	4849.3
	NH4-N	192.5	253.9	446.4
9 Vefsna	P	83.6	39.4	123.0
	N	1920.5	929.0	2849.5
	PO4-P	16.7	11.8	28.5
	NO3-N	1152.3	650.3	1802.6
	NH4-N	96.0	65.0	161.1
10 Altaelva	P	86.1	2.1	88.2
	N	1618.3	62.4	1680.7
	PO4-P	17.2	0.6	17.9
	NO3-N	971.0	43.7	1014.7
	NH4-N	80.9	4.4	85.3

SUM	P	778	tonnes
SUM	N	24065	tonnes
SUM	PO4-P	190	tonnes
SUM	NO3-N	15295	tonnes
SUM	NH4-N	1374	tonnes

APPENDIX VII : MAIN RIVERS 1 - 10. MEASURED CONCENTRATIONS 1996 **Page:**

Table 7.1 Measured concentrations - 1996
Watercourse : Glomma
Annual flow . . . . : 16256 mill.cbm Min : 154 cbm/s
Draining area . . : 41218 km² Max: 948 cbm/s

	Q	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	SiO2	TOC	Hg	HCH	PCB(The following Congeners) IUPAC NOS							As	Cr-T	Ni
																	28	52	101	118	138	153	180			
	m³/s	mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	mg/l	mg/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	µg/l	µg/l	µg/l
960118	384.3	4.65	6.0	3.0	535	370	57	2.7	4.8	0.02	1.02	1.64	2.9		2.0											0.9
960304	230.6	5.19	5.0	1.0	590	385	82	1.5	2.9	0.01	0.11	0.84	2.8		2.0	0.63	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.7
960411	255.2	6.17	54.0	28.0	1000	640	154	1.9	5.1	0.07	1.01	36.5	2.9		2.0											1.3
960513	595.4	5.20	23.0	11.0	830	530	57	2.9	7.0	0.03	0.45	13.1	3.0		4.0											1.3
960520	794.2	5.32	46.7	5.5	945	625	102	2.5	11.1	0.06	0.76	15.4	3.1	6.8	3.0											1.3
960522	730.2		37.1		880	570	80					12.3		6.2												
960524	768.6		29.4		760	480	52					9.4		6.0												
960528	913.1	4.85	27.0	2.0	720	445	49	2.4	4.7	0.03	0.34	8.1	2.9	5.8	1.5											1.3
960530	887.5		24.3		580	340	34					8.6		5.5												
960601	816.8		19.4		570	340	47					8.0		6.1												
960603	793.2	4.71	20.4	1.0	635	400	58	2.5	3.9	0.02	0.40	4.7	2.9	5.5	1.5	0.81	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			1.3
960605	847.5		18.2		520	295	40					6.2		5.3												
960607	794.2		18.1		510	280	30					5.9		4.9												
960609	743		17.6	1.0	490	270	25					5.6		4.7												
960611	922.3	3.94	16.9	4.0	480	260	22	2.4	3.5	0.16	0.42	5.55	2.5	4.3	2.5											1.2
960613	902.8		17.3		445	275	26					7.3		4.4												
960615	768.6		15.9		600	390	34					6.0		3.7												
960617	871.1	4.29	13.2	1.0	615	400	55	2.3	8.8	0.02	0.50	5.1	2.3	4.1	2.0											1.3
960624	947.9	4.29	17.3	1.0	510	325	37	2.7	9.7	0.12	0.37	8.0	2.3	4.7	1.5	0.55	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			2.0
960703	819.8	3.29	13.5	5.5	385	230	5	1.6	2.5	0.04	0.38	3.6	2.3	5.1	1.5	0.51	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.6
960710	947.9	4.55	13.4	2.3	760	515	37	1.8	22.2	0.15	0.65	4.7	2.3	3.4	3.5											0.9
960718	571.8	3.97	11.8	3.0	515	320	15	2.6	25.8	0.12	0.33	4.48	2.6	4.0	1.0	0.64	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.9
960814	409.9	4.33	8.0	2.0	560	330	21	2.0	45.2	0.25	0.38	3.36	2.0		7.0											1.2
960918	441.7	4.04	7.0	2.0	405	250	11	1.6	1.4	0.06	0.15	2.18	1.9		1.0											0.6
961016	614.9	4.88	11.0	4.0	635	405	33	2.0	22.2	0.10	0.54	4.87	2.4		2.0	0.53	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.12	<0.5	1.1
961114	563.6	5.76	26.0	14.0	815	585	34	2.4	41.7	0.18	1.01	14.9	3.6		2.5											1.9
961204	409.9	4.83	17.0	8.0	685	470	28	2.5	26.5	0.08	0.41	8.06	3.4		1.5											1.6
Min:	230.6	3.29	5	1	385	230	5	1.5	1.4	0.01	0.11	0.84	1.9	3.4	1	0.51	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.12	0.5	0.6
Max:	947.9	6.17	54	28	1000	640	154	2.9	45.2	0.25	1.02	36.5	3.6	6.8	7	0.81	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.12	0.5	2
Aver.:	694.3	4.68	19.8	5.2	629	397	45.4	2.24	13.83	0.08	0.51	7.94	2.67	5.03	2.33	0.61	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.12	0.50	1.19
St.dev.:	216.3	0.70	11.5	6.6	162	119	31.0	0.42	13.61	0.07	0.27	6.81	0.46	0.95	1.41	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.39
Numb.:	27	18	27	19	27	27	27	18	18	18	18	27	18	18	18	6	6	6	6	6	6	6	6	1	1	18

Table 7.2 Measured concentrations - 1996

Watercourse : Drammenselva

Annual flow . . . . : 7352 mill.cbm Min : 47.8 cbm/s

Draining area . . : 17028 km² **Max: 415 cbm/s**

																	PCB(The following Congeners) IUPAC NOS									
	Q	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	SiO2	TOC	Hg	HCH	28	52	101	118	138	153	180	As	Cr-T	Ni
	m³/s	mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	mg/l	mg/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	µg/l	µg/l	µg/l
960115	249.8	3.15	4	1	395	240	24	0.7	2.0	<0.01	0.09	1.20	2.1		<1											0.5
960213	245.5	2.93	4	1	365	240	24	1.1	2.0	0.01	0.20	1.13	2.1		1	0.72	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.5
960315	217.9	3.22	3	1	385	260	21	0.7	2.1	<0.01	0.05	0.93	2.2		<1											0.5
960414	179.6	4.02	15	6	570	375	24	1.2	3.9	<0.01	0.32	6.76	2.2		1.5											0.7
960514	315.7	3.54	7	2	475	315	15	0.7	3.7	<0.01	0.13	3.04	2.3	4.2	2											0.7
960520	313.6	3.72	7	3	520	355	12	0.9	3.4	<0.01	0.25	3.12	2.4	3.6	<1											0.7
960522	297.6	3.79	6	2	520	350	15	1.0	3.2	0.03	0.17	1.69	2.5	3.6	<1											0.9
960524	293.4		6	1	445	290	12					1.86		3.2												
960526	299.7	3.23	6	1	410	265	11					1.67		3.1												
960528	299.7	3.23	5	1	385	240	11	1.0	2.3	0.05	0.19	1.51	2.2	3.2	1											0.7
960530	299.7	3.30	5	1	355	230	11					1.50		3.4												
960601	293.4	3.30	5	2	430	260	9					2.00	2.8	3.0	1											
960603	257.2	3.30	5	2	430	260	12	0.8	2.1	<0.01	0.06	2.45	2.2	3.3	<1											0.8
960605	292.3		6	1	250	225	12					2.40		3.5		0.87	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03			
960607	299.7		4	1	445	250	13					1.12		2.9												
960609	297.6		5	1	425	245	13					1.20		3.5												
960611	251.9	3.29	5	1	380	230	13	1.0	2.1	0.03	0.12	2.22	1.9	3.1	1											0.8
960613	251.9		6		395	235	<3					1.80		3.1												
960615	297.6		5	1	390	235	7					2.00		3.3												
960617	297.6	3.46	5	1	390	230	13	0.8	1.8	0.02	0.06	1.79	1.8	3.4	<1											0.8
960621	309.3		6	1	380	220	11					2.40		3.8		0.78	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			
960629	290.2	3.58	7	2	430	230	11	1.0	3.2	0.04	0.42	2.23	1.9	3.7	<1	0.92	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.7
960706	414.5	3.20	7	2	420	245	12	0.7	2.1	<0.01	0.18	4.61	2.0	5.5	<1											0.6
960722	202.0	3.54	6	3	415	230	12	0.7	2.0	<0.01	0.10	1.47	2.0	3.6	<1	0.98	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.6
960813	53.1	3.92	6	1	455	225	29	0.8	2.1	<0.01	0.16	1.78	1.7		2.5											0.5
960916	148.8	3.83	4	1	445	235	27	1.0	2.4	0.03	0.12	1.35	2.0		1											0.5
961017	196.6	3.99	5	2	460	275	33	0.9	3.4	<0.01	0.19	1.02	2.2		<1	0.73	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.24	<0.5	0.7
961118	231.7	4.34	8	3	830	630	21	1.2	5.4	<0.01	0.33	3.36	2.7		1											0.7
961213	287.0	4.03	4	2	510	365	16	1.1	4.1	0.06	0.13	0.97	2.4		<1											0.8
Min:	53.1	2.93	3	1	250	220	3	0.7	1.8	0.01	0.05	0.93	1.7	2.9	1	0.72	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.24	0.5	0.5
Max:	414.5	4.34	15	6	830	630	33	1.2	5.4	0.06	0.42	6.76	2.8	5.5	2.5	0.98	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.24	0.5	0.9
Aver.:	265.0	3.54	5.8	1.7	438	275	15.4	0.91	2.81	0.02	0.17	2.09	2.18	3.50	1.15	0.83	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.24	0.50	0.67
St.dev.:	65.6	0.37	2.1	1.1	97	82	7.0	0.17	0.98	0.02	0.10	1.22	0.28	0.56	0.40	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.12
Numb.:	29	22	29	28	29	29	29	19	19	19	19	29	20	20	20	6	6	6	6	6	6	6	6	1	1	19

Table 7.3 Measured concentrations - 1996

Watercourse : Numedalslågen

Annual flow . . . . : 2555 mill.cbm Min : 18.7 cbm/s

Draining area . . : 5513 km² Max: 238 cbm/s

																	PCB(The following Congeners) IUPAC NOS									
	Q	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	SiO2	TOC	Hg	HCH	28	52	101	118	138	153	180	As	Cr-T	Ni
	m³/s	mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	mg/l	mg/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	µg/l	µg/l	µg/l
960111	93.2	2.09	6	4	310	150	48	0.6	3.2	0.02	0.24	2.58	1.9		3.0											0.5
960213	76.6	1.93	4	2	210	89	37	1.0	2.7	<0.01	0.19	1.60	1.8		1.5	0.87	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.4
960313	61.7	2.18	6	2	265	118	50	0.4	2.0	<0.01	0.10	1.65	1.8		<1											0.4
960418	119.9	3.66	24	14	710	510	38	2.1	6.1	0.02	0.50	19.3	3.1		<1											0.6
960515	153	2.81	13	2	475	250	8	0.8	4.4	0.01	0.30	4.41	2.6		2.0											0.5
960617	98.8	2.35	12	2	300	104	7	0.9	3.0	0.09	0.26	1.52	1.1		2.0	0.91	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.7
960717	62.6	2.60	4	1	275	86	9	0.7	1.6	0.03	0.11	1.69	0.9		3.5											0.5
960815	47.1	2.62	5	1	255	90	18	1.6	1.8	0.01	0.13	1.90	0.42		6.0											0.2
960917	41.3	3.59	6	2	495	255	30	1.0	3.7	<0.01	0.18	1.36	2.4		2.0											0.5
961014	38.1	4.40	8	3	550	300	47	2.3	7.6	0.02	0.46	1.73	3.2		3.0	0.51	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.1	<0.5	0.8
961115	57.2	3.73	13	4	565	340	47	1.4	6.9	0.01	0.36	2.99	3.8		2.5											0.6
961210	45.5	5.49	16	8	965	715	64	1.5	9.2	0.02	0.31	6.43	5.0	3.4	2.0											1.1
Min:	38.1	1.93	4	1	210	86	7	0.4	1.6	0.01	0.1	1.36	0.42	3.4	1	0.51	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.1	0.5	0.2
Max:	153	5.49	24	14	965	715	64	2.3	9.2	0.09	0.5	19.3	5	3.4	6	0.91	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.1	0.5	1.1
Aver.:	74.6	3.12	9.8	3.8	448	251	33.6	1.19	4.35	0.02	0.26	3.93	2.34	3.40	2.46	0.76	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.10	0.50	0.57
St.dev.:	35.4	1.07	6.0	3.7	226	196	19.1	0.59	2.51	0.02	0.13	5.07	1.30		1.36	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.23
Numb.:	12	12	12	12	12	12	12	12	12	12	12	12	12	1	12	3	3	3	3	3	3	3	3	1	1	12

Table 7.4 Measured concentrations - 1996

Watercourse : Skienselva

Annual flow . . . . : 5374 mill.cbm Min : 50 cbm/s

Draining area . . : 10348 km² Max: 370 cbm/s

																	PCB(The following Congeners) IUPAC NOS									
	Q	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	SiO2	TOC	Hg	HCH	28	52	101	118	138	153	180	As	Cr-T	Ni
	m³/s	mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	mg/l	mg/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	µg/l	µg/l	µg/l
960117	204	1.96	3	1.00	350	225	12	0.5	2.3	0.02	0.11	0.61	2.0		<1											0.3
960214	264	1.97	2	1.00	295	250	7	0.9	2.3	<0.01	0.06	0.39	2.0		<1	0.72	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.4
960313	181	1.87	2	0.83	280	200	12	0.3	2.1	0.02	0.05	1.23	2.0		<1											0.3
960411	115	2.10	3	0.83	305	230	10	3.7	4.4	0.09	0.19	0.54	2.0		3											0.3
960513	145	2.20	5	2.00	385	235	12	0.9	6.1	0.33	0.17	0.91	2		<1											0.4
960612	92	2.14	3	1.00	350	220	3	0.5	2.0	0.05	0.04	0.60	1.9		<1	0.88	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.6
960717	50	2.01	3	0.58	285	165	9	0.3	1.6	<0.01	0.04	1.33	1.6		3											0.3
960814	53	2.06	3	0.52	330	165	24	1.1	1.7	<0.01	0.21	0.99	1.5		5											0.3
960917	118	2.01	3	<0.5	225	160	23	3.2	2.5	0.01	0.06	0.78	1.4		2											0.3
961016	184	2.06	4	0.87	325	190	20	6.7	5.0	0.05	0.14	0.67	1.7		1.5	0.9	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.1	<0.5	0.6
961113	188	2.13	3	0.99	325	220	51	0.5	4.6	0.01	0.14	0.80	1.7		<1											0.4
961205	238	2.53	6	3.00	410	295	15	2.9	3.4	0.01	0.14	1.99	1.9	2.2	<1											0.5
Min:	50	1.87	2	0.5	225	160	3	0.3	1.6	0.01	0.04	0.39	1.4	2.2	1	0.72	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.1	0.5	0.3
Max:	264	2.53	6	3	410	295	51	6.7	6.1	0.33	0.21	1.99	2	2.2	5	0.9	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.1	0.5	0.6
Aver.:	152.7	2.09	3.3	1.1	322	213	16.5	1.79	3.17	0.05	0.11	0.90	1.81	2.20	1.79	0.83	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.10	0.50	0.39
St.dev.:	68.9	0.17	1.2	0.7	49	40	12.6	1.96	1.50	0.09	0.06	0.44	0.22		1.27	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.12
Numb.:	12	12	12	12	12	12	12	12	12	12	12	12	12	1	12	3	3	3	3	3	3	3	3	1	1	12

Table 7.5 Measured concentrations - 1996

Watercourse : Otra

Annual flow . . . . : 3274 mill.cbm Min : 50.3 cbm/s

Draining area . . : 3730 km² Max: 220 cbm/s

																	PCB(The following Congeners) IUPAC NOS									
	Q	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	SiO2	TOC	Hg	HCH	28	52	101	118	138	153	180	As	Cr-T	Ni
	m³/s	mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	mg/l	mg/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	µg/l	µg/l	µg/l
960117	129.7	1.93	5	3.00	325	195	34	0.6	6.3	0.04	1.75	1.13	1.8	2.1	3.0											0.5
960214	107.8	1.57	2	0.58	235	160	20	0.4	2.8	0.02	0.13	0.79	1.5	1.5	<1											0.3
960312	117.8	1.58	3	0.50	215	148	15	0.4	2.9	0.02	0.12	0.62	1.3	1.4	<1	1.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.4
960416	118.0	2.26	5	0.91	400	245	33	0.4	5.7	0.05	0.26	0.80	1.8	3.1	1.5											0.5
960513	125.9	1.91	3	0.73	265	155	12	0.5	4.2	0.02	0.25	1.01	1.5	2.3	<1											1.2
960612	93.6	1.73	3	0.80	245	132	<3	0.5	3.1	0.06	0.23	1.42	1.2	1.9	<1	1.11	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			1.1
960718	50.8	1.62	5	1.00	235	119	<3	0.5	2.7	<0.01	0.13	0.86	0.83	2.1	3.0											0.7
960814	51.2	1.63	3	0.63	235	131	<3	0.5	2.5	<0.01	0.15	1.09	0.84	2.0	<1											0.4
960918	67.4	1.68	3	0.75	260	141	3	0.4	3.0	0.02	0.10	1.12	1.1	2.3	2.5											1.3
961014	69.0	2.15	7	0.87	305	155	18	0.6	5.6	0.02	0.32	1.08	1.5	3.5	1.5	1.15	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	<0.5	0.8
961113	159.5	1.95	3	1.00	285	160	21	0.7	5.5	0.04	0.48	0.91	1.8	2.8	<1											1.9
961211	134.0	1.89	5	0.74	275	190	23	0.5	6.00	<0.01	0.20	0.92	1.6	2.2	3.5											1.1
Min:	50.8	1.57	2	0.5	215	119	3	0.4	2.5	0.01	0.1	0.62	0.83	1.4	1	1.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.1	0.5	0.3
Max:	159.5	2.26	7	3	400	245	34	0.7	6.3	0.06	1.75	1.42	1.8	3.5	3.5	1.15	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.1	0.5	1.9
Aver.:	102.1	1.83	3.9	1.0	273	161	15.7	0.50	4.19	0.03	0.34	0.98	1.40	2.27	1.75	1.10	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.10	0.50	0.85
St.dev.:	35.4	0.23	1.4	0.7	51	35	11.3	0.10	1.51	0.02	0.46	0.21	0.35	0.61	0.97	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.48
Numb.:	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	3	3	3	3	3	3	3	3	1	1	12

Table 7.6 Measured concentrations - 1996

Watercourse : Orreelva

Annual flow . . . . : 80.5 mill.cbm Min : 0.23 cbm/s

Draining area . . : 105 km² Max: 15.9 cbm/s

																	PCB(The following Congeners) IUPAC NOS									
	Q	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	SiO2	TOC	Hg	HCH	28	52	101	118	138	153	180	As	Cr-T	Ni
	m³/s	mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	mg/l	mg/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	µg/l	µg/l	µg/l
960115	1.943	19.0	25	11	2030	1330	182	1.4	1.8	<0.01	0.15	1.47			1.5											1.9
960212	0.543	20.8	30	10	2160	1575	95	1.8	2.1	<0.01	0.16	2.94			<1											2.1
960311	1.663	18.12	38	8	2080	1505	27	1.4	3.0	0.01	0.10	3.99			<1	0.81	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			1.9
960415	1.120	19.0	27	3	1370	895	18	1.2	0.4	<0.01	0.06	4.00			<1											1.7
960513	1.260	21.0	24	2	775	280	27	1.2	0.5	<0.01	0.09	2.57			<1											1.8
960610	1.348	20.1	29	3	675	72	57	5.3	2.8	0.02	0.18	2.60			1	3.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			7.5
960716	0.963	20.1	28	2	690	0.8	9	1.2	0.5	0.03	0.09	7.34			3											2.1
960812	0.508	18.5	36	3	880	133	31	1.2	0.5	<0.01	0.07	0.63			<1											1.8
960916	0.700	19.2	26	2	610	8	24	1	0.4	<0.01	0.07	3.59			<1											1.5
961014	6.493	17.9	48	7	1350	740	14	1.7	2.0	<0.01	0.22	5.57			1	0.69	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.35	<0.5	1.9
961111	14.25	17.5	84	26	2400	1625	62	2.3	4.1	0.03	0.6	9.79			1											2.0
961202	4.218	16.8	60	15	2435	1820	39	2.6	5.7	<0.01	0.22	4.34	3.2	5.5	1											2.7
Min:	0.508	16.8	24	2	610	0.8	9	1	0.4	0.01	0.06	0.63	3.2	5.5	1	0.69	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.35	0.5	1.5
Max:	14.25	21	84	26	2435	1820	182	5.3	5.7	0.03	0.6	9.79	3.2	5.5	3	3.05	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.35	0.5	7.5
Aver.:	2.9	19.00	37.9	7.7	1455	832	48.8	1.86	1.98	0.01	0.17	4.07	3.20	5.50	1.21	1.52	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.35	0.50	2.41
St.dev.:	4.0	1.32	18.0	7.2	726	714	48.5	1.19	1.70	0.01	0.15	2.53			0.58	1.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00			1.63
Numb.:	12	12	12	12	12	12	12	12	12	12	12	12	1	1	12	3	3	3	3	3	3	3	3	1	1	12

Table 7.7 Measured concentrations - 1996

Watercourse : Suldalslågen

Annual flow . . . . : 1659 mill.cbm Min : 11.9 cbm/s

Draining area . . : 1457 km² Max: 223 cbm/s

	Q	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	SiO2	TOC	Hg	HCH	PCB(The following Congeners) IUPAC NOS							As	Cr-T	Ni
																	28	52	101	118	138	153	180			
	m³/s	mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	mg/l	mg/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	µg/l	µg/l	µg/l
960212	11.9	1.77	1	<0.5	295	250	5	0.4	1.4	0.01	0.03	0.45			<1	0.95	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.2
960610	151.5	1.58	2	<0.5	255	190	17	0.8	1.7	0.02	0.16	1.36			1											0.4
960813	75.0	1.43	1	<0.5	245	190	3	0.6	1.1	<0.01	0.13	0.65			1											<0.2
961014	70.9	1.61	3	<0.5	290	220	<3	0.6	2.0	<0.01	0.14	0.40	0.94	0.5	1	0.93	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.13	<0.5	0.3
Min:	11.9	1.43	1	0.5	245	190	3	0.4	1.1	0.01	0.03	0.4	0.94	0.5	1	0.93	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.13	0.5	0.2
Max:	151.5	1.77	3	0.5	295	250	17	0.8	2	0.02	0.16	1.36	0.94	0.5	1	0.95	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.13	0.5	0.4
Aver.:	77.3	1.60	1.8	0.5	271	213	7.0	0.60	1.55	0.01	0.12	0.72	0.94	0.50	1.00	0.94	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.13	0.50	0.28
St.dev.:	57.2	0.14	1.0	0.0	25	29	6.7	0.16	0.39	0.01	0.06	0.44			0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.10
Numb.:	4	4	4	4	4	4	4	4	4	4	4	4	1	1	4	2	2	2	2	2	2	2	2	1	1	4

Table 7.8 Measured concentrations - 1996

Watercourse : Orkla

Annual flow . . . . : 1481 mill.cbm Min : 11 cbm/s

Draining area . . : 2872 km² Max: 330 cbm/s

																	PCB(The following Congeners) IUPAC NOS									
	Q	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	SiO2	TOC	Hg	HCH	28	52	101	118	138	153	180	As	Cr-T	Ni
	m³/s	mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	mg/l	mg/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	µg/l	µg/l	µg/l
960111	63.7	5.27	4.0	2.0	250	148	14	3.8	14.0	0.03	0.05	1.84		1.9	<1									0.2	<0.5	1.0
960212	45.8		3.0	0.9	215	119	14	3.5	9.2	<0.01	0.03	0.69		2.1	<1									0.1	<0.5	0.9
960304	43.1		4.0	1.0	250	138	32	3.9	13.9	0.06	0.04	1.01			1.5	0.44	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			1.0
960318	28.7	5.90	4.5	1.5	246			5.9	17.5	0.04	0.11			2.6										<0.1	<0.5	0.8
960414	13.5	9.76	7.0	2.0	555	415	3	11.9	39.0	0.09	0.03	1.02		3.1	<1									0.1	<0.5	1.3
960502	36.3	6.46	5.0	1.0	355	190	6	16.8	47.3	0.12	0.08	6.46			1.5											1.4
960520	76.0	4.40						11.0	20.3	0.01	0.03			5.0										0.3	11.9	5.6
960605	61.7	3.33	3.0	0.7	195	77	10	4.6	8.4	0.03	0.03	1.27			1.0											1.2
960617	32.8	5.20	4.1	0.8	240			4.8	8.5	0.05	0.02			2.6		0.17	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.2	1.3	1.4
960715	55.8	4.60	3.0	0.9	235	98	6	4.9	12.0	<0.01	0.12	1.51		1.7	3.5									0.1	<0.5	0.9
960808	34.6	5.87	3.0	0.7	265	127	<3	8.2	15.9	0.07	0.03	0.83			3.5											1.3
960815	20.4	6.60						7.0	15.8	0.03	0.08			1.7										0.1	<0.5	1.3
960916	19.9	7.05	5.0	0.7	225	160	<3	7.0	15.1	0.03	0.08	0.52	2.6	3.9	<1									0.1	<0.5	1.3
961014	19.1	6.84	3.0	0.7	290	148	<3	7.3	26.3	0.10	0.03	0.80	2.7	2.7	1.0	0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.1	<0.5	0.9
961114	76.6	9.40						9.6	40.3	0.10	0.05			2.7										0.2	<0.5	1.2
961125	31.8	5.30	8.0	5.0	270	155	16	7.1	29.5	0.08	0.05	1.16			<1											1.1
961209	36.8	5.28	3.0	0.7	260	155	15	6.0	23.8	<0.01	0.04	0.75		2.8	<1									<0.1	<0.5	1.1
Min:	13.5	3.33	3	0.7	195	77	3	3.5	8.4	0.01	0.02	0.52	2.6	1.7	1	0.14	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.1	0.5	0.8
Max:	76.6	9.76	8	5	555	415	32	16.8	47.3	0.12	0.12	6.46	2.7	5	3.5	0.44	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.3	11.9	5.6
Aver.:	41.0	6.08	4.3	1.3	275	161	10.4	7.25	20.99	0.05	0.05	1.49	2.65	2.73	1.50	0.25	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.14	1.52	1.39
St.dev.:	19.6	1.73	1.6	1.2	89	85	8.5	3.47	11.81	0.04	0.03	1.61	0.07	0.95	0.95	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	3.28	1.10
Numb.:	17	15	14	14	14	12	12	17	17	17	17	12	2	12	12	3	3	3	3	3	3	3	3	12	12	17

Table 7.9 Measured concentrations - 1996

Watercourse : Vefsna

Annual flow . . . . : 4662 mill.cbm Min : 31.5 cbm/s

Draining area . . : 4113 km² Max: 1079 cbm/s

																	PCB(The following Congeners) IUPAC NOS									
	Q	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	SiO2	TOC	Hg	HCH	28	52	101	118	138	153	180	As	Cr-T	Ni
	m³/s	mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	mg/l	mg/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	µg/l	µg/l	µg/l
960115	40.5	8.50	7	4	675	142	38	10.9	26.0	0.03	6.26	2.26			1.5											1.2
960214	42.0	9.71	12	10	850	200	44	21.3	41.8	0.08	12.8	4.24			56											2.5
960318	34.6	11.20	5	3	570	195	32	4.6	15.9	0.02	0.59	1.11			<1	0.26	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			1.0
960415	43.3	6.33	11	4	720	195	41	16	39.0	0.06	10.50	5.81			7.5											1.2
960513	179.8	7.15	7	2	200	42	<3	1.5	1.1	<0.01	0.10	7.93			1.0											0.7
960610	811.5	3.45	8	4	325	54	17	4.1	11.2	0.03	0.50	5.17			1.0	1.17	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.9
960715	184.4	3.10	3	0.72	116	32	<3	5.1	10.4	0.05	0.03	1.86			3.0											0.9
960812	122.1	3.67	2	<0.5	235	31	12	2.6	4.1	0.01	0.24	0.65			<1											0.4
960916	65.5	5.73	7	4	92	66	22	11.1	10.1	0.02	0.10	0.89	1.1		2.0											1.2
961021	146.8	6.05	5	2	240	80	9	8.0	11.0	0.02	0.81	10.00	1.5		1.5	0.20	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.1	<0.5	1.1
961111	68.0	7.88	2	1	400	270	6	1.7	1.6	<0.01	0.08	0.67			<1											0.6
961209	61.8	6.35	6	1	300	101	10	4.1	2.2	0.01	3.38	1.44		3.5	1.5											0.8
Min:	34.6	3.1	2	0.5	92	31	3	1.5	1.1	0.01	0.03	0.65	1.1	3.5	1	0.2	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.1	0.5	0.4
Max:	811.5	11.2	12	10	850	270	44	21.3	41.8	0.08	12.8	10	1.5	3.5	56	1.17	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.1	0.5	2.5
Aver.:	150.0	6.59	6.3	3.0	394	117	19.8	7.58	14.53	0.03	2.95	3.50	1.30	3.50	6.50	0.54	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.10	0.50	1.04
St.dev.:	215.4	2.49	3.2	2.6	251	81	15.2	6.17	13.96	0.02	4.49	3.13	0.28		15.70	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.52
Numb.:	12	12	12	12	12	12	12	12	12	12	12	12	2	1	12	3	3	3	3	3	3	3	3	1	1	12

Table 7.10 Measured concentrations - 1996

Watercourse : Altaelva

Annual flow . . . . : 2631 mill.cbm Min : 18.5 cbm/s

Draining area . . : 7367 km² Max: 822 cbm/s

																	PCB(The following Congeners) IUPAC NOS									
	Q	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	SiO2	TOC	Hg	HCH	28	52	101	118	138	153	180	As	Cr-T	Ni
	m³/s	mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	mg/l	mg/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	µg/l	µg/l	µg/l
960409	32.2	21.9	13	12	138	65	<3	0.6	0.2	<0.01	0.02	0.53			1	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.6
960610	765.0	4.60	32	9	265	34	7	2.5	1.6	<0.01	1.00	36.6			2											1.6
960820	43.6	11.5	5	0.95	143	26	<3	1.3	0.2	<0.01	0.05	0.74			<1											0.5
961016	48.1	27.9	23	15	104	5	2	1.3	1.1	0.06	0.13	2.43	4.7	3.5	<1	0.18	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.67	<0.5	0.6
Min:	32.2	4.6	5	0.95	104	5	2	0.6	0.2	0.01	0.02	0.53	4.7	3.5	1	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.67	0.5	0.5
Max:	765	27.9	32	15	265	65	7	2.5	1.6	0.06	1	36.6	4.7	3.5	2	0.18	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.67	0.5	1.6
Aver.:	222.2	16.5	18.3	9.2	163	33	3.8	1.43	0.78	0.02	0.30	10.1	4.7	3.5	1.3	0.11	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.67	0.5	0.83
St.dev.:	361.9	10.4	11.8	6.0	70.5	25	2.2	0.79	0.69	0.03	0.47	17.7			0.5	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.52
Numb.:	4	4	4	4	4	4	4	4	4	4	4	4	1	1	4	2	2	2	2	2	2	2	2	1	1	4

APPENDIX VIII : TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996 **Page:**

(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 1996.

County	Watercourse	Runoff data							Parameters (mean values)											
		Drainage area			Discharge															
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station													
					Normal	1996	Normal	1996	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	Hg
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	ng/l
Østfold	Tista, Iddefj.	1588	1582	1582	14.4	11.6	14.4	11.6	6.01	12	1.0	974	675	20	1.60	2.70	0.04	0.15	1.74	<1
(1.)	Mosselva, Mossesundet	690	689	689	14.5	11.7	14.5	11.7	9.81	28	13	929	300	64	2.70	10.7	0.01	1.09	12.20	2.5
Oslo &	Hølenelva, Drøbaksundet Ø	137	121		14.0	11.2			22.3	98	50	7200	6700	72	3.80	17.8	0.08	2.41	46.3	4.0
Akershus	Årungelva, I. Oslofj.	52	50		13.0	10.4			26.1	171	14	3070	940	30	1.80	0.90	<.01	0.12	23.40	<1
(1.)	Gjersjøelva, I. Oslofj.	86	85	85	14.0	5.6		5.6	18.2	10	2.0	1688	1200	21	2.00	1.70	0.07	0.26	1.33	<1
	Ljanselva, I. Oslofj.	42	41	41	13.0	8.0		8.0	32.8	89	57	3000	1080	100	7.60	19.7	0.14	0.99	13.1	4.0
	Loelva/Alna, I. Oslofj.	75	69	69	13.0	17.8		17.8	32.0	139	47	3450	3020	246	3.80	12.2	0.03	2.33	30.4	2.0
	Akerselva, I. Oslofj.	227	225	225	17.5	3.7		3.7	10.5	34	6.0	850	390	38	2.10	8.40	0.02	0.87	2.54	4.0
	Frognerelva, I. Oslofj.	23	20	20	15.0	20.1		20.1	22.0	72	40	1580	1520	34	6.70	15.6	0.05	1.27	12.4	4.0
	Lysakerelva, I. Oslofj.	178	173	173	16.8	16.6	16.8	16.6	9.50	23	9.0	740	620	27	3.90	5.20	0.03	0.25	3.04	2.0
	Sandvikselva, I. Oslofj.	223	187	187	18.4	18.2	18.4		18.7	30	10	1330	705	18	1.20	3.80	0.02	0.20	0.86	1.5
	Åroselva, I. Oslofj.	113	109	109	17.0	16.9	17.0		14.7	31	15	2280	1925	72	2.10	9.50	0.02	1.92	11.5	2.5
Buskerud	Lierelva, Drammensfj. Ø	309	266	222	18.6	16.4	18.6	16.4	18.9	32	23	2190	2025	48	2.50	29.5	0.08	0.92	24.0	1.5
(2.)																				
Vestfold	Sandeelva, Sandebukta	193	190		17.0	14.5	17.0		13.7	31	20	1950	1525	223	2.50	110.1	0.16	1.33	9.32	1.5
(3.)	Aulielva, Tønsbergfj.	363	362	362	14.9	13.8	14.9	13.8	20.4	93	79	3030	2330	210	1.90	10.1	0.04	0.45	14.3	3.0
	Farriselva, Larvikfj.	491	491	491	21.6	20.5	21.6		3.72	4.4	0.94	540	370	11	2.70	15.4	0.17	0.31	1.10	<1
Telemark	Tokkeelva, Kragerø	1238	1200	1200	26.7	15.9	26.7	15.9	2.77	3.0	0.62	410	250	15	0.50	7.00	0.09	0.21	1.35	1.0
(4.)																				
Aust-	Gjerstadelva, Søndeledfj.	419	414	291	27.0	18.5	27.0	18.5	3.32	7.0	1.0	566	325	50	0.80	8.60	0.04	0.44	1.77	1.5
Agder	Vegårdselva, Sandnesfj.	457	429	291	29.3	18.9	29.3	18.9	3.75	9.0	1.0	420	231	30	0.80	2.60	0.06	0.49	1.54	1.5
(5.)	Nidelva, Arendal	4025	4020	3956	29.8	19.3	29.8	19.3	1.89	6.0	1.0	337	201	35	2.00	12.4	0.11	1.24	1.76	1.0

Table 8.1 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996.

County	Watercourse	Runoff data							Parameters (mean values)										
		Drainage area			Discharge														
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station												
					Normal	1996	Normal	1996											
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		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	Hg ng/l
Vest-	Tovdalselva, Topdalsfj.	1856	1854	1794	33.9	28.8	33.9		2.25	5.0	1.0	438	204	41	0.70	12.8	0.09	0.76	1.77	1.5
Agder	Søgneelva, Flekkerøy	204	192	192	38.0	34.2	38.0		5.86	16	2.0	720	620	38	0.80	21.8	0.12	0.79	1.55	1.5
(5.)	Mandalselva, Mannefj.	1809	1800	1740	46.0	41.4	47.6		1.89	10	3.0	369	196	37	2.20	21.2	0.13	1.99	2.33	2.0
	Audna, Sniksfj.	450	400	59	45.0	29.7	51.8	34.8	4.89	8.0	2.0	550	360	41	0.50	13.8	0.09	0.76	1.55	2.0
(6.)	Lygna, Lyngdalsfj.	664	660	266	48.0	31.7	57.9	38.2	3.03	6.0	2.0	476	296	35	0.40	15.2	0.08	0.78	1.61	1.5
	Kvina, Fedafj.	1445	1140	1140	57.6	40.3	57.6		3.20	6.0	2.0	422	219	26	0.50	10.3	0.02	0.68	1.07	2.0
	Sira, Åna-Sira	1916	1872	1872	59.4	41.6	59.4		2.11	3.0	0.50	310	220	32	0.40	5.10	0.04	0.46	0.67	1.0
Rogaland	Sokndalselva, Sogndalsstr.	294	293	107	51.1	39.1	51.1	39.1	4.28	8.0	6.0	470	345	29	0.50	11.5	0.08	0.59	1.37	1.5
(6.)	Hellelandselva, Egersund	241	240	194	57.5	46.4	71.1	57.3	3.13	7.0	2.0	550	410	9.0	0.40	5.90	0.03	0.46	0.87	1.5
	Bjerkreimselva, Egersund	705	704	633	77.7	42.0	86.4	46.7	3.67	3.0	0.87	526	434	11	0.20	3.50	0.01	0.31	0.59	1.5
	Håelva, Håtangen	165	160	135	46.9	35.6	46.9	35.6	9.59	42	17	1941	1370	65	0.90	5.60	0.03	0.21	2.86	1.5
	Figgjo, Solavika	229	218	135	50.0	36.5	50.0		9.84	20	10	1740	1260	82	0.80	6.40	0.03	0.79	1.81	<1
	Ims-Lutsi. Høgsfj.Boknafj.	127	127	127	34.9	25.8	34.9		16.5	6.0	0.80	815	570	15	0.50	2.60	<.01	0.18	0.84	1.0
	Oltedalse.,Høgsfj.Boknafj.	102	101	129	70.0	51.8	70.0		3.60	3.0	0.73	485	345	23	0.60	4.70	0.02	0.18	0.78	<1
	Dirdalse., Høgsfj.Boknafj.	158	158	95	83.0	62.3	83.0		2.10	2.0	0.50	493	368	6.0	0.40	3.70	0.01	0.29	0.37	1.0
	Frafjorde.,Frafj. Boknafj.	178	178	124	94.4	71.4	94.4		1.96	1.0	0.50	265	190	3.0	0.40	2.60	0.01	0.30	0.17	1.0
	Espedalse.,Høgsfj.Boknafj.	138	138	124	90.0	67.5	90.0		2.59	10	0.50	393	292	4.5	0.20	2.30	0.01	0.21	0.47	1.0
	Lysee., Lysefj.Boknafj.	182	182	46	74.0	57.0	74.0		2.28	3.0	1.0	390	293	9.0	0.20	2.90	0.01	0.23	0.51	<1
	Årdalse., Årdalsfj.Boknafj.	519	516	501	81.4	64.3	81.4		2.36	2.0	0.50	283	199	4.5	0.30	3.50	<.01	0.26	0.42	1.0
	Førree., Jøsenfj.Boknafj.	163	163	163	85.8	68.6	85.8		2.30	3.0	0.50	252	249	7.0	0.30	0.90	0.01	0.20	0.18	1.0
	Ulla, Jøsenfj.Boknafj.	393	393	385	83.4	66.7	83.4		1.88	3.0	0.56	220	86	3.0	0.40	4.60	<.01	0.34	0.84	1.5
(7.)	Saudae., Saudafj.Boknafj.	353	353		85.0	68.0	85.0		2.04	3.0	0.50	520	445	3.0	1.50	27.0	0.06	0.14	0.31	1.5
	Åbøelva, Saudafj.Boknafj.	82	82		85.0	76.5	85.0		1.39	2.0	1.0	185	139	3.0	0.30	2.90	<.01	0.22	0.42	<1
	Vikedalse., Boknafj.	118	117		80.0	61.3	80.0	61.3	2.10	3.0	0.83	253	180	9.0	0.70	3.50	0.03	0.32	1.14	<1

Table 8.1 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996.

County	Watercourse	Runoff data							Parameters (mean values)											
		Drainage area			Discharge															
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station													
					Normal	1996	Normal	1996												
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		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	Hg ng/l
Hordaland	Etneelva, Etnefj. Bømlafj.	252	250	127	48.8	32.5	96.0	63.9	2.50	3.0	0.83	490	435	4.5	0.50	2.70	0.02	0.11	1.20	2.5
(7.)	Opo, Sørfj. Hardangerfj.	482	480	464	79.3	57.6	79.3	57.6	1.36	4.0	1.6	343	148	9.0	0.50	4.50	0.03	0.33	1.53	<1
	Tysso, Sørfj. Hardangerfj.	388	385	407	79.3	57.6	79.3		2.01	1.0	0.50	208	134	3.0	1.10	8.10	0.04	0.15	0.32	2.0
	Kinso, Sørfj. Hardangerfj.	281	281	232	46.0	34.2	46.0	34.2	1.71	1.0	0.50	129	84	3.0	0.30	1.20	0.02	0.05	0.40	1.0
	Veig, Eidfjv. Hardangerfj.	496	496	386	41.8	20.2	41.8	20.2	2.04	2.0	0.69	180	107	3.0	0.50	2.10	0.02	0.05	0.56	1.0
	Bjoreia, " , Hardangerfj.	592	592	592	26.0	7.7	26.0	7.7	2.04	2.0	0.69	180	107	3.0	0.50	2.10	0.02	0.05	0.56	1.0
	Sima, Eidfj. Hardangerfj.	145	145	128	69.2	68.0	69.2		2.07	1.0	0.56	270	225	3.0	0.50	1.30	<.01	0.08	0.37	1.0
	Austdøla, Osafj. Eidfj.	131	130	89	74.6	53.7	74.6		0.89	2.0	0.50	160	120	3.0	0.30	1.40	0.01	0.08	0.14	1.5
	Norddøla, Osafj. Eidfj.	40	39	89	74.6	53.7	74.6		4.32	0.8	0.50	220	195	3.0	0.20	1.10	<.01	0.07	0.93	<1
	Tysseelva, Fusafj.	240	240		85.0	60.4	85.0		1.44	6.0	0.56	260	120	8.0	0.70	4.20	0.02	0.42	0.62	1.5
	Oselva, Fusafj.	109	108	50	91.7	65.6	91.7	65.6	3.04	15	7.0	447	178	5.0	0.90	4.00	0.02	0.35	1.01	<1
	Bergsdalse, Veafj.Herdlafj.	198	198		80.0	58.4	80.0		1.53	5.0	0.87	270	134	8.0	0.80	3.80	0.02	0.28	0.66	1.0
	Vosso, Veafj. Sørfj.	1492	1465	1102	58.2	40.8	58.2	40.8	1.45	3.0	0.83	290	165	15	0.50	3.10	0.01	0.11	0.93	1.0
	Ekso, Osterfj.	414	400	342	86.2	61.2	86.2		1.49	3.0	0.57	309	207	3.0	0.40	3.60	0.01	0.18	0.41	1.0
	Modalselva, Osterfj.	385	384	248	95.5	67.8	95.5		1.52	3.0	0.64	259	192	6.0	0.40	2.70	0.01	0.19	0.47	<1

Table 8.1 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996.

County	Watercourse	Runoff data							Parameters (mean values)											
		Drainage area			Discharge															
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station		Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	Hg
					Normal	1996	Normal	1996												
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	ng/l
Sogn og Fjordane (7.)	Nærøye., Aurl.fj. Sognefj.	290	290	267	59.5	41.4	59.5		1.35	4.0	0.69	220	170	3.0	0.40	1.40	<.01	0.06	0.44	<1
	Flåmse., Aurl.fj. Sognefj.	280	275	275	52.4	50.7	52.4	50.7	1.15	2.0	0.94	155	108	3.0	0.40	1.50	0.03	0.12	1.73	1.0
	Aurlandv. Aurl.fj. Sognefj.	800	799	762	48.6	35.0	48.6		1.50	1.0	0.50	270	210	18	0.30	1.50	<.01	0.06	0.44	<1
	Erdalse., Lærd.fj. Sognefj.	138	138		30.0	21.3	30.0		1.10	2.0	0.73	155	111	3.0	0.30	0.80	<.01	0.05	0.40	<1
	Lærdalsv. Lærd.fj. Sognefj.	1184	1172	1172	30.0	15.0	30.0	15.0	1.78	4.0	0.62	230	155	6.0	0.50	2.50	0.01	0.07	0.68	<1
	Årdalsv., Årdalsfj.Sognefj.	989	989	989	44.9	32.4	44.9	32.4	1.12	2.0	0.80	144	91	11	1.00	1.80	0.01	0.06	0.39	<1
	Fortunv., Lusterfj.Sognefj.	508	508	367	51.0	37.2	51.0		1.05	3.0	1.0	190	128	6.0	0.90	4.00	0.01	0.24	3.05	<1
	Mørkrisv., Lusterfj.Sognefj.	282	282	203	54.7	45.7	54.7	45.7	0.89	2.0	1.0	155	117	3.0	0.50	1.40	<.01	0.13	3.81	<1
	Jostedøla, " Sognefj.	865	864	573	68.0	45.1	68.0	45.1	1.19	14	13	155	110	3.0	1.40	4.80	<.01	0.50	18.8	<1
	Årøye., Sognd.fj. Sognefj.	449	446	384	77.2	56.4	77.2		1.35	6.0	0.97	155	87	8.0	0.70	1.60	<.01	0.08	2.41	<1
	Sogndalse, " Sognefj.	175	172	111	66.1	50.0	66.1	50.0	1.28	5.0	2.0	200	116	6.0	0.40	1.50	0.02	0.07	1.02	<1
	Gaular, Dalsfj. Bufj.	627	625	505	79.3	55.7	79.3	55.7	1.16	5.0	1.0	219	115	4.5	0.30	2.50	<.01	0.31	1.04	1.0
	Jølstra, Førdefj.	714	709	384	74.3	52.8	74.3		1.76	6.4	3.0	326	215	12	0.50	4.10	0.02	0.16	2.20	1.0
	Nausta, Førdefj.	277	273	232	81.7	49.0	81.7	49.0	1.34	8.0	3.0	212	105	11	0.40	2.40	<.01	0.23	1.35	1.5
	Oselva, Høydalsfj.	287	285	225	78.7	55.1	78.7		1.88	5.0	0.87	195	69	14	0.30	2.00	0.02	0.18	0.66	1.5
	Hopse., Hyefj. Nordfj.S	73	73	161	75.0	46.2	75.0		1.02	4.0	0.56	205	140	8.0	0.30	1.40	0.02	0.21	1.01	1.0
	Gjengedalse.," Nordfj.S	170	168	161	75.0	46.2	75.0	46.2	1.19	4.0	0.66	220	117	8.0	0.30	1.60	<.01	0.15	1.01	1.0
	Breimse., Gloppenfj. "	636	634	585	68.0	51.6	68.8		1.73	9.5	0.59	348	133	6.0	0.30	1.00	<.01	0.05	1.09	<1
	Oldene., Indre Nordfj.	226	225	214	70.1	70.8	70.1	70.8	1.68	4.0	0.76	248	180	9.0	0.30	6.50	<.01	0.08	1.37	<1
	Loenelva, Indre Nordfj.	261	260	234	65.0	59.6	65.0	59.6	1.85	6.3	0.80	183	103	3.0	0.40	6.50	<.01	0.24	1.58	<1
	Strynee., Indre Nordfj.	532	530	493	60.2	62.0	60.2		1.75	5.0	0.80	213	98	14	1.50	2.10	<.01	0.26	0.87	<1
	Hornindalse., Nordfj. N	428	424	378	58.1	43.6	58.1		2.15	4.5	0.62	219	146	6.0	0.40	1.40	<.01	0.16	0.75	<1

Table 8.1 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996.

County	Watercourse	Runoff data							Parameters (mean values)										
		Drainage area			Discharge														
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station												
					Normal	1996	Normal	1996	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	Hg
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	ng/l
Møre og	Ørstae., Ørstafj.	160	155		70.0	51.8	70.0		3.05	16	8.0	359	195	14	0.50	2.7	0.04	0.17	2.93	1.0
Romsdal	Valldøla, Nordalfj.Storfj.	359	357		60.0	43.1	60.0		2.01	3.0	0.50	67	35	3.0	0.30	0.5	0.01	0.04	0.77	<1
(8.)	Rauma, Romsdalsfj.Moldefj.	1202	1190	1142	32.8	24.1	32.8	24.1	2.31	3.0	0.50	90	47	3.0	0.40	0.8	0.01	0.07	0.37	<1
	Isa, Isfj. Moldefj.	175	175	89	57.0	41.8	57.0		2.56	7.5	3.0	103	20	3.0	0.50	0.9	0.01	0.06	0.51	1.0
	Eira, Eresfj. Moldefj.	1119	1119	1085	34.8	36.1	34.8		2.61	2.5	0.50	175	112	5.0	0.40	1.4	0.01	0.09	0.26	1.5
	Littledalse., Sunndalsfj.	359	330	330	41.0	30.8	41.0		1.08	5.5	2.0	130	87	3.0	0.60	0.7	<.01	0.08	0.29	<1
	Driva, Sunnd.fj.Tingvollfj.	2487	2435	2435	27.9	21.2	27.9		3.82	5.5	1.0	157	51	3.0	3.80	6.8	0.02	0.79	0.65	<1
	Ulvåa, Ålvundfj.	199	199	207	57.0	42.8	60.7		1.95	3.5	1.0	137	76	5.0	0.30	0.9	0.08	0.10	0.09	1.0
	Toåa, Todalsfj.	251	251	207	58.5	43.9	58.5		1.51	1.0	0.50	63	19	3.0	0.40	1.1	0.01	0.03	0.39	<1
	Surna, Surnadalsfj.	1200	1200	1125	48.0	35.3	49.3		2.57	3.5	1.0	132	62	4.5	0.50	0.8	0.01	0.08	0.57	4.8
	Bøvra, Hamnesfj. Halsafj.	243	243	196	55.0	40.2	55.0		2.78	1.0	0.50	388	311	3.0	0.90	2.2	0.01	0.09	1.01	<1
Sør-	Børse.,Gaulosen Tr.h.fj.	110	100		30.0	22.5	30.0		9.03	20	1.0	565	290	5.0	1.00	0.3	<.01	0.10	1.38	3.5
Trøndelag	Vigda, Gaulosen Tr.h.fj.	150	150		30.0	22.5	30.0		11.10	16	3.0	400	117	5.0	0.80	0.5	<.01	0.11	3.51	3.0
(8.)	Gaula, Gaulosen Tr.h.fj.	3659	3650	3062	26.4	27.1	26.4	27.1	6.36	7.0	4.0	255	100	16	1.10	1.5	0.02	0.19	6.10	1.0
	Nidelva, Trondheimsfj.	3110	3100	3049	35.5	27.7	35.5	27.7	3.58	7.0	0.80	226	62	6.0	0.80	0.7	<.01	0.05	0.68	4.0
	Homla, Stjørd.fj.Tr.h.fj.	157	157		30.0	22.5	30.0		6.45	5.0	1.0	240	26	5.0	1.20	0.7	<.01	0.08	0.51	4.0
Nord-	Stjørdalsv, " Tr.h.fj.	2117	2117	1863	38.5	29.3	38.5	29.3	3.64	4.0	3.0	227	94	11	1.60	3.4	<.01	0.23	3.60	4.0
Trøndelag	Gråe., " Tr.h.fj.	93	93		25.0	18.8	25.0		18.5	11	6.0	1170	960	6.0	1.20	0.5	<.01	0.09	1.24	3.5
(8.)	Verdalsvassdr., Tr.h.fj.	1472	1472	898	40.0	25.1	44.5	27.9	12.5	2.0	1.0	335	185	19	0.90	0.5	<.01	0.09	0.96	2.5
	Figga/Leksdalse.,Tr.h.fj.	282	282	178	30.0	22.5	33.6	22.5	4.30	16	11	470	258	27	1.30	2.1	0.01	0.24	6.27	<1
	Snåsavassdr., Trondh.fj.	2153	2125	2125	35.1	18.1	35.1	18.1	4.93	3.5	1.0	265	137	13	1.10	1.2	0.01	0.17	1.05	<1
	Årgårdselva, Namsfj.	543	510	238	43.0	29.4	50.9	34.8	14.1	19	6.0	370	50	17	1.20	1.2	<.01	0.18	1.71	5.0
	Namsen, Namsfj. Ø	6277	6276	5718	43.4	32.9	43.4	32.9	11.3	3.0	2.0	160	51	13	2.60	2.9	0.02	0.05	0.77	3.5
	Salsvatnelva, Follafj.	432	432	422	59.7	49.5	59.7	49.5	4.53	0.9	0.5	146	58	6.0	0.20	1.2	0.02	0.08	0.39	5.0

Table 8.1 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996.

County	Watercourse	Runoff data							Parameters (mean values)											
		Drainage area			Discharge															
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station													
					Normal	1996	Normal	1996	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd	Pb	S.P.M.	Hg
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		mS/m	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	ng/l
Nordland	Åbjøra, Bindalsfj. S	526	520	384	80.2	35.1	80.2	35.1	8.01	3.0	2.0	114	26	3.0	0.40	0.5	<.01	0.18	2.27	4.5
(9.)	Skjerva, Vefsenfj. S	104	104	98	41.3	33.9	41.3		5.29	15	5.0	490	235	8.0	1.00	1.0	0.01	0.30	11.90	5.5
	Fusta, Vefsenfj. N	544	543	520	63.4	52.8	63.4	52.8	2.53	5.0	4.0	160	43	19	0.70	1.0	<.01	0.17	4.50	4.5
	Drevja, Vefsenfj. N	177	176	98	65.0	54.0	65.0		3.85	4.0	2.0	190	81	3.0	0.60	0.9	<.01	0.22	4.42	4.5
	Røssåga, Sørfj.	2092	2087	1880	45.4	58.7	45.4	58.7	4.73	15	8.0	230	82	28	1.60	3.7	<.01	0.74	13.9	5.5
	Bjerka, Sørfj.	385	385	273	55.4	49.9	55.4		2.66	2.0	0.6	155	42	6.0	0.70	0.8	<.01	0.14	1.05	4.0
	Dalselva, Ranafj. N	211	211	129	39.5	35.6	39.5		2.06	5.0	1.0	195	34	25	0.60	1.1	0.01	0.19	2.43	4.5
	Ranavassdraget, Ranafj. N	3847	3846	1892	44.9	38.2	44.9		2.97	4.0	2.0	220	110	30	0.80	2.1	<.01	0.35	7.07	3.5
	Fykanåga, Glomfjord	297	297	243	103.7	103.0	103.7		2.91	3.0	2.0	85	40	7.0	0.50	1.0	0.01	0.30	2.01	<1
	Beiare., Beiarfj. Nordfj.	1064	875	797	45.1	44.7	45.1		2.11	39	25	160	44	28	1.70	3.3	0.02	0.87	85.90	4.5
	Saltdalsvassdr., Saltd.fj.S	1544	1543	1168	32.1	25.7	32.1		2.26	4.0	2.0	98	38	17	0.60	2.0	<.01	0.30	9.53	3.5
	Sulitjelmavassdr., Saltd.fj	1028	800	791	44.0	33.0	44.0		21.4	0.8	0.7	74	23	8.0	6.50	5.7	0.03	0.23	0.53	3.5
	Kobbe., Leirfj. Sørfolda N	405	405	386	66.9	65.6	66.9		0.85	3.0	2.0	107	43	6.0	0.30	1.0	<.01	0.30	3.17	4.0
	Skjoma, Ofotfj. S	845	840	797	36.3	35.6	36.3		1.57	1.0	0.50	65	7.0	16	0.30	1.6	<.01	0.29	0.41	2.5

Table 8.1 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996.

County	Watercourse	Runoff data							Parameters (mean values)											
		Drainage area			Discharge															
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station													
					Normal	1996	Normal	1996												
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		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	Hg ng/l
Troms	Spanselva, Astafj. Vågsfj.	142	142	533	50.0	49.5	50.0		6.01	0.70	0.60	35	11	6.0	0.30	0.2	<.01	0.02	0.28	2.5
(9.)	Salangse., Astafj. Vågsfj.	539	539	533	40.9	39.7	40.9		6.92	1.0	0.50	59	12	8.0	0.30	0.2	<.01	0.03	0.29	2.5
	Rossfjorde., Malangen	196	190		39.5	40.0	39.5		7.46	2.0	0.50	108	4.0	11	0.40	0.3	<.01	0.09	0.25	3.5
	Målse., Målselvfj. "	3239	3200	3118	28.7	29.0	28.7		6.30	2.0	0.80	78	29	5.0	0.40	0.3	<.01	0.06	1.25	2.0
	Bardue., Målselva	2906	2906	2049	28.3	29.0	28.3		6.30	2.0	0.80	78	29	5.0	0.40	0.3	<.01	0.06	1.25	2.0
	Nordkjoselva, Balsfj.	191	191	415	27.7	26.9	27.7		3.99	2.0	1.0	54	12	5.0	0.30	0.2	<.01	<.02	0.44	3.0
	Signaldalselva, Lyngen V	473	467	415	27.7	26.9	27.7		3.31	1.0	0.50	66	8.0	3.0	0.50	0.2	<.01	<.02	0.79	3.5
	Skibotnelva, Lyngen	770	770	724	18.0	18.0	18.0	18.0	2.99	1.0	0.50	90	28	6.0	0.70	0.5	<.01	0.04	0.36	3.5
	Kåfjordelva, Lyngen Ø	358	358	348	20.0	19.0	20.0		3.14	1.0	0.50	93	48	3.0	1.20	0.3	<.01	<.02	0.33	<1
	Reisa, Reisafj.	2702	2702		16.0	15.8	16.0		4.65	3.0	0.60	126	29	3.0	0.60	0.2	<.01	<.02	0.46	3.5
Finnmark	Mattiselva, Kåfj. Altafj.	325	325	319	26.5	26.0	26.5		3.18	2.0	0.50	78	8.0	11	0.40	0.2	<.01	<.02	0.50	3.0
(10.)	Tverrelva, Altafj.	234	233	233	15.1	14.3	15.1		5.29	3.0	0.90	205	101	3.0	0.50	0.2	<.01	0.03	0.40	<1
	Repparfjordv., Repparfj.	1090	1089		25.0	23.8	25.0		4.66	1.0	0.50	114	51	3.0	0.40	0.2	<.01	<.02	0.32	2.5
	Stabburse., I. Porsangen V	1108	1102	870	18.3	21.3	18.3	21.3	3.50	1.0	0.50	78	19	5.0	0.30	0.5	<.01	0.02	0.41	<1
	Lakse., Indre Porsangen S	1533	1532	941	15.9	15.5	15.9	15.5	5.35	3.0	0.90	90	3.0	5.5	0.50	0.2	<.01	0.03	1.16	3.0
	Børselva.Indre Porsangen Ø	883	883	863	29.8	28.3	29.8		5.02	1.0	0.50	59	3.0	6.0	0.20	0.5	<.01	<.02	0.29	3.0
	Mattusjåkka, I. Laksefj. V	101	101	101	22.8	21.9	22.8		7.32	1.0	0.50	59	2.0	3.0	0.20	0.2	<.01	<.02	0.31	4.0
	Storelva.Indre Laksefj. V	690	690	760	21.9	18.9	19.9		2.05	1.0	0.50	78	50	6.0	0.10	1.4	<.01	0.04	0.21	2.5
	Soussjåkka, I. Laksefj. V	92	92	102	25.3	24.3	22.8		6.72	1.0	0.50	54	12	3.0	0.20	0.5	<.01	<.02	0.21	3.0
	Adamselva, I. Laksefj. Ø	705	705	760	19.9	18.9	19.9		7.19	1.0	0.50	78	6.0	11	0.40	1.4	0.02	1.12	0.39	3.0
	Tanavassdraget, Tanafj. S	16389	15713	14169	11.5	11.2	11.5		5.51	12	4.9	173	50	6.0	3.98	9.6	0.03	0.81	0.87	<1
	Vesterelva, Syltefj.	469	469	79	34.6	34.5	34.6		5.57	2.0	0.50	48	1.0	3.0	0.20	0.4	<.01	0.08	0.33	2.0
	V. Jakobse., Y.Varangerfj.	627	627	239	18.1	18.5	18.1		2.89	2.0	0.50	53	3.0	3.0	0.20	0.2	<.01	0.03	0.54	<1
	Passvike., Bøkfj.Varang.fj.	18404	18400	18175	9.3	9.5	9.3		3.36	3.0	0.60	140	3.0	8.0	1.10	0.7	<.01	0.04	0.71	<1
	Neiden, Munkfj. Varang.fj.	2960	2960	2911	9.8	10.0	9.8		7.02	3.0	0.70	160	3.0	17	0.70	0.5	<.01	0.03	0.95	<1
	Grense Jakobse.,Varang.fj.	234	234		18.0	19.0	18.0		4.70	2.0	1.0	108	6.0	16	2.00	0.8	<.01	0.06	1.92	1.0

Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996.

County	Watercourse	Runoff data							Parameters (mean values)												
		Drainage area			Discharge																
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station		Gamma	PCB (The folloving Congeners) IUPAC NOS							TOC	SiO2	Cr-T	Ni	As
					Normal	1996	Normal	1996	HCH	28	52	101	118	138	153	180					
		sq.km	sq.km	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	mg/l	mg/l	ug/l	ug/l	ug/l
Østfold	Tista, Iddefj.	1588	1582	1582	14.4	11.6	14.4	11.6	0.60	<.03	<.03	<.03	<.03	<.03	<.03	<.03	6.60	2.80	<.5	0.8	0.15
(1.)	Mosselva, Mossesundet	690	689	689	14.5	11.7	14.5	11.7	0.60	<.03	<.03	<.03	<.03	<.03	<.03	<.03	7.00	3.10	0.50	2.1	0.45
Oslo &	Hølenelva, Drøbaksundet Ø	137	121		14.0	11.2			0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03	9.90	8.70	2.20	5.4	0.60
Akershus	Årungelva, I. Oslofj.	52	50		13.0	10.4			0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03	2.80	1.60	<.5	2.5	0.92
(1.)	Gjersjøelva, I. Oslofj.	86	85	85	14.0	5.6		5.6	0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03	4.90	0.86	<.5	7.0	0.14
	Ljanselva, I. Oslofj.	42	41	41	13.0	8.0		8.0	0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	5.20	5.40	<.5	11.5	0.23
	Loelva/Alna, I. Oslofj.	75	69	69	13.0	17.8		17.8	0.18	0.06	0.17	0.10	0.05	0.10	0.11	0.05	5.30	6.90	1.80	2.2	0.25
	Akerselva, I. Oslofj.	227	225	225	17.5	3.7		3.7	0.17	0.05	0.03	0.06	0.03	0.05	0.05	<.03	3.40	3.50	<.5	0.8	0.18
	Frognerelva, I. Oslofj.	23	20	20	15.0	20.1		20.1	0.20	<.03	<.03	0.11	0.07	0.10	0.11	0.05	3.50	5.60	0.70	3.0	0.51
	Lysakerelva, I. Oslofj.	178	173	173	16.8	16.6	16.8	16.6	0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	4.20	4.90	<.5	0.8	0.10
	Sandvikselva, I. Oslofj.	223	187	187	18.4	18.2	18.4		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	5.20	5.10	<.5	0.5	0.10
	Åroselva, I. Oslofj.	113	109	109	17.0	16.9	17.0		0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03	5.88	6.90	<.5	2.3	0.28
Buskerud	Lierelva, Drammensfj. Ø	309	266	222	18.6	16.4	18.6	16.4	0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	5.90	7.70	0.70	2.9	0.41
(2.)																					
Vestfold	Sandeelva, Sandebukta	193	190		17.0	14.5	17.0		0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.60	7.00	0.60	1.8	0.15
(3.)	Aulielva, Tønsbergfj.	363	362	362	14.9	13.8	14.9	13.8	0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	5.20	8.10	<.5	2.7	0.45
	Farriselva, Larvikfj.	491	491	491	21.6	20.5	21.6		0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.80	3.40	<.5	0.7	<.1
Telemark	Tokkeelva, Kragerø	1238	1200	1200	26.7	15.9	26.7	15.9	1.00	<.03	<.03	<.03	<.03	<.03	<.03	<.03	4.50	2.60	<.5	0.5	0.29
(4.)																					
Aust-	Gjerstadelva, Søndeledfj.	419	414	291	27.0	18.5	27.0	18.5	1.00	<.03	<.03	<.03	<.03	<.03	<.03	<.03	4.90	2.50	<.5	0.8	0.14
Agder	Vegårdselva, Sandnesfj.	457	429	291	29.3	18.9	29.3	18.9	1.00	<.03	<.03	<.03	<.03	<.03	<.03	<.03	4.00	2.40	<.5	0.8	0.23
(5.)	Nidelva, Arendal	4025	4020	3956	29.8	19.3	29.8	19.3	1.00	<.03	<.03	<.03	<.03	<.03	<.03	<.03	2.70	2.40	<.5	0.5	<.1

Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996.

County	Watercourse	Runoff data							Parameters (mean values)												
		Drainage area			Discharge																
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station		Gamma	PCB (The folloving Congeners) IUPAC NOS											
					Normal	1996	Normal	1996	HCH	28	52	101	118	138	153	180	TOC	SiO2	Cr-T	Ni	As
		sq.km	sq.km	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	mg/l	mg/l	ug/l	ug/l	ug/l
Vest-	Tovdalselva, Topdalsfj.	1856	1854	1794	33.9	28.8	33.9		1.00	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.52	2.40	<.5	0.6	<.1
Agder	Søgneelva, Flekkerøy	204	192	192	38.0	34.2	38.0		0.80	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.80	3.50	<.5	1.2	0.33
(5.)	Mandalselva, Mannefj.	1809	1800	1740	46.0	41.4	47.6		0.70	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.53	1.90	<.5	0.5	0.35
	Audna, Sniksfj.	450	400	59	45.0	29.7	51.8	34.8	0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	2.90	2.60	<.5	0.5	0.28
(6.)	Lygna, Lyngdalsfj.	664	660	266	48.0	31.7	57.9	38.2	0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.53	2.00	<.5	0.4	<.1
	Kvina, Fedafj.	1445	1140	1140	57.6	40.3	57.6		0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.90	2.20	<.5	0.3	<.1
	Sira, Åna-Sira	1916	1872	1872	59.4	41.6	59.4		0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.60	0.75	<.5	0.2	<.1
Rogaland	Sokndalselva, Sogndalsstr.	294	293	107	51.1	39.1	51.1	39.1	0.90	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.60	1.30	<.5	4.7	<.1
(6.)	Hellelandselva, Egersund	241	240	194	57.5	46.4	71.1	57.3	0.90	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.70	0.64	<.5	0.6	<.1
	Bjerkreimselva, Egersund	705	704	633	77.7	42.0	86.4	46.7	0.90	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.05	1.57	<.5	0.3	<.1
	Håelva, Håtangen	165	160	135	46.9	35.6	46.9	35.6	0.81	<.03	<.03	<.03	<.03	<.03	<.03	<.03	4.40	1.40	<.5	0.8	0.60
	Figgjo, Solavika	229	218	135	50.0	36.5	50.0		0.80	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.90	3.50	<.5	0.8	0.19
	Ims-Lutsi. Høgsfj.Boknafj.	127	127	127	34.9	25.8	34.9		0.80	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.40	2.00	<.5	0.3	<.1
	Oltedalse.,Høgsfj.Boknafj.	102	101	129	70.0	51.8	70.0		0.80	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.40	1.80	<.5	0.4	<.1
	Dirdalse., Høgsfj.Boknafj.	158	158	95	83.0	62.3	83.0		0.80	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.21	1.50	<.5	0.3	<.1
	Frafjorde.,Frafj. Boknafj.	178	178	124	94.4	71.4	94.4		0.60	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.30	1.20	<.5	0.3	<.1
	Espedalse.,Høgsfj.Boknafj.	138	138	124	90.0	67.5	90.0		0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.10	2.16	<.5	<.2	<.1
	Lysee., Lysefj.Boknafj.	182	182	46	74.0	57.0	74.0		0.40	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.00	1.20	<.5	0.1	0.03
	Årdalse., Årdalsfj.Boknafj.	519	516	501	81.4	64.3	81.4		0.36	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.38	1.10	<.5	<.2	0.13
	Førree., Jøsenfj.Boknafj.	163	163	163	85.8	68.6	85.8		0.40	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.90	1.40	<.5	0.1	0.11
	Ulla, Jøsenfj.Boknafj.	393	393	385	83.4	66.7	83.4		0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.90	1.70	<.5	0.3	0.14
(7.)	Saudae., Saudafj.Boknafj.	353	353		85.0	68.0	85.0		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	2.40	1.00	<.5	0.3	0.19
	Åbøelva, Saudafj.Boknafj.	82	82		85.0	76.5	85.0		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.90	1.00	<.5	0.2	<.1
	Vikedalse., Boknafj.	118	117		80.0	61.3	80.0	61.3	0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.15	0.94	<.5	0.5	0.10

Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996.

County	Watercourse	Runoff data							Parameters (mean values)												
		Drainage area			Discharge																
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station		Gamma	PCB (The folloving Congeners) IUPAC NOS											
					Normal	1996	Normal	1996	HCH	28	52	101	118	138	153	180	TOC	SiO2	Cr-T	Ni	As
		sq.km	sq.km	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	mg/l	mg/l	ug/l	ug/l	ug/l
Hordaland	Etneelva, Etnefj. Bømlafj.	252	250	127	48.8	32.5	96.0	63.9	0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.93	1.10	<.5	0.4	0.21
(7.)	Opo, Sørfj. Hardangerfj.	482	480	464	79.3	57.6	79.3	57.6	0.40	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.82	0.70	<.5	<.2	0.21
	Tysso, Sørfj. Hardangerfj.	388	385	407	79.3	57.6	79.3		0.40	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.18	2.00	<.5	0.3	0.13
	Kinso, Sørfj. Hardangerfj.	281	281	232	46.0	34.2	46.0	34.2	0.33	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.50	0.70	<.5	<.2	<.1
	Veig, Eidfjv. Hardangerfj.	496	496	386	41.8	20.2	41.8	20.2	0.23	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.10	1.00	<.5	0.4	0.18
	Bjoreia, " , Hardangerfj.	592	592	592	26.0	7.7	26.0	7.7	0.23	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.10	1.00	<.5	0.4	0.18
	Sima, Eidfj. Hardangerfj.	145	145	128	69.2	68.0	69.2		0.03	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.30	2.00	<.5	<.2	<.1
	Austdøla, Osafj. Eidfj.	131	130	89	74.6	53.7	74.6		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.20	0.88	<.5	<.2	<.1
	Norddøla, Osafj. Eidfj.	40	39	89	74.6	53.7	74.6		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.20	1.50	<.5	0.3	<.1
	Tysseelva, Fusafj.	240	240		85.0	60.4	85.0		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.79	0.97	<.5	0.2	0.10
	Oselva, Fusafj.	109	108	50	91.7	65.6	91.7	65.6	0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	2.42	1.09	<.5	0.2	0.10
	Bergsdalse, Veafj.Herdlafj.	198	198		80.0	58.4	80.0		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.90	1.20	<.5	0.4	<.1
	Vosso, Veafj. Sørfj.	1492	1465	1102	58.2	40.8	58.2	40.8	0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.85	0.86	<.5	0.3	<.1
	Ekso, Osterfj.	414	400	342	86.2	61.2	86.2		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.54	1.20	<.5	0.3	<.1
	Modalselva, Osterfj.	385	384	248	95.5	67.8	95.5		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.77	0.91	<.5	<.2	<.1

Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996.

County	Watercourse	Runoff data							Parameters (mean values)												
		Drainage area			Discharge																
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station		Gamma	PCB (The folloving Congeners) IUPAC NOS							TOC	SiO2	Cr-T	Ni	As
					Normal	1996	Normal	1996	HCH	28	52	101	118	138	153	180					
		sq.km	sq.km	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	mg/l	mg/l	ug/l	ug/l	ug/l
Sogn og Fjordane (7.)	Nærøye., Aurl.fj. Sognefj.	290	290	267	59.5	41.4	59.5		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.40	2.40	<.5	<.2	<.1
	Flåmse., Aurl.fj. Sognefj.	280	275	275	52.4	50.7	52.4	50.7	0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.30	0.73	<.5	0.3	<.1
	Aurlandv. Aurl.fj. Sognefj.	800	799	762	48.6	35.0	48.6		0.12	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.40	0.99	<.5	<.2	<.1
	Erdalse., Lærd.fj. Sognefj.	138	138		30.0	21.3	30.0		0.15	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.90	1.70	<.5	<.2	<.1
	Lærdalsv. Lærd.fj. Sognefj.	1184	1172	1172	30.0	15.0	30.0	15.0	0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.65	2.00	<.5	<.5	0.11
	Årdalsv., Årdalsfj.Sognefj.	989	989	989	44.9	32.4	44.9	32.4	0.25	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.76	1.40	<.5	<.2	<.1
	Fortunv., Lusterfj.Sognefj.	508	508	367	51.0	37.2	51.0		0.28	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.30	1.20	<.5	<.2	0.30
	Mørkrisv., Lusterfj.Sognefj.	282	282	203	54.7	45.7	54.7	45.7	0.28	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.40	0.94	<.5	<.2	0.12
	Jostedøla, " Sognefj.	865	864	573	68.0	45.1	68.0	45.1	0.28	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.40	1.70	1.10	1.1	<.1
	Årøye., Sognd.fj. Sognefj.	449	446	384	77.2	56.4	77.2		0.28	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.60	0.94	<.5	<.2	0.22
	Sogndalse, " Sognefj.	175	172	111	66.1	50.0	66.1	50.0	0.28	<.03	<.03	<.03	<.03	<.03	<.03	<.03	2.90	1.10	<.5	<.2	<.1
	Gaular, Dalsfj. Bufj.	627	625	505	79.3	55.7	79.3	55.7	0.36	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.28	0.94	<.5	<.2	<.1
	Jølstra, Førdefj.	714	709	384	74.3	52.8	74.3		0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.10	1.30	<.5	<.2	<.1
	Nausta, Førdefj.	277	273	232	81.7	49.0	81.7	49.0	0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.74	1.10	<.5	<.2	<.1
	Oselva, Høydalsfj.	287	285	225	78.7	55.1	78.7		0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03	2.50	0.39	<.5	<.2	0.19
	Hopse., Hyefj. Nordfj.S	73	73	161	75.0	46.2	75.0		0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.70	0.53	<.5	<.2	<.1
	Gjengedalse.," Nordfj.S	170	168	161	75.0	46.2	75.0	46.2	0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.49	1.10	<.5	<.2	<.1
	Breimse., Gloppenfj. "	636	634	585	68.0	51.6	68.8		0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.70	0.70	<.5	<.2	<.1
	Oldene., Indre Nordfj.	226	225	214	70.1	70.8	70.1	70.8	0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.80	1.10	<.5	<.2	<.1
	Loenelva, Indre Nordfj.	261	260	234	65.0	59.6	65.0	59.6	0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.50	1.30	<.5	<.2	<.1
	Strynee., Indre Nordfj.	532	530	493	60.2	62.0	60.2		0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.50	1.00	<.5	<.2	<.1
	Hornindalse., Nordfj. N	428	424	378	58.1	43.6	58.1		0.40	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.20	1.40	<.5	<.2	<.1

Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996.

County	Watercourse	Runoff data							Parameters (mean values)												
		Drainage area			Discharge																
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station		Gamma	PCB (The folloving Congeners) IUPAC NOS							TOC	SiO2	Cr-T	Ni	As
					Normal	1996	Normal	1996	HCH	28	52	101	118	138	153	180					
		sq.km	sq.km	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	mg/l	mg/l	ug/l	ug/l	ug/l
Møre og	Ørstae., Ørstafj.	160	155		70.0	51.8	70.0		0.05	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.33		1.20	0.3	0.10
Romsdal	Valldøla, Nordalfj.Storfj.	359	357		60.0	43.1	60.0		0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.44		0.13	0.1	<.1
(8.)	Rauma, Romsdalsfj.Moldefj.	1202	1190	1142	32.8	24.1	32.8	24.1	0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.51		0.18	0.1	<.1
	Isa, Isfj. Moldefj.	175	175	89	57.0	41.8	57.0		0.40	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.65		0.49	0.4	<.1
	Eira, Eresfj. Moldefj.	1119	1119	1085	34.8	36.1	34.8		0.31	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.50		<.5	0.2	<.1
	Littledalse., Sunndalsfj.	359	330	330	41.0	30.8	41.0		0.40	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.60		0.50	0.2	<.1
	Driva, Sunnd.fj.Tingvollfj.	2487	2435	2435	27.9	21.2	27.9		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.26		1.13	2.3	<.1
	Ulvåa, Ålvundfj.	199	199	207	57.0	42.8	60.7		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.40		0.65	0.0	0.01
	Toåa, Todalsfj.	251	251	207	58.5	43.9	58.5		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03	0.91		0.20	0.1	<.1
	Surna, Surnadalsfj.	1200	1200	1125	48.0	35.3	49.3		0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.70		0.20	0.2	<.1
	Bøvra, Hamnesfj. Halsafj.	243	243	196	55.0	40.2	55.0		0.70	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.75		0.21	0.6	0.10
Sør-	Børse.,Gaulosen Tr.h.fj.	110	100		30.0	22.5	30.0		0.90	<.03	<.03	<.03	<.03	<.03	<.03	<.03		0.90	<.5	1.6	0.40
Trøndelag	Vigda, Gaulosen Tr.h.fj.	150	150		30.0	22.5	30.0		0.80	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.80	0.80	<.5	1.1	0.24
(8.)	Gaula, Gaulosen Tr.h.fj.	3659	3650	3062	26.4	27.1	26.4	27.1	0.70	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.20	2.00	0.80	2.0	0.24
	Nidelva, Trondheimsfj.	3110	3100	3049	35.5	27.7	35.5	27.7	0.57	<.03	<.03	<.03	<.03	<.03	<.03	<.03	2.90	1.60	<.5	1.1	0.22
	Homla, Stjørd.fj.Tr.h.fj.	157	157		30.0	22.5	30.0		0.55	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.40	<.5	0.7	0.56
Nord-	Stjørdalsv, " Tr.h.fj.	2117	2117	1863	38.5	29.3	38.5	29.3	0.55	<.03	<.03	<.03	<.03	<.03	<.03	<.03	2.95	0.80	0.50	0.6	0.46
Trøndelag	Gråe., " Tr.h.fj.	93	93		25.0	18.8	25.0		0.55	<.03	<.03	<.03	<.03	<.03	<.03	<.03		5.60	0.50	1.9	0.76
(8.)	Verdalsvassdr., Tr.h.fj.	1472	1472	898	40.0	25.1	44.5	27.9	0.55	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.80	<.5	0.9	0.72
	Figga/Leksdalse.,Tr.h.fj.	282	282	178	30.0	22.5	33.6	22.5	0.54	<.03	<.03	<.03	<.03	<.03	<.03	<.03	5.25	1.50	0.40	0.3	0.20
	Snåsavassdr., Trondh.fj.	2153	2125	2125	35.1	18.1	35.1	18.1	0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.45	0.90	0.26	0.7	0.13
	Årgårdselva, Namsfj.	543	510	238	43.0	29.4	50.9	34.8	0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.10	1.40	0.9	1.24
	Namsen, Namsfj. Ø	6277	6276	5718	43.4	32.9	43.4	32.9	0.24	<.03	<.03	<.03	<.03	<.03	<.03	<.03		0.70	3.10	2.3	0.11
	Salsvatnelva, Follafj.	432	432	422	59.7	49.5	59.7	49.5	0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.00	<.5	<.2	0.26

Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996.

County	Watercourse	Runoff data							Parameters (mean values)												
		Drainage area			Discharge																
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station		Gamma	PCB (The folloving Congeners) IUPAC NOS							TOC	SiO2	Cr-T	Ni	As
					Normal	1996	Normal	1996	HCH	28	52	101	118	138	153	180					
		sq.km	sq.km	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	mg/l	mg/l	ug/l	ug/l	ug/l
Nordland	Åbjøra, Bindalsfj. S	526	520	384	80.2	35.1	80.2	35.1	0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03		0.70	<.5	0.3	0.38
(9.)	Skjerva, Vefsenfj. S	104	104	98	41.3	33.9	41.3		0.40	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.80	<.5	1.0	0.65
	Fusta, Vefsenfj. N	544	543	520	63.4	52.8	63.4	52.8	0.40	<.03	<.03	<.03	<.03	<.03	<.03	<.03		0.70	<.5	0.5	0.50
	Drevja, Vefsenfj. N	177	176	98	65.0	54.0	65.0		0.40	<.03	<.03	<.03	<.03	<.03	<.03	<.03		0.80	<.5	0.6	0.38
	Røssåga, Sørfj.	2092	2087	1880	45.4	58.7	45.4	58.7	0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.00	1.30	2.2	0.49
	Bjerka, Sørfj.	385	385	273	55.4	49.9	55.4		0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.00	<.5	0.7	0.22
	Dalselva, Ranafj. N	211	211	129	39.5	35.6	39.5		0.25	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.10	<.5	0.9	0.23
	Ranavassdraget, Ranafj. N	3847	3846	1892	44.9	38.2	44.9		0.25	<.03	<.03	<.03	<.03	<.03	<.03	<.03		0.90	0.50	0.9	0.37
	Fykanåga, Glomfjord	297	297	243	103.7	103.0	103.7		0.25	<.03	<.03	<.03	<.03	<.03	<.03	<.03		0.90	0.50	0.9	0.37
	Beiare., Beiarfj. Nordfj.	1064	875	797	45.1	44.7	45.1		0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03	2.60	0.70	0.80	1.2	0.64
	Saltdalsvassdr., Saltd.fj.S	1544	1543	1168	32.1	25.7	32.1		0.70	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.30	<.5	0.7	0.53
	Sulitjelmavassdr., Saltd.fj	1028	800	791	44.0	33.0	44.0		0.74	<.03	<.03	<.03	<.03	<.03	<.03	<.03		0.80	<.5	0.6	0.63
	Kobbe., Leirfj. Sørfolda N	405	405	386	66.9	65.6	66.9		0.50	<.03	<.03	<.03	<.03	<.03	<.03	<.03		0.50	<.5	<.2	0.45
	Skjoma, Ofotfj. S	845	840	797	36.3	35.6	36.3		0.40	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.50	<.5	<.2	0.46

Table 8.2 TRIBUTARY RIVERS. MEAN CONCENTRATIONS 1996.

County	Watercourse	Runoff data							Parameters (mean values)												
		Drainage area			Discharge																
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station		Gamma	PCB (The folloving Congeners) IUPAC NOS							TOC	SiO2	Cr-T	Ni	As
					Normal	1996	Normal	1996	HCH	28	52	101	118	138	153	180					
		sq.km	sq.km	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	mg/l	mg/l	ug/l	ug/l	ug/l
Troms	Spanselva, Astafj. Vågsfj.	142	142	533	50.0	49.5	50.0		0.35	<.03	<.03	<.03	<.03	<.03	<.03	<.03		0.80	<.5	0.5	0.40
(9.)	Salangse., Astafj. Vågsfj.	539	539	533	40.9	39.7	40.9		0.35	<.03	<.03	<.03	<.03	<.03	<.03	<.03		0.60	<.5	0.5	0.32
	Rossfjorde., Malangen	196	190		39.5	40.0	39.5		0.33	<.03	<.03	<.03	<.03	<.03	<.03	<.03		0.50	<.5	0.6	<.1
	Målse., Målselvfj. "	3239	3200	3118	28.7	29.0	28.7		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.40	<.5	0.5	<.1
	Bardue., Målselva	2906	2906	2049	28.3	29.0	28.3		0.20	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.40	<.5	0.5	<.1
	Nordkjoselva, Balsfj.	191	191	415	27.7	26.9	27.7		0.10	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.80	<.5	0.3	<.1
	Signaldalselva, Lyngen V	473	467	415	27.7	26.9	27.7		0.10	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.40	<.5	0.3	<.1
	Skibotnelva, Lyngen	770	770	724	18.0	18.0	18.0	18.0	0.05	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.60	<.5	0.8	0.21
	Kåfjordelva, Lyngen Ø	358	358	348	20.0	19.0	20.0		0.05	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.50	<.5	0.6	0.38
	Reisa, Reisafj.	2702	2702		16.0	15.8	16.0		0.05	<.03	<.03	<.03	<.03	<.03	<.03	<.03	1.90	3.00	<.5	<.2	0.28
Finnmark	Mattiselva, Kåfj. Altafj.	325	325	319	26.5	26.0	26.5		0.10	<.03	<.03	<.03	<.03	<.03	<.03	<.03		0.90	<.5	<.2	0.36
(10.)	Tverrelva, Altafj.	234	233	233	15.1	14.3	15.1		0.15	<.03	<.03	<.03	<.03	<.03	<.03	<.03		2.60	<.5	0.3	0.17
	Repparfjordv., Repparfj.	1090	1089		25.0	23.8	25.0		0.15	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.30	<.5	0.2	<.1
	Stabburse., I. Porsangen V	1108	1102	870	18.3	21.3	18.3	21.3	0.15	<.03	<.03	<.03	<.03	<.03	<.03	<.03	2.40	2.60	<.5	<.2	0.15
	Lakse., Indre Porsangen S	1533	1532	941	15.9	15.5	15.9	15.5	0.15	<.03	<.03	<.03	<.03	<.03	<.03	<.03		2.20	<.5	0.4	<.1
	Børselva.Indre Porsangen Ø	883	883	863	29.8	28.3	29.8		0.15	<.03	<.03	<.03	<.03	<.03	<.03	<.03		3.90	<.5	<.5	0.16
	Mattusjåkka, I. Laksefj. V	101	101	101	22.8	21.9	22.8		0.15	<.03	<.03	<.03	<.03	<.03	<.03	<.03		1.40	<.5	<.2	<.1
	Storelva.Indre Laksefj. V	690	690	760	21.9	18.9	19.9		0.15	<.03	<.03	<.03	<.03	<.03	<.03	<.03		3.50	<.5	0.2	<.1
	Soussjåkka, I. Laksefj. V	92	92	102	25.3	24.3	22.8		0.15	<.03	<.03	<.03	<.03	<.03	<.03	<.03		4.00	<.5	0.3	<.1
	Adamselva, I. Laksefj. Ø	705	705	760	19.9	18.9	19.9		0.15	<.03	<.03	<.03	<.03	<.03	<.03	<.03		3.40	<.5	0.3	<.1
	Tanavassdraget, Tanafj. S	16389	15713	14169	11.5	11.2	11.5		0.11	<.03	<.03	<.03	<.03	<.03	<.03	<.03	2.97	7.82	1.05	0.8	0.11
	Vesterelva, Syltefj.	469	469	79	34.6	34.5	34.6		0.03	<.03	<.03	<.03	<.03	<.03	<.03	<.03		2.30	<.5	0.3	0.41
	V. Jakobse., Y.Varangerfj.	627	627	239	18.1	18.5	18.1		0.30	<.03	<.03	<.03	<.03	<.03	<.03	<.03		4.70	<.5	<.2	0.13
	Passvike., Bøkfj.Varang.fj.	18404	18400	18175	9.3	9.5	9.3		0.32	<.03	<.03	<.03	<.03	<.03	<.03	<.03	3.90	3.70	<.5	5.8	0.39
	Neiden, Munkfj. Varang.fj.	2960	2960	2911	9.8	10.0	9.8		0.35	<.03	<.03	<.03	<.03	<.03	<.03	<.03		2.20	<.5	<.2	0.13
	Grense Jakobse.,Varang.fj.	234	234		18.0	19.0	18.0		0.35	<.03	<.03	<.03	<.03	<.03	<.03	<.03		3.80	<.5	7.0	0.27

APPENDIX IX : TRIBUTARY RIVERS. ANNUAL LOAD 1996 **Page:**

(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.

* 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 1996.

County	Watercourse	Runoff data								Parameters (mean values)														
		Drainage area			Discharge																			
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station																	
					Normal	1996	Normal	1996	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	C d		P b		S.P.M.	H g	
																	zero	limit	zero	limit		zero	limit
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		mS/m	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	t.tons	kg	kg
Østfold	Tista, Iddefj.	1588	1582	1582	14.4	11.6	14.4	11.6	6.01	6.71	0.58	563.7	390.6	11.57	0.93	1.56	0.02	0.02	0.09	0.09	1.01	0.00	0.58
(1.)	Mosselva, Mossesundet	690	689	689	14.5	11.7	14.5	11.7	9.81	7.09	3.30	236.2	76.3	16.27	0.69	2.72	0.00	0.00	0.28	0.28	3.10	0.64	0.64
Oslo &	Hølenelva, Drøbaksundet Ø	137	121		14.0	11.2			22.30	4.19	2.14	307.7	286.3	3.08	0.16	0.76	0.00	0.00	0.10	0.10	1.98	0.17	0.17
Akershus	Årungelva, I. Oslofj.	52	50		13.0	10.4			26.10	2.80	0.23	50.3	15.4	0.49	0.03	0.01	0.00	0.00	0.00	0.00	0.38	0.00	0.02
(1.)	Gjersjøelva, I. Oslofj.	86	85	85	14.0	5.6		5.6	18.20	0.15	0.03	25.3	18.0	0.32	0.03	0.03	0.00	0.00	0.00	0.00	0.02	0.00	0.02
	Ljanselva, I. Oslofj.	42	41	41	13.0	8.0		8.0	32.80	0.92	0.59	31.0	11.2	1.03	0.08	0.20	0.00	0.00	0.01	0.01	0.14	0.04	0.04
	Loelva/Alna, I. Oslofj.	75	69	69	13.0	17.8		17.8	32.00	5.38	1.82	133.6	117.0	9.53	0.15	0.47	0.00	0.00	0.09	0.09	1.18	0.08	0.08
	Akerselva, I. Oslofj.	227	225	225	17.5	3.7		3.7	10.50	0.89	0.16	22.3	10.2	1.00	0.06	0.22	0.00	0.00	0.02	0.02	0.07	0.11	0.11
	Frognerelva, I. Oslofj.	23	20	20	15.0	20.1		20.1	22.00	0.91	0.51	20.0	19.3	0.43	0.08	0.20	0.00	0.00	0.02	0.02	0.16	0.05	0.05
	Lysakerelva, I. Oslofj.	178	173	173	16.8	16.6	16.8	16.6	9.50	2.08	0.82	67.0	56.2	2.45	0.35	0.47	0.00	0.00	0.02	0.02	0.28	0.18	0.18
	Sandvikselva, I. Oslofj.	223	187	187	18.4	18.2	18.4		18.70	3.22	1.07	142.7	75.7	1.93	0.13	0.41	0.00	0.00	0.02	0.02	0.09	0.16	0.16
	Åroselva, I. Oslofj.	113	109	109	17.0	16.9	17.0		14.70	1.80	0.87	132.5	111.8	4.18	0.12	0.55	0.00	0.00	0.11	0.11	0.67	0.15	0.15
Buskerud	Lierelva, Drammensfj. Ø	309	266	222	18.6	16.4	18.6	16.4	18.90	4.40	3.16	301.3	278.6	6.60	0.34	4.06	0.01	0.01	0.13	0.13	3.30	0.21	0.21
(2.)																							
Vestfold	Sandeelva, Sandebukta	193	190		17.0	14.5	17.0		13.70	2.69	1.74	169.4	132.5	19.37	0.22	9.57	0.01	0.01	0.12	0.12	0.81	0.13	0.13
(3.)	Aulielva, Tønsbergfj.	363	362	362	14.9	13.8	14.9	13.8	20.40	14.64	12.48	477.3	367.1	33.08	0.30	1.59	0.01	0.01	0.07	0.07	2.25	0.47	0.47
	Farriselva, Larvikfj.	491	491	491	21.6	20.5	21.6		3.72	1.40	0.30	171.4	117.4	3.49	0.86	4.89	0.05	0.05	0.10	0.10	0.35	0.00	0.32
Telemark	Tokkeelva, Kragerø	1238	1200	1200	26.7	15.9	26.7	15.9	2.77	1.81	0.37	246.7	150.4	9.03	0.30	4.21	0.05	0.05	0.13	0.13	0.81	0.60	0.60
(4.)																							
Aust-Agder	Gjerstadelva, Søndeledfj.	419	414	291	27.0	18.5	27.0	18.5	3.32	1.69	0.24	136.7	78.5	12.08	0.19	2.08	0.01	0.01	0.11	0.11	0.43	0.36	0.36
(5.)	Vegårdselva, Sandnesfj.	457	429	291	29.3	18.9	29.3	18.9	3.75	2.30	0.26	107.4	59.1	7.67	0.20	0.66	0.02	0.02	0.13	0.13	0.39	0.38	0.38
	Nidelva, Arendal	4025	4020	3956	29.8	19.3	29.8	19.3	1.89	14.68	2.45	824.6	491.8	85.64	4.89	30.34	0.27	0.27	3.03	3.03	4.31	2.45	2.45

Table 9.1 TRIBUTARY RIVERS. ANNUAL LOAD 1996.

County	Watercourse	Runoff data								Parameters (mean values)														
		Drainage area			Discharge																			
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station			Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	C d		P b		S.P.M.	H g	
					Normal	1996	Normal	1996	Cond								zero	limit	zero	limit		zero	limit
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		mS/m	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	t.tons	kg	kg
Vest-Agder	Tovdalselva, Topdalsfj.	1856	1854	1794	33.9	28.8	33.9		2.25	8.42	1.68	737.5	343.5	69.04	1.18	21.55	0.15	0.15	1.28	1.28	2.98	2.53	2.53
(5.)	Søgneelva, Flekkerøy	204	192	192	38.0	34.2	38.0		5.86	3.31	0.41	149.1	128.4	7.87	0.17	4.51	0.02	0.02	0.16	0.16	0.32	0.31	0.31
	Mandalselva, Mannefj.	1809	1800	1740	46.0	41.4	47.6		1.89	23.50	7.05	867.2	460.6	86.95	5.17	49.82	0.31	0.31	4.68	4.68	5.48	4.70	4.70
	Audna, Sniksfj.	450	400	59	45.0	29.7	51.8	34.8	4.89	3.00	0.75	206.1	134.9	15.36	0.19	5.17	0.03	0.03	0.28	0.28	0.58	0.75	0.75
(6.)	Lygna, Lyngdalsfj.	664	660	266	48.0	31.7	57.9	38.2	3.03	3.96	1.32	314.1	195.3	23.09	0.26	10.03	0.05	0.05	0.51	0.51	1.06	0.99	0.99
	Kvina, Fedafj.	1445	1140	1140	57.6	40.3	57.6		3.20	8.69	2.90	611.4	317.3	37.67	0.72	14.92	0.03	0.03	0.99	0.99	1.55	2.90	2.90
	Sira, Åna-Sira	1916	1872	1872	59.4	41.6	59.4		2.11	7.37	1.23	761.3	540.3	78.59	0.98	12.52	0.10	0.10	1.13	1.13	1.65	2.46	2.46
Rogaland	Sokndalselva, Sogndalsstr.	294	293	107	51.1	39.1	51.1	39.1	4.28	2.89	2.17	169.8	124.6	10.48	0.18	4.15	0.03	0.03	0.21	0.21	0.49	0.54	0.54
(6.)	Hellelandselva, Egersund	241	240	194	57.5	46.4	71.1	57.3	3.13	2.46	0.70	193.2	144.0	3.16	0.14	2.07	0.01	0.01	0.16	0.16	0.31	0.53	0.53
	Bjerkreimselva, Egersund	705	704	633	77.7	42.0	86.4	46.7	3.67	2.80	0.81	490.5	404.7	10.26	0.19	3.26	0.01	0.01	0.29	0.29	0.55	1.40	1.40
	Håelva, Håtangen	165	160	135	46.9	35.6	46.9	35.6	9.59	7.54	3.05	348.7	246.1	11.68	0.16	1.01	0.01	0.01	0.04	0.04	0.51	0.27	0.27
	Figgjo, Solavika	229	218	135	50.0	36.5	50.0		9.84	5.02	2.51	436.6	316.2	20.58	0.20	1.61	0.01	0.01	0.20	0.20	0.45	0.00	0.25
	Ims-Lutsi. Høgsfj.Boknafj.	127	127	127	34.9	25.8	34.9		16.50	0.62	0.08	84.2	58.9	1.55	0.05	0.27	0.00	0.00	0.02	0.02	0.09	0.10	0.10
	Oltedalse.,Høgsfj.Boknafj.	102	101	129	70.0	51.8	70.0		3.60	0.49	0.12	80.0	56.9	3.79	0.10	0.78	0.00	0.00	0.03	0.03	0.13	0.00	0.16
	Dirdalse., Høgsfj.Boknafj.	158	158	95	83.0	62.3	83.0		2.10	0.62	0.16	153.0	114.2	1.86	0.12	1.15	0.00	0.00	0.09	0.09	0.11	0.31	0.31
	Frafjorde.,Frafj. Boknafj.	178	178	124	94.4	71.4	94.4		1.96	0.40	0.20	106.2	76.2	1.20	0.16	1.04	0.00	0.00	0.12	0.12	0.07	0.40	0.40
	Espedalse.,Høgsfj.Boknafj.	138	138	124	90.0	67.5	90.0		2.59	2.94	0.15	115.4	85.8	1.32	0.06	0.68	0.00	0.00	0.06	0.06	0.14	0.29	0.29
	Lysee., Lysefj.Boknafj.	182	182	46	74.0	57.0	74.0		2.28	0.98	0.33	127.6	95.9	2.94	0.07	0.95	0.00	0.00	0.08	0.08	0.17	0.00	0.33
	Årdalse., Årdalsfj.Boknafj.	519	516	501	81.4	64.3	81.4		2.36	2.09	0.52	296.1	208.2	4.71	0.31	3.66	0.00	0.01	0.27	0.27	0.44	1.05	1.05
	Førree., Jøsenfj.Boknafj.	163	163	163	85.8	68.6	85.8		2.30	1.06	0.18	88.9	87.8	2.47	0.11	0.32	0.00	0.00	0.07	0.07	0.06	0.35	0.35
	Ulla, Jøsenfj.Boknafj.	393	393	385	83.4	66.7	83.4		1.88	2.48	0.46	181.9	71.1	2.48	0.33	3.80	0.00	0.01	0.28	0.28	0.69	1.24	1.24
(7.)	Saudae., Saudafj.Boknafj.	353	353		85.0	68.0	85.0		2.04	2.27	0.38	393.6	336.9	2.27	1.14	20.44	0.05	0.05	0.11	0.11	0.23	1.14	1.14
	Åbøelva, Saudafj.Boknafj.	82	82		85.0	76.5	85.0		1.39	0.40	0.20	36.6	27.5	0.59	0.06	0.57	0.00	0.00	0.04	0.04	0.08	0.00	0.20
	Vikedalse., Boknafj.	118	117		80.0	61.3	80.0	61.3	2.10	0.68	0.19	57.2	40.7	2.04	0.16	0.79	0.01	0.01	0.07	0.07	0.26	0.00	0.23

Table 9.1 TRIBUTARY RIVERS. ANNUAL LOAD 1996.

County	Watercourse	Runoff data								Parameters (mean values)														
		Drainage area			Discharge																			
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station			Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	C d		P b		S.P.M.	H g	
					Normal	1996	Normal	1996	Cond								zero	limit	zero	limit		zero	limit
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		mS/m	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	t.tons	kg	kg
Hordaland	Etneelva, Etnefj. Bømlafj.	252	250	127	48.8	32.5	96.0	63.9	2.50	0.77	0.21	125.6	111.5	1.15	0.13	0.69	0.01	0.01	0.03	0.03	0.31	0.64	0.64
(7.)	Opo, Sørfj. Hardangerfj.	482	480	464	79.3	57.6	79.3	57.6	1.36	3.49	1.40	299.1	129.0	7.85	0.44	3.92	0.03	0.03	0.29	0.29	1.33	0.00	0.87
	Tysso, Sørfj. Hardangerfj.	388	385	407	79.3	57.6	79.3		2.01	0.70	0.35	145.5	93.7	2.10	0.77	5.66	0.03	0.03	0.10	0.10	0.22	1.40	1.40
	Kinso, Sørfj. Hardangerfj.	281	281	232	46.0	34.2	46.0	34.2	1.71	0.30	0.15	39.1	25.5	0.91	0.09	0.36	0.01	0.01	0.02	0.02	0.12	0.30	0.30
	Veig, Eidfjv. Hardangerfj.	496	496	386	41.8	20.2	41.8	20.2	2.04	0.63	0.22	56.9	33.8	0.95	0.16	0.66	0.01	0.01	0.02	0.02	0.18	0.32	0.32
	Bjoreia, " , Hardangerfj.	592	592	592	26.0	7.7	26.0	7.7	2.04	0.29	0.10	25.9	15.4	0.43	0.07	0.30	0.00	0.00	0.01	0.01	0.08	0.14	0.14
	Sima, Eidfj. Hardangerfj.	145	145	128	69.2	68.0	69.2		2.07	0.31	0.17	84.0	70.0	0.93	0.16	0.40	0.00	0.00	0.02	0.02	0.12	0.31	0.31
	Austdøla, Osafj. Eidfj.	131	130	89	74.6	53.7	74.6		0.89	0.44	0.11	35.2	26.4	0.66	0.07	0.31	0.00	0.00	0.02	0.02	0.03	0.33	0.33
	Norddøla, Osafj. Eidfj.	40	39	89	74.6	53.7	74.6		4.32	0.05	0.03	14.5	12.9	0.20	0.01	0.07	0.00	0.00	0.00	0.00	0.06	0.00	0.07
	Tysseelva, Fusafj.	240	240		85.0	60.4	85.0		1.44	2.74	0.26	118.9	54.9	3.66	0.32	1.92	0.01	0.01	0.19	0.19	0.28	0.69	0.69
	Oselva, Fusafj.	109	108	50	91.7	65.6	91.7	65.6	3.04	3.35	1.56	99.9	39.8	1.12	0.20	0.89	0.00	0.00	0.08	0.08	0.23	0.00	0.22
	Bergsdalse, Veafj.Herdlafj.	198	198		80.0	58.4	80.0		1.53	1.82	0.32	98.5	48.9	2.92	0.29	1.39	0.01	0.01	0.10	0.10	0.24	0.36	0.36
	Vosso, Veafj. Sørfj.	1492	1465	1102	58.2	40.8	58.2	40.8	1.45	5.65	1.56	546.6	311.0	28.27	0.94	5.84	0.02	0.02	0.21	0.21	1.75	1.88	1.88
	Ekso, Osterfj.	414	400	342	86.2	61.2	86.2		1.49	2.32	0.44	238.5	159.8	2.32	0.31	2.78	0.01	0.01	0.14	0.14	0.32	0.77	0.77
	Modalselva, Osterfj.	385	384	248	95.5	67.8	95.5		1.52	2.46	0.53	212.7	157.6	4.93	0.33	2.22	0.01	0.01	0.16	0.16	0.39	0.00	0.82

Table 9.1 TRIBUTARY RIVERS. ANNUAL LOAD 1996.

County	Watercourse	Runoff data								Parameters (mean values)														
		Drainage area			Discharge																			
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station																	
					Normal	1996	Normal	1996	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	C d		P b		S.P.M.	H g	
																	zero	limit	zero	limit		zero	limit
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		mS/m	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	t.tons	kg	kg
Sogn og Fjordane (7.)	Nærøye., Aurl.fj. Sognefj.	290	290	267	59.5	41.4	59.5		1.35	1.51	0.26	83.3	64.4	1.14	0.15	0.53	0.00	0.00	0.02	0.02	0.17	0.00	0.38
	Flåmse., Aurl.fj. Sognefj.	280	275	275	52.4	50.7	52.4	50.7	1.15	0.88	0.41	68.2	47.5	1.32	0.18	0.66	0.01	0.01	0.05	0.05	0.76	0.44	0.44
	Aurlandv. Aurl.fj. Sognefj.	800	799	762	48.6	35.0	48.6		1.50	0.88	0.44	238.1	185.2	15.87	0.26	1.32	0.00	0.01	0.05	0.05	0.39	0.00	0.88
	Erdalse., Lærd.fj. Sognefj.	138	138		30.0	21.3	30.0		1.10	0.19	0.07	14.4	10.3	0.28	0.03	0.07	0.00	0.00	0.00	0.00	0.04	0.00	0.09
	Lærdalsv. Lærd.fj. Sognefj.	1184	1172	1172	30.0	15.0	30.0	15.0	1.78	2.22	0.34	127.5	85.9	3.33	0.28	1.39	0.01	0.01	0.04	0.04	0.38	0.00	0.55
	Årdalsv., Årdalsfj.Sognefj.	989	989	989	44.9	32.4	44.9	32.4	1.12	2.02	0.81	145.5	92.0	11.12	1.01	1.82	0.01	0.01	0.06	0.06	0.39	0.00	1.01
	Fortunv., Lusterfj.Sognefj.	508	508	367	51.0	37.2	51.0		1.05	1.79	0.60	113.2	76.3	3.58	0.54	2.38	0.01	0.01	0.14	0.14	1.82	0.00	0.60
	Mørkrisv., Lusterfj.Sognefj.	282	282	203	54.7	45.7	54.7	45.7	0.89	0.81	0.41	63.0	47.6	1.22	0.20	0.57	0.00	0.00	0.05	0.05	1.55	0.00	0.41
	Jostedøla, " Sognefj.	865	864	573	68.0	45.1	68.0	45.1	1.19	17.20	15.97	190.5	135.2	3.69	1.72	5.90	0.00	0.01	0.61	0.61	23.10	0.00	1.23
	Årøye., Sognd.fj. Sognefj.	449	446	384	77.2	56.4	77.2		1.35	4.76	0.77	123.0	69.0	6.35	0.56	1.27	0.00	0.01	0.06	0.06	1.91	0.00	0.79
	Sogndalse, " Sognefj.	175	172	111	66.1	50.0	66.1	50.0	1.28	1.36	0.54	54.2	31.5	1.63	0.11	0.41	0.01	0.01	0.02	0.02	0.28	0.00	0.27
	Gaular, Dalsfj. Bufj.	627	625	505	79.3	55.7	79.3	55.7	1.16	5.49	1.10	240.4	126.3	4.94	0.33	2.74	0.00	0.01	0.34	0.34	1.14	1.10	1.10
	Jølstra, Førdefj.	714	709	384	74.3	52.8	74.3		1.76	7.56	3.54	384.9	253.8	14.17	0.59	4.84	0.02	0.02	0.19	0.19	2.60	1.18	1.18
	Nausta, Førdefj.	277	273	232	81.7	49.0	81.7	49.0	1.34	3.37	1.27	89.4	44.3	4.64	0.17	1.01	0.00	0.00	0.10	0.10	0.57	0.63	0.63
	Oselva, Høydalsfj.	287	285	225	78.7	55.1	78.7		1.88	2.48	0.43	96.6	34.2	6.93	0.15	0.99	0.01	0.01	0.09	0.09	0.33	0.74	0.74
	Hopse., Hyefj. Nordfj.S	73	73	161	75.0	46.2	75.0		1.02	0.43	0.06	21.8	14.9	0.85	0.03	0.15	0.00	0.00	0.02	0.02	0.11	0.11	0.11
	Gjengedalse.," Nordfj.S	170	168	161	75.0	46.2	75.0	46.2	1.19	0.98	0.16	53.8	28.6	1.96	0.07	0.39	0.00	0.00	0.04	0.04	0.25	0.24	0.24
	Breimse., Gloppenfj. "	636	634	585	68.0	51.6	68.8		1.73	9.80	0.61	359.0	137.2	6.19	0.31	1.03	0.00	0.01	0.05	0.05	1.12	0.00	1.03
	Oldene., Indre Nordfj.	226	225	214	70.1	70.8	70.1	70.8	1.68	2.01	0.38	124.6	90.4	4.52	0.15	3.27	0.00	0.01	0.04	0.04	0.69	0.00	0.50
	Loenelva, Indre Nordfj.	261	260	234	65.0	59.6	65.0	59.6	1.85	3.08	0.39	89.4	50.3	1.47	0.20	3.18	0.00	0.00	0.12	0.12	0.77	0.00	0.49
	Strynee., Indre Nordfj.	532	530	493	60.2	62.0	60.2		1.75	5.18	0.83	220.7	101.6	14.51	1.55	2.18	0.00	0.01	0.27	0.27	0.90	0.00	1.04
	Hornindalse., Nordfj. N	428	424	378	58.1	43.6	58.1		2.15	2.62	0.36	127.7	85.1	3.50	0.23	0.82	0.00	0.01	0.09	0.09	0.44	0.00	0.58

Table 9.1 TRIBUTARY RIVERS. ANNUAL LOAD 1996.

County	Watercourse	Runoff data								Parameters (mean values)														
		Drainage area			Discharge																			
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station			Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	C d		P b		S.P.M.	H g	
					Normal	1996	Normal	1996	Cond								zero	limit	zero	limit		zero	limit
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		mS/m	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	t.tons	kg	kg
Møre og Romsdal (8.)	Ørstae., Ørstafj.	160	155		70.0	51.8	70.0		3.05	4.05	2.03	90.9	49.4	3.54	0.13	0.68	0.01	0.01	0.04	0.04	0.74	0.25	0.25
	Valldøla, Nordalfj.Storfj.	359	357		60.0	43.1	60.0		2.01	1.46	0.24	32.5	17.0	1.46	0.15	0.24	0.00	0.00	0.02	0.02	0.37	0.00	0.49
	Rauma, Romsdalsfj.Moldefj.	1202	1190	1142	32.8	24.1	32.8	24.1	2.31	2.71	0.45	81.4	42.5	2.71	0.36	0.72	0.01	0.01	0.06	0.06	0.33	0.00	0.90
	Isa, Isfj. Moldefj.	175	175	89	57.0	41.8	57.0		2.56	1.73	0.69	23.8	4.6	0.69	0.12	0.21	0.00	0.00	0.01	0.01	0.12	0.23	0.23
	Eira, Eresfj. Moldefj.	1119	1119	1085	34.8	36.1	34.8		2.61	3.18	0.64	222.9	142.7	6.37	0.51	1.78	0.01	0.01	0.11	0.11	0.33	1.91	1.91
	Littledalse., Sunndalsfj.	359	330	330	41.0	30.8	41.0		1.08	1.76	0.64	41.7	27.9	0.96	0.19	0.22	0.00	0.00	0.03	0.03	0.09	0.00	0.32
	Driva, Sunnd.fj.Tingvollfj.	2487	2435	2435	27.9	21.2	27.9		3.82	8.95	1.63	255.6	83.0	4.88	6.19	11.07	0.03	0.03	1.29	1.29	1.06	0.00	1.63
	Ulvåa, Ålvundfj.	199	199	207	57.0	42.8	60.7		1.95	0.94	0.27	36.8	20.4	1.34	0.08	0.24	0.02	0.02	0.03	0.03	0.02	0.27	0.27
	Toåa, Todalsfj.	251	251	207	58.5	43.9	58.5		1.51	0.35	0.17	21.9	6.6	1.04	0.14	0.38	0.00	0.00	0.01	0.01	0.14	0.00	0.35
	Surna, Surnadalsfj.	1200	1200	1125	48.0	35.3	49.3		2.57	4.68	1.34	176.3	82.8	6.01	0.67	1.07	0.01	0.01	0.11	0.11	0.76	6.41	6.41
	Bøvra, Hamnesfj. Halsafj.	243	243	196	55.0	40.2	55.0		2.78	0.31	0.15	119.5	95.8	0.92	0.28	0.68	0.00	0.00	0.03	0.03	0.31	0.00	0.31
Sør-Trøndelag (8.)	Børse.,Gaulosen Tr.h.fj.	110	100		30.0	22.5	30.0		9.03	1.42	0.07	40.1	20.6	0.35	0.07	0.02	0.00	0.00	0.01	0.01	0.10	0.25	0.25
	Vigda, Gaulosen Tr.h.fj.	150	150		30.0	22.5	30.0		11.10	1.70	0.32	42.6	12.5	0.53	0.09	0.05	0.00	0.00	0.01	0.01	0.37	0.32	0.32
	Gaula, Gaulosen Tr.h.fj.	3659	3650	3062	26.4	27.1	26.4	27.1	6.36	21.84	12.48	795.4	311.9	49.91	3.43	4.68	0.06	0.06	0.59	0.59	19.03	3.12	3.12
	Nidelva, Trondheimsfj.	3110	3100	3049	35.5	27.7	35.5	27.7	3.58	18.96	2.17	612.0	167.9	16.25	2.17	1.90	0.00	0.03	0.14	0.14	1.84	10.83	10.83
	Homla, Stjørd.fj.Tr.h.fj.	157	157		30.0	22.5	30.0		6.45	0.56	0.11	26.7	2.9	0.56	0.13	0.08	0.00	0.00	0.01	0.01	0.06	0.45	0.45
Nord-Trøndelag (8.)	Stjørdalsv, " Tr.h.fj.	2117	2117	1863	38.5	29.3	38.5	29.3	3.64	7.82	5.87	444.0	183.9	21.52	3.13	6.65	0.00	0.02	0.45	0.45	7.04	7.82	7.82
	Gråe., " Tr.h.fj.	93	93		25.0	18.8	25.0		18.50	0.61	0.33	64.5	52.9	0.33	0.07	0.03	0.00	0.00	0.00	0.00	0.07	0.19	0.19
	Verdalsvassdr., Tr.h.fj.	1472	1472	898	40.0	25.1	44.5	27.9	12.50	2.33	1.17	390.3	215.6	22.14	1.05	0.58	0.00	0.01	0.10	0.10	1.12	2.91	2.91
	Figga/Leksdalse.,Tr.h.fj.	282	282	178	30.0	22.5	33.6	22.5	4.30	3.10	2.10	94.0	51.6	5.40	0.26	0.42	0.00	0.00	0.05	0.05	1.25	0.00	0.20
	Snåsavassdr., Trondh.fj.	2153	2125	2125	35.1	18.1	35.1	18.1	4.93	4.25	1.21	321.4	166.2	15.16	1.33	1.46	0.01	0.01	0.21	0.21	1.27	0.00	1.21
	Årgårdselva, Namsfj.	543	510	238	43.0	29.4	50.9	34.8	14.10	8.98	2.84	175.0	23.6	8.04	0.57	0.57	0.00	0.00	0.09	0.09	0.81	2.36	2.36
	Namsen, Namsfj. Ø	6277	6276	5718	43.4	32.9	43.4	32.9	11.30	19.53	13.02	1041.9	332.1	84.65	16.93	18.88	0.13	0.13	0.33	0.33	5.01	22.79	22.79
	Salsvatnelva, Follafj.	432	432	422	59.7	49.5	59.7	49.5	4.53	0.61	0.34	98.5	39.1	4.05	0.13	0.81	0.01	0.01	0.05	0.05	0.26	3.37	3.37

Table 9.1 TRIBUTARY RIVERS. ANNUAL LOAD 1996.

County	Watercourse	Runoff data								Parameters (mean values)														
		Drainage area			Discharge																			
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station																	
					Normal	1996	Normal	1996	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	C d		P b		S.P.M.	H g	
																	zero	limit	zero	limit		zero	limit
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		mS/m	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	t.tons	kg	kg
Nordland	Åbjøra, Bindalsfj. S	526	520	384	80.2	35.1	80.2	35.1	8.01	1.73	1.15	65.6	15.0	1.73	0.23	0.29	0.00	0.01	0.10	0.10	1.31	2.59	2.59
(9.)	Skjerva, Vefsenfj. S	104	104	98	41.3	33.9	41.3		5.29	1.67	0.56	54.5	26.1	0.89	0.11	0.11	0.00	0.00	0.03	0.03	1.32	0.61	0.61
	Fusta, Vefsenfj. N	544	543	520	63.4	52.8	63.4	52.8	2.53	4.52	3.62	144.7	38.9	17.18	0.63	0.90	0.00	0.01	0.15	0.15	4.07	4.07	4.07
	Drevja, Vefsenfj. N	177	176	98	65.0	54.0	65.0		3.85	1.20	0.60	56.9	24.3	0.90	0.18	0.27	0.00	0.00	0.07	0.07	1.32	1.35	1.35
	Røssåga, Sørfj.	2092	2087	1880	45.4	58.7	45.4	58.7	4.73	57.95	30.91	888.6	316.8	108.17	6.18	14.29	0.00	0.04	2.86	2.86	53.70	21.25	21.25
	Bjerka, Sørfj.	385	385	273	55.4	49.9	55.4		2.66	1.21	0.36	93.9	25.4	3.64	0.42	0.48	0.00	0.01	0.08	0.08	0.64	2.42	2.42
	Dalselva, Ranafj. N	211	211	129	39.5	35.6	39.5		2.06	1.18	0.24	46.2	8.1	5.92	0.14	0.26	0.00	0.00	0.05	0.05	0.58	1.07	1.07
	Ranavassdraget, Ranafj. N	3847	3846	1892	44.9	38.2	44.9		2.97	18.53	9.27	1019.3	509.6	139.00	3.71	9.73	0.00	0.05	1.62	1.62	32.76	16.22	16.22
	Fykanåga, Glomfjord	297	297	243	103.7	103.0	103.7		2.91	2.89	1.93	82.0	38.6	6.75	0.48	0.96	0.01	0.01	0.29	0.29	1.94	0.00	0.96
	Beiare., Beiarfj. Nordfj.	1064	875	797	45.1	44.7	45.1		2.11	48.10	30.84	197.4	54.3	34.54	2.10	4.07	0.02	0.02	1.07	1.07	105.95	5.55	5.55
	Saltdalsvassdr., Saltd.fj.S	1544	1543	1168	32.1	25.7	32.1		2.26	5.00	2.50	122.6	47.5	21.26	0.75	2.50	0.00	0.01	0.38	0.38	11.92	4.38	4.38
	Sulitjelmavassdr., Saltd.fj	1028	800	791	44.0	33.0	44.0		21.40	0.67	0.58	61.6	19.1	6.66	5.41	4.75	0.02	0.02	0.19	0.19	0.44	2.91	2.91
	Kobbe., Leirfj. Sørfolda N	405	405	386	66.9	65.6	66.9		0.85	2.51	1.68	89.6	36.0	5.03	0.25	0.84	0.00	0.01	0.25	0.25	2.66	3.35	3.35
	Skjoma, Ofotfj. S	845	840	797	36.3	35.6	36.3		1.57	0.94	0.47	61.3	6.6	15.09	0.28	1.51	0.00	0.01	0.27	0.27	0.39	2.36	2.36

Table 9.1 TRIBUTARY RIVERS. ANNUAL LOAD 1996.

County	Watercourse	Runoff data								Parameters (mean values)														
		Drainage area			Discharge																			
		Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station																	
					Normal	1996	Normal	1996	Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	C d		P b		S.P.M.	H g	
																	zero	limit	zero	limit		zero	limit
		sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		mS/m	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	t.tons	kg	kg
Troms	Spanselva, Astafj. Vågsfj.	142	142	533	50.0	49.5	50.0		6.01	0.16	0.13	7.8	2.4	1.33	0.07	0.04	0.00	0.00	0.00	0.00	0.06	0.55	0.55
(9.)	Salangse., Astafj. Vågsfj.	539	539	533	40.9	39.7	40.9		6.92	0.67	0.34	39.8	8.1	5.40	0.20	0.13	0.00	0.01	0.02	0.02	0.20	1.69	1.69
	Rossfjorde., Malangen	196	190		39.5	40.0	39.5		7.46	0.48	0.12	25.9	1.0	2.64	0.10	0.07	0.00	0.00	0.02	0.02	0.06	0.84	0.84
	Målse., Målselvfj. "	3239	3200	3118	28.7	29.0	28.7		6.30	5.85	2.34	228.3	84.9	14.63	1.17	0.88	0.00	0.03	0.18	0.18	3.66	5.85	5.85
	Bardue., Målselva	2906	2906	2049	28.3	29.0	28.3		6.30	5.32	2.13	207.3	77.1	13.29	1.06	0.80	0.00	0.03	0.16	0.16	3.32	5.32	5.32
	Nordkjoselva, Balsfj.	191	191	415	27.7	26.9	27.7		3.99	0.32	0.16	8.7	1.9	0.81	0.05	0.03	0.00	0.00	0.00	0.00	0.07	0.49	0.49
	Signaldalselva, Lyngen V	473	467	415	27.7	26.9	27.7		3.31	0.40	0.20	26.1	3.2	1.19	0.20	0.08	0.00	0.00	0.00	0.01	0.31	1.39	1.39
	Skibotnelva, Lyngen	770	770	724	18.0	18.0	18.0	18.0	2.99	0.44	0.22	39.3	12.2	2.62	0.31	0.22	0.00	0.00	0.02	0.02	0.16	1.53	1.53
	Kåfjordelva, Lyngen Ø	358	358	348	20.0	19.0	20.0		3.14	0.21	0.11	19.9	10.3	0.64	0.26	0.06	0.00	0.00	0.00	0.00	0.07	0.00	0.21
	Reisa, Reisafj.	2702	2702		16.0	15.8	16.0		4.65	4.04	0.81	169.6	39.0	4.04	0.81	0.27	0.00	0.01	0.00	0.03	0.62	4.71	4.71
Finnmark	Mattiselva, Kåfj. Altafj.	325	325	319	26.5	26.0	26.5		3.18	0.53	0.13	20.8	2.1	2.93	0.11	0.05	0.00	0.00	0.00	0.01	0.13	0.80	0.80
(10.)	Tverrelva, Altafj.	234	233	233	15.1	14.3	15.1		5.29	0.32	0.09	21.5	10.6	0.32	0.05	0.02	0.00	0.00	0.00	0.00	0.04	0.00	0.11
	Repparfjordv., Repparfj.	1090	1089		25.0	23.8	25.0		4.66	0.82	0.41	93.2	41.7	2.45	0.33	0.16	0.00	0.01	0.00	0.02	0.26	2.04	2.04
	Stabburse., I. Porsangen V	1108	1102	870	18.3	21.3	18.3	21.3	3.50	0.74	0.37	57.7	14.1	3.70	0.22	0.37	0.00	0.01	0.01	0.01	0.30	0.00	0.74
	Lakse., Indre Porsangen S	1533	1532	941	15.9	15.5	15.9	15.5	5.35	2.25	0.67	67.4	2.2	4.12	0.37	0.15	0.00	0.01	0.02	0.02	0.87	2.25	2.25
	Børselva.Indre Porsangen Ø	883	883	863	29.8	28.3	29.8		5.02	0.79	0.39	46.5	2.4	4.73	0.16	0.39	0.00	0.01	0.00	0.02	0.23	2.36	2.36
	Mattusjåkka, I. Laksefj. V	101	101	101	22.8	21.9	22.8		7.32	0.07	0.03	4.1	0.1	0.21	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.28	0.28
	Storelva.Indre Laksefj. V	690	690	760	21.9	18.9	19.9		2.05	0.41	0.21	32.1	20.6	2.47	0.04	0.58	0.00	0.00	0.02	0.02	0.09	1.03	1.03
	Soussjåkka, I. Laksefj. V	92	92	102	25.3	24.3	22.8		6.72	0.07	0.04	3.8	0.8	0.21	0.01	0.04	0.00	0.00	0.00	0.00	0.01	0.21	0.21
	Adamselva, I. Laksefj. Ø	705	705	760	19.9	18.9	19.9		7.19	0.42	0.21	32.8	2.5	4.62	0.17	0.59	0.01	0.01	0.47	0.47	0.16	1.26	1.26
	Tanavassdraget, Tanafj. S	16389	15713	14169	11.5	11.2	11.5		5.51	65.49	27.19	960.1	277.5	33.30	22.09	53.28	0.17	0.17	4.50	4.50	4.83	0.00	5.55
	Vesterelva, Syltefj.	469	469	79	34.6	34.5	34.6		5.57	1.02	0.26	24.5	0.5	1.53	0.10	0.20	0.00	0.01	0.04	0.04	0.17	1.02	1.02
	V. Jakobse., Y.Varangerfj.	627	627	239	18.1	18.5	18.1		2.89	0.73	0.18	19.4	1.1	1.10	0.07	0.07	0.00	0.00	0.01	0.01	0.20	0.00	0.37
	Passvike., Bøkfj.Varang.fj.	18404	18400	18175	9.3	9.5	9.3		3.36	16.54	3.31	771.7	16.5	44.10	6.06	3.86	0.00	0.06	0.22	0.22	3.91	0.00	5.51
	Neiden, Munkfj. Varang.fj.	2960	2960	2911	9.8	10.0	9.8		7.02	2.80	0.65	149.4	2.8	15.87	0.65	0.47	0.00	0.01	0.03	0.03	0.89	0.00	0.93
	Grense Jakobse.,Varang.fj.	234	234		18.0	19.0	18.0		4.70	0.28	0.14	15.1	0.8	2.24	0.28	0.11	0.00	0.00	0.01	0.01	0.27	0.14	0.14

Table 9.2 TRIBUTARY RIVERS. ANNUAL LOAD 1996.

County	Watercourse	Parameters (mean values)																									
			PCB (The folloving Congeners) IUPAC NOS																		TOC	SiO2	Cr- T		Ni		As	
		Gamma HCH	28		52		101		118		138		153		180		Sum : PCB											
			zero	limit	zero	limit	zero	limit	zero	limit	zero	limit	zero	limit	zero	limit	zero	limit										
		kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	t.tons	t.tons	zero tons	limit tons	zero tons	limit tons	zero tons	limit tons		
Østfold	Tista, Iddefj.	0.347	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.122	3.82	1.62	0.00	0.29	0.46	0.46	0.09	0.09		
(1.)	Mosselva, Mossesundet	0.153	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	0.053	1.78	0.79	0.13	0.13	0.53	0.53	0.11	0.11		
Oslo &	Hølenelva, Drøbaksundet Ø	0.013	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	0.009	0.42	0.37	0.09	0.09	0.23	0.23	0.03	0.03		
Akershus	Årungelva, I. Oslofj.	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.05	0.03	0.00	0.01	0.04	0.04	0.02	0.02		
(1.)	Gjersjøelva, I. Oslofj.	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.07	0.01	0.00	0.01	0.11	0.11	0.00	0.00		
	Ljanselva, I. Oslofj.	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.05	0.06	0.00	0.01	0.12	0.12	0.00	0.00		
	Loelva/Alna, I. Oslofj.	0.007	0.002	0.002	0.007	0.007	0.004	0.004	0.002	0.002	0.004	0.004	0.004	0.004	0.002	0.002	0.025	0.025	0.21	0.27	0.07	0.07	0.09	0.09	0.01	0.01		
	Akerselva, I. Oslofj.	0.004	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.007	0.008	0.09	0.09	0.00	0.01	0.02	0.02	0.00	0.00		
	Frognerelva, I. Oslofj.	0.003	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	0.006	0.04	0.07	0.01	0.01	0.04	0.04	0.01	0.01		
	Lysakerelva, I. Oslofj.	0.018	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	0.38	0.44	0.00	0.05	0.07	0.07	0.01	0.01		
	Sandvikselva, I. Oslofj.	0.021	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	0.023	0.56	0.55	0.00	0.05	0.05	0.05	0.01	0.01		
	Åroselva, I. Oslofj.	0.017	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	0.34	0.40	0.00	0.03	0.13	0.13	0.02	0.02		
Buskerud	Lierelva, Drammensfj. Ø	0.069	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	0.029	0.81	1.06	0.10	0.10	0.40	0.40	0.06	0.06		
(2.)																												
Vestfold	Sandeelva, Sandebukta	0.043	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	0.018	0.31	0.61	0.05	0.05	0.16	0.16	0.01	0.01		
(3.)	Aulielva, Tønsbergfj.	0.079	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	0.033	0.82	1.28	0.00	0.08	0.43	0.43	0.07	0.07		
	Farriselva, Larvikfj.	0.159	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	1.21	1.08	0.00	0.16	0.22	0.22	0.00	0.03		
Telemark	Tokkeelva, Kragerø	0.602	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	0.126	2.71	1.56	0.00	0.30	0.30	0.30	0.17	0.17		
(4.)																												
Aust-Agder	Gjerstadelva, Søndeledfj.	0.242	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	1.18	0.60	0.00	0.12	0.19	0.19	0.03	0.03		
(5.)	Vegårdselva, Sandnesfj.	0.256	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	1.02	0.61	0.00	0.13	0.20	0.20	0.06	0.06		
	Nidelva, Arendal	2.447	0.000	0.073	0.000	0.073	0.000	0.073	0.000	0.073	0.000	0.073	0.000	0.073	0.000	0.073	0.000	0.514	6.6	5.87	0.00	1.22	1.22	1.22	0.00	0.24		

Table 9.2 TRIBUTARY RIVERS. ANNUAL LOAD 1996.

County	Watercourse	Parameters (mean values)																							
			PCB (The folloving Congeners) IUPAC NOS																						
		Gamma HCH kg	28		52		101		118		138		153		180		Sum : PCB		TOC	SiO2	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	t.tons	t.tons	zero tons	limit tons	zero tons	limit tons	zero tons	limit tons
Vest-Agder	Tovdalselva, Topdalsfj.	1.684	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	0.354	5.93	4.04	0.00	0.84	1.01	1.01	0.00	0.17
(5.)	Søgneelva, Flekkerøy	0.166	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.043	0.79	0.72	0.00	0.10	0.25	0.25	0.07	0.07
	Mandalselva, Mannefj.	1.645	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	0.494	8.30	4.47	0.00	1.18	1.18	1.18	0.82	0.82
	Audna, Sniksfj.	0.187	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	0.079	1.09	0.97	0.00	0.19	0.19	0.19	0.10	0.10
(6.)	Lygna, Lyngdalsfj.	0.330	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	0.139	2.33	1.32	0.00	0.33	0.26	0.26	0.00	0.07
	Kvina, Fedafj.	0.724	0.000	0.043	0.000	0.043	0.000	0.043	0.000	0.043	0.000	0.043	0.000	0.043	0.000	0.043	0.000	0.304	5.65	3.19	0.00	0.72	0.43	0.43	0.00	0.14
	Sira, Åna-Sira	1.228	0.000	0.074	0.000	0.074	0.000	0.074	0.000	0.074	0.000	0.074	0.000	0.074	0.000	0.074	0.000	0.516	3.93	1.84	0.00	1.23	0.49	0.49	0.00	0.25
Rogaland	Sokndalselva, Sogndalsstr.	0.325	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	0.58	0.47	0.00	0.18	1.70	1.70	0.00	0.04
(6.)	Hellelandselva, Egersund	0.316	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	0.60	0.22	0.00	0.18	0.21	0.21	0.00	0.04
	Bjerkreimselva, Egersund	0.839	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	0.196	0.98	1.46	0.00	0.47	0.28	0.28	0.00	0.09
	Håelva, Håtangen	0.145	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	0.038	0.79	0.25	0.00	0.09	0.14	0.14	0.11	0.11
	Figgjo, Solavika	0.201	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	0.053	0.98	0.88	0.00	0.13	0.20	0.20	0.05	0.05
	Ims-Lutsi. Høgsfj.Boknafj.	0.083	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	0.022	0.35	0.21	0.00	0.05	0.03	0.03	0.00	0.01
	Oltedalse.,Høgsfj.Boknafj.	0.132	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	0.23	0.30	0.00	0.08	0.07	0.07	0.00	0.02
	Dirdalse., Høgsfj.Boknafj.	0.248	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	0.065	0.38	0.47	0.00	0.16	0.09	0.09	0.00	0.03
	Frafjorde.,Frafj. Boknafj.	0.240	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	0.084	0.52	0.48	0.00	0.20	0.12	0.12	0.00	0.04
	Espedalse.,Høgsfj.Boknafj.	0.147	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	0.062	0.32	0.63	0.00	0.15	0.00	0.06	0.00	0.03
	Lysee., Lysefj.Boknafj.	0.131	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	0.069	0.33	0.39	0.00	0.16	0.02	0.02	0.01	0.01
	Årdalse., Årdalsfj.Boknafj.	0.377	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.220	1.44	1.15	0.00	0.52	0.00	0.21	0.13	0.13
	Førree., Jøsenfj.Boknafj.	0.141	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	0.67	0.49	0.00	0.18	0.02	0.02	0.04	0.04
	Ulla, Jøsenfj.Boknafj.	0.413	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	0.174	3.22	1.41	0.00	0.41	0.25	0.25	0.12	0.12
(7.)	Saudae., Saudafj.Boknafj.	0.151	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	0.159	1.82	0.76	0.00	0.38	0.23	0.23	0.14	0.14
	Åbøelva, Saudafj.Boknafj.	0.040	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.042	0.18	0.20	0.00	0.10	0.04	0.04	0.00	0.02
	Vikedalse., Boknafj.	0.045	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	0.047	0.26	0.21	0.00	0.11	0.11	0.11	0.02	0.02

Table 9.2 TRIBUTARY RIVERS. ANNUAL LOAD 1996.

County	Watercourse	Parameters (mean values)																							
			PCB (The folloving Congeners) IUPAC NOS																						
		Gamma HCH kg	28		52		101		118		138		153		180		Sum : PCB		TOC	SiO2	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	t.tons	t.tons	zero tons	limit tons	zero tons	limit tons	zero tons	limit tons
Hordaland	Etneelva, Etnefj. Bømlafj.	0.128	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	0.24	0.28	0.00	0.13	0.10	0.10	0.05	0.05
(7.)	Opo, Sørfj. Hardangerfj.	0.349	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	0.183	0.71	0.61	0.00	0.44	0.00	0.17	0.18	0.18
	Tysso, Sørfj. Hardangerfj.	0.280	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	0.147	0.83	1.40	0.00	0.35	0.21	0.21	0.09	0.09
	Kinso, Sørfj. Hardangerfj.	0.100	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	0.064	0.15	0.21	0.00	0.15	0.00	0.06	0.00	0.03
	Veig, Eidfjv. Hardangerfj.	0.073	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	0.35	0.32	0.00	0.16	0.13	0.13	0.06	0.06
	Bjoreia, " , Hardangerfj.	0.033	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	0.16	0.14	0.00	0.07	0.06	0.06	0.03	0.03
	Sima, Eidfj. Hardangerfj.	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	0.065	0.09	0.62	0.00	0.16	0.00	0.06	0.00	0.03
	Austdøla, Osafj. Eidfj.	0.044	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	0.04	0.19	0.00	0.11	0.00	0.04	0.00	0.02
	Norddøla, Osafj. Eidfj.	0.013	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	0.01	0.10	0.00	0.03	0.02	0.02	0.00	0.01
	Tysseelva, Fusafj.	0.091	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	0.096	0.82	0.44	0.00	0.23	0.09	0.09	0.05	0.05
	Oselva, Fusafj.	0.045	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	0.047	0.54	0.24	0.00	0.11	0.04	0.04	0.02	0.02
	Bergsdalse, Veafj.Herdlafj.	0.073	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	0.33	0.44	0.00	0.18	0.15	0.15	0.00	0.04
	Vosso, Veafj. Sørfj.	0.377	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	0.396	1.60	1.62	0.00	0.94	0.57	0.57	0.00	0.19
	Ekso, Osterfj.	0.154	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	1.19	0.93	0.00	0.39	0.23	0.23	0.00	0.08
	Modalselva, Osterfj.	0.164	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	0.172	0.63	0.75	0.00	0.41	0.00	0.16	0.00	0.08

Table 9.2 TRIBUTARY RIVERS. ANNUAL LOAD 1996.

County	Watercourse	Parameters (mean values)																									
			PCB (The folloving Congeners) IUPAC NOS																								
		Gamma HCH kg	28		52		101		118		138		153		180		Sum : PCB		TOC	SiO2	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	t.tons	t.tons	zero tons	limit tons	zero tons	limit tons	zero tons	limit tons
Sogn og Fjordane (7.)	Nærøye., Aurl.fj. Sognefj.	0.076	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	0.080	0.15	0.91	0.00	0.19	0.00	0.08	0.00	0.04
	Flåmse., Aurl.fj. Sognefj.	0.088	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	0.13	0.32	0.00	0.22	0.13	0.13	0.00	0.04
	Aurlandv. Aurl.fj. Sognefj.	0.106	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	0.185	0.35	0.87	0.00	0.44	0.00	0.18	0.00	0.09
	Erdalse., Lærd.fj. Sognefj.	0.014	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	0.08	0.16	0.00	0.05	0.00	0.02	0.00	0.01
	Lærdalsv. Lærd.fj. Sognefj.	0.111	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.116	0.36	1.11	0.00	0.28	0.00	0.28	0.06	0.06
	Årdalsv., Årdalsfj.Sognefj.	0.253	0.000	0.030	0.000	0.030	0.000	0.030	0.000	0.030	0.000	0.030	0.000	0.030	0.000	0.030	0.000	0.212	0.77	1.41	0.00	0.51	0.00	0.20	0.00	0.10
	Fortunv., Lusterfj.Sognefj.	0.167	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	0.125	0.18	0.72	0.00	0.30	0.00	0.12	0.18	0.18
	Mørkrisv., Lusterfj.Sognefj.	0.114	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	0.085	0.16	0.38	0.00	0.20	0.00	0.08	0.05	0.05
	Jostedøla, " Sognefj.	0.344	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	0.258	0.49	2.09	1.35	1.35	1.35	1.35	0.00	0.12
	Årøye., Sognd.fj. Sognefj.	0.222	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	0.167	0.48	0.75	0.00	0.40	0.00	0.16	0.17	0.17
	Sogndalse, " Sognefj.	0.076	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	0.057	0.79	0.30	0.00	0.14	0.00	0.05	0.00	0.03
	Gaular, Dalsfj. Bufj.	0.395	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	0.231	1.41	1.03	0.00	0.55	0.00	0.22	0.00	0.11
	Jølstra, Førdefj.	0.354	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	0.248	1.30	1.53	0.00	0.59	0.00	0.24	0.00	0.12
	Nausta, Førdefj.	0.127	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	0.089	0.73	0.46	0.00	0.21	0.00	0.08	0.00	0.04
	Oselva, Høydalsfj.	0.149	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.104	1.24	0.19	0.00	0.25	0.00	0.10	0.09	0.09
	Hopse., Hyefj. Nordfj.S	0.032	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	0.022	0.07	0.06	0.00	0.05	0.00	0.02	0.00	0.01
	Gjengedalse.," Nordfj.S	0.073	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	0.36	0.27	0.00	0.12	0.00	0.05	0.00	0.02
	Breimse., Gloppenfj. "	0.310	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.217	0.72	0.72	0.00	0.52	0.00	0.21	0.00	0.10
	Oldene., Indre Nordfj.	0.151	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.105	0.40	0.55	0.00	0.25	0.00	0.10	0.00	0.05
	Loenelva, Indre Nordfj.	0.147	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.103	0.24	0.64	0.00	0.24	0.00	0.10	0.00	0.05
	Strynee., Indre Nordfj.	0.311	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.031	0.000	0.218	0.52	1.04	0.00	0.52	0.00	0.21	0.00	0.10
	Hornindalse., Nordfj. N	0.233	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.122	0.70	0.82	0.00	0.29	0.00	0.12	0.00	0.06

Table 9.2 TRIBUTARY RIVERS. ANNUAL LOAD 1996.

County	Watercourse	Parameters (mean values)																							
			PCB (The folloving Congeners) IUPAC NOS																						
		Gamma HCH	28		52		101		118		138		153		180		Sum : PCB		TOC	SiO2	Cr- T		Ni		As	
		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	t.tons	t.tons	zero tons	limit tons	zero tons	limit tons	zero tons	limit tons
Møre og Romsdal (8.)	Ørstae., Ørstafj.	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	0.053	0.34		0.30	0.30	0.08	0.08	0.03	0.03
	Valldøla, Nordalfj.Storfj.	0.243	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.102	0.21		0.06	0.06	0.04	0.04	0.00	0.05
	Rauma, Romsdalsfj.Moldefj.	0.452	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	0.190	0.46		0.16	0.16	0.12	0.12	0.00	0.09
	Isa, Isfj. Moldefj.	0.092	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	0.15		0.11	0.11	0.08	0.08	0.00	0.02
	Eira, Eresfj. Moldefj.	0.395	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	0.268	0.64		0.00	0.64	0.22	0.22	0.00	0.13
	Littledalse., Sunndalsfj.	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	0.19		0.16	0.16	0.08	0.08	0.00	0.03
	Driva, Sunnd.fj.Tingvollfj.	0.326	0.000	0.049	0.000	0.049	0.000	0.049	0.000	0.049	0.000	0.049	0.000	0.049	0.000	0.049	0.000	0.342	2.05		1.8	1.8	3.7	3.7	0.00	0.16
	Ulvåa, Ålvundfj.	0.054	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	0.056	0.38		0.17	0.17	0.01	0.01	0.00	0.00
	Toåa, Todalsfj.	0.069	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	0.073	0.32		0.07	0.07	0.02	0.02	0.00	0.03
	Surna, Surnadalsfj.	0.668	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	0.281	2.27		0.27	0.27	0.28	0.28	0.00	0.13
	Bøvra, Hamnesfj. Halsafj.	0.216	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	0.065	0.54		0.06	0.06	0.18	0.18	0.03	0.03
Sør-Trøndelag (8.)	Børse.,Gaulosen Tr.h.fj.	0.064	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		0.06	0.00	0.04	0.11	0.11	0.03	0.03
	Vigda, Gaulosen Tr.h.fj.	0.085	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	0.022	0.40	0.09	0.00	0.05	0.12	0.12	0.03	0.03
	Gaula, Gaulosen Tr.h.fj.	2.184	0.000	0.094	0.000	0.094	0.000	0.094	0.000	0.094	0.000	0.094	0.000	0.094	0.000	0.094	0.000	0.655	10.0	6.24	2.50	2.50	6.24	6.24	0.75	0.75
	Nidelva, Trondheimsfj.	1.544	0.000	0.081	0.000	0.081	0.000	0.081	0.000	0.081	0.000	0.081	0.000	0.081	0.000	0.081	0.000	0.569	7.85	4.33	0.00	1.35	2.98	2.98	0.60	0.60
	Homla, Stjørd.fj.Tr.h.fj.	0.061	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	0.023		0.16	0.00	0.06	0.08	0.08	0.06	0.06
Nord-Trøndelag (8.)	Stjørdalsv, " Tr.h.fj.	1.076	0.000	0.059	0.000	0.059	0.000	0.059	0.000	0.059	0.000	0.059	0.000	0.059	0.000	0.059	0.000	0.411	5.8	1.56	0.98	0.98	1.17	1.17	0.90	0.90
	Gråe., " Tr.h.fj.	0.030	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		0.31	0.03	0.03	0.10	0.10	0.04	0.04
	Verdalsvassdr., Tr.h.fj.	0.641	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	0.245		2.10	0.00	0.58	1.05	1.05	0.84	0.84
	Figga/Leksdalse.,Tr.h.fj.	0.108	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.042	1.05	0.30	0.08	0.08	0.07	0.07	0.04	0.04
	Snåsavassdr., Trondh.fj.	0.606	0.000	0.036	0.000	0.036	0.000	0.036	0.000	0.036	0.000	0.036	0.000	0.036	0.000	0.036	0.000	0.255	4.18	1.09	0.32	0.32	0.89	0.89	0.16	0.16
	Årgårdselva, Namsfj.	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	0.099		0.52	0.66	0.66	0.43	0.43	0.59	0.59
	Namsen, Namsfj. Ø	1.563	0.000	0.195	0.000	0.195	0.000	0.195	0.000	0.195	0.000	0.195	0.000	0.195	0.000	0.195	0.000	1.367		4.56	20.2	20.2	15.0	15.0	0.72	0.72
	Salsvatnelva, Follafj.	0.202	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	0.142		0.67	0.00	0.34	0.00	0.13	0.18	0.18

Table 9.2 TRIBUTARY RIVERS. ANNUAL LOAD 1996.

County	Watercourse	Parameters (mean values)																							
			PCB (The folloving Congeners) IUPAC NOS																						
		Gamma HCH kg	28		52		101		118		138		153		180		Sum : PCB		TOC	SiO2	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	t.tons	t.tons	zero tons	limit tons	zero tons	limit tons	zero tons	limit tons
Nordland	Åbjøra, Bindalsfj. S	0.173	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.017	0.000	0.121		0.40	0.00	0.29	0.17	0.17	0.22	0.22
(9.)	Skjerva, Vefsenfj. S	0.044	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	0.023		0.20	0.00	0.06	0.11	0.11	0.07	0.07
	Fusta, Vefsenfj. N	0.362	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	0.190		0.63	0.00	0.45	0.45	0.45	0.45	0.45
	Drevja, Vefsenfj. N	0.120	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	0.063		0.24	0.00	0.15	0.18	0.18	0.11	0.11
	Røssåga, Sørfj.	1.159	0.000	0.116	0.000	0.116	0.000	0.116	0.000	0.116	0.000	0.116	0.000	0.116	0.000	0.116	0.000	0.811		3.86	5.02	5.02	8.50	8.50	1.89	1.89
	Bjerka, Sørfj.	0.182	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	0.127		0.61	0.00	0.30	0.42	0.42	0.13	0.13
	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	0.050		0.26	0.00	0.12	0.21	0.21	0.05	0.05
	Ranavassdraget, Ranafj. N	1.158	0.000	0.139	0.000	0.139	0.000	0.139	0.000	0.139	0.000	0.139	0.000	0.139	0.000	0.139	0.000	0.973		4.17	2.32	2.32	4.17	4.17	1.71	1.71
	Fykanåga, Glomfjord	0.241	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		0.87	0.48	0.48	0.87	0.87	0.36	0.36
	Beiare., Beiarfj. Nordfj.	0.617	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	0.259	3.21	0.86	0.99	0.99	1.48	1.48	0.79	0.79
	Saltdalsvassdr., Saltd.fj.S	0.875	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	0.263		1.63	0.00	0.63	0.88	0.88	0.66	0.66
	Sulitjelmavassdr., Saltd.fj	0.616	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	0.175		0.67	0.00	0.42	0.50	0.50	0.52	0.52
	Kobbe., Leirfj. Sørfolda N	0.419	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		0.42	0.00	0.42	0.00	0.17	0.38	0.38
	Skjoma, Ofotfj. S	0.377	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	0.198		1.41	0.00	0.47	0.00	0.19	0.43	0.43

Table 9.2 TRIBUTARY RIVERS. ANNUAL LOAD 1996.

County	Watercourse	Parameters (mean values)																								
			PCB (The folloving Congeners) IUPAC NOS																							
		Gamma HCH kg	28		52		101		118		138		153		180		Sum : PCB		TOC	SiO2	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	t.tons	t.tons	zero tons	limit tons	zero tons	limit tons	zero tons	limit tons
Troms	Spanselva, Astafj. Vågsfj.	0.078	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	0.047		0.18	0.00	0.11	0.11	0.11	0.09	0.09
(9.)	Salangse., Astafj. Vågsfj.	0.236	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	0.142		0.40	0.00	0.34	0.34	0.34	0.22	0.22
	Rossfjorde., Malangen	0.079	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		0.12	0.00	0.12	0.14	0.14	0.00	0.02
	Målse., Målselvfj. "	0.585	0.000	0.088	0.000	0.088	0.000	0.088	0.000	0.088	0.000	0.088	0.000	0.088	0.000	0.088	0.000	0.615		4.10	0.00	1.46	1.46	1.46	0.00	0.29
	Bardue., Målselva	0.532	0.000	0.080	0.000	0.080	0.000	0.080	0.000	0.080	0.000	0.080	0.000	0.080	0.000	0.080	0.000	0.558		3.72	0.00	1.33	1.33	1.33	0.00	0.27
	Nordkjoselva, Balsfj.	0.016	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	0.034		0.29	0.00	0.08	0.05	0.05	0.00	0.02
	Signaldalselva, Lyngen V	0.040	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	0.083		0.55	0.00	0.20	0.12	0.12	0.00	0.04
	Skibotnelva, Lyngen	0.022	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		0.70	0.00	0.22	0.35	0.35	0.09	0.09
	Kåfjordelva, Lyngen Ø	0.011	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.006	0.000	0.045		0.32	0.00	0.11	0.13	0.13	0.08	0.08
	Reisa, Reisafj.	0.067	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	0.283	2.56	4.04	0.00	0.67	0.00	0.27	0.38	0.38
Finnmark	Mattiselva, Kåfj. Altafj.	0.027	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	0.056		0.24	0.00	0.13	0.00	0.05	0.10	0.10
(10.)	Tverrelva, Altafj.	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	0.022		0.27	0.00	0.05	0.03	0.03	0.02	0.02
	Repparfjordv., Repparfj.	0.123	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	0.172		1.06	0.00	0.41	0.16	0.16	0.00	0.08
	Stabburse., I. Porsangen V	0.111	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	0.155	1.78	1.92	0.00	0.37	0.00	0.15	0.11	0.11
	Lakse., Indre Porsangen S	0.112	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	0.157		1.65	0.00	0.37	0.30	0.30	0.00	0.07
	Børselva.Indre Porsangen Ø	0.118	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	0.165		3.07	0.00	0.39	0.00	0.39	0.13	0.13
	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	0.015		0.10	0.00	0.03	0.00	0.01	0.00	0.01
	Storelva.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	0.086		1.44	0.00	0.21	0.08	0.08	0.00	0.04
	Soussjåkka, I. Laksefj. V	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	0.015		0.28	0.00	0.04	0.02	0.02	0.00	0.01
	Adamselva, I. Laksefj. Ø	0.063	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		1.43	0.00	0.21	0.13	0.13	0.00	0.04
	Tanavassdraget, Tanafj. S	0.610	0.000	0.166	0.000	0.166	0.000	0.166	0.000	0.166	0.000	0.166	0.000	0.166	0.000	0.166	0.000	1.165	16.5	43.4	5.83	5.83	4.38	4.38	0.61	0.61
	Vesterelva, Syltefj.	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.107		1.17	0.00	0.26	0.15	0.15	0.21	0.21
	V. Jakobse., Y.Varangerfj.	0.110	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		1.72	0.00	0.18	0.00	0.07	0.05	0.05
	Passvike., Bøkfj.Varang.fj.	1.764	0.000	0.165	0.000	0.165	0.000	0.165	0.000	0.165	0.000	0.165	0.000	0.165	0.000	0.165	0.000	1.158	21.5	20.4	0.00	2.76	32.0	32.0	2.15	2.15
	Neiden, Munkfj. Varang.fj.	0.327	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	0.196		2.05	0.00	0.47	0.00	0.19	0.12	0.12
	Grense Jakobse.,Varang.fj.	0.049	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	0.029		0.53	0.00	0.07	0.98	0.98	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:**

* 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	2.7	*	2.9	*	6.8	tonnes
Cadmium			3.3	**	2.9	**	7.4	tonnes
Mercury		116	245	*	130	*	492	kg
Mercury			286	**	130	**	533	kg
Copper		61	155		141		357	tonnes
Zinc		130	564		515		1209	tonnes
Lead		5.0	44.2	*	34.0	*	83.3	tonnes
Lead			44.3	**	34.0	**	83.4	tonnes
Arsenic		0.7	24.0		8.1	*	32.7	tonnes
Arsenic			29.5		9.5	**	39.7	tonnes
Cr-T		5.2	53.0	*	2.6	*	60.7	tonnes
Cr-T			100.0	**	31.8	**	137.0	tonnes
Ni		18.1	122.3	*	52.9	*	193.2	tonnes
Ni			128.6	**	52.9	**	199.6	tonnes
PCBs ***			0.1	*	0.3	*	0.3	kg
PCBs			29.2	**	12.7	**	41.9	kg
gamma-HCH			54		42		96	kg
NH4-N	1374	10992	1961		1625		15953	tonnes
NO3-N	15295	188	18941		16229		50652	tonnes
PO4-P	190	718	316		202		1426	tonnes
Total N	24065	17677	35153		27243		104138	tonnes
Total P	778	1450	778		664		3670	tonnes
SiO2			234822		135839		370660	tonnes
S.P.M.		5462918	407297		268982		6139197	tonnes
TOC		23138	205331		218257		446726	tonnes
COD		213094					213094	tonnes
BOD		44866					44866	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		0.12	1.3	*	2.5	*	3.9	tonnes
Cadmium			1.3	**	2.5	**	3.9	tonnes
Mercury		51.98	19	*	86	*	157	kg
Mercury			20	**	86	**	158	kg
Copper		26.85	22		78		126	tonnes
Zinc		20.84	184		384		589	tonnes
Lead		0.91	14.0	*	16.0	*	30.8	tonnes
Lead			14.0	**	16.0	**	30.8	tonnes
Arsenic		0.10	2.1	*	5.6	*	7.8	tonnes
Arsenic			2.7	**	6.4	**	9.3	tonnes
Cr-T		3.12	0.5	*	0.0	*	3.6	tonnes
Cr-T			6.8	**	23.6	**	33.6	tonnes
Ni		6.28	9.9	*	41.0	*	57.1	tonnes
Ni			9.9	**	41.0	**	57.1	tonnes
PCBs ***			0.1	*	0.3	*	0.3	kg
PCBs			2.8	**	9.9	**	12.7	kg
gamma-HCH			11		36		46	kg
NH4-N	164	4645	518		1456		6784	tonnes
NO3-N	1793	145	4886		14477		21302	tonnes
PO4-P	18	101	50		155		323	tonnes
Total N	2777	7358	7717		23100		40951	tonnes
Total P	73	266	145		560		1044	tonnes
SiO2			35653		107406		143059	tonnes
S.P.M.		78282	38225		215989		332496	tonnes
TOC		8286	49920		181343		239549	tonnes
COD		118620					118620	tonnes
BOD		15440					15440	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		0.97	0.7	*	0.0	*	1.7	tonnes
Cadmium			0.9	**	0.0	**	1.9	tonnes
Mercury		43.30	36	*	3	*	83	kg
Mercury			54	**	3	**	100	kg
Copper		8.3	25		2		36	tonnes
Zinc		51.0	204		4		260	tonnes
Lead		3.2	12.0	*	0.3	*	15.6	tonnes
Lead			12.0	**	0.3	**	15.6	tonnes
Arsenic		0.0	2.4	*	0.4	*	2.7	tonnes
Arsenic			5.6	**	0.4	**	6.0	tonnes
Cr-T		0.95	2.0	*	0.0	*	3.0	tonnes
Cr-T			24.2	**	1.4	**	26.6	tonnes
Ni		9.0	11.1	*	1.0	*	21.0	tonnes
Ni			15.7	**	1.0	**	25.6	tonnes
PCBs ***			0.0	*	0.0	*	0.0	kg
PCBs			9.7	**	0.6	**	10.3	kg
gamma-HCH			17		3		20	kg
NH4-N	517	2660	552		25		3755	tonnes
NO3-N	5835	18	9311		679		15843	tonnes
PO4-P	51	224	78		2		355	tonnes
Total N	9281	4581	14267		911		29041	tonnes
Total P	197	448	220		9		875	tonnes
SiO2			57519		2937			tonnes
S.P.M.		2457146	77677		2446		2537760	tonnes
TOC		6890	62760		2024		71673	tonnes
COD		37509					37509	tonnes
BOD		13518					13518	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		0.10	0.5	*	0.3	*	0.9	tonnes
Cadmium			0.8	**	0.3	**	1.2	tonnes
Mercury		21.19	178	*	38	*	238	kg
Mercury			187	**	38	**	247	kg
Copper		25.10	77		57		160	tonnes
Zinc		58.04	114		124		296	tonnes
Lead		0.92	12.7	*	16.9	*	30.5	tonnes
Lead			12.8	**	16.9	**	30.6	tonnes
Arsenic		0.55	16.0	*	0.3	*	16.8	tonnes
Arsenic			17.5	**	0.8	**	18.9	tonnes
Cr-T		1.05	44.4	*	2.6	*	48.1	tonnes
Cr-T			57.1	**	5.4	**	63.6	tonnes
Ni		2.73	63.7	*	8.7	*	75.1	tonnes
Ni			64.5	**	8.7	**	75.9	tonnes
PCBs ***			0.0	*	0.0	*	0.0	kg
PCBs			13.0	**	1.6	**	14.6	kg
gamma-HCH			23		4		26	kg
NH4-N	607	3355	767		134		4863	tonnes
NO3-N	6652	22	4335		983		11992	tonnes
PO4-P	103	363	153		20		638	tonnes
Total N	10327	5294	10835		2784		29240	tonnes
Total P	419	684	319		44		1465	tonnes
SiO2			59948		12611		72558	tonnes
S.P.M.		1484670	278961		22858		1786490	tonnes
TOC		7599	53154		25295		86048	tonnes
COD		55736					55736	tonnes
BOD		15181					15181	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	*	0.05	*	0.2	tonnes
Cadmium			0.3	**	0.05	**	0.3	tonnes
Mercury		0.00	12	*	2.74	*	15	kg
Mercury			25	**	2.74	**	28	kg
Copper		0.37	31		3.92		35	tonnes
Zinc		0.43	62		2.14		64	tonnes
Lead		0.01	5.5	*	0.82	*	6.3	tonnes
Lead			5.5	**	0.82	**	6.3	tonnes
Arsenic		0.00	3.5	*	1.84	*	5.3	tonnes
Arsenic			3.8	**	1.84	**	5.6	tonnes
Cr-T		0.04	6.0	*	0.00	*	6.0	tonnes
Cr-T			11.9	**	1.37	**	13.3	tonnes
Ni		0.12	37.6	*	2.28	*	40.0	tonnes
Ni			38.5	**	2.28	**	40.9	tonnes
PCBs ***			0.0	*	0.00	*	0.0	kg
PCBs			3.7	**	0.58	**	4.3	kg
gamma-HCH			4		0.30		4	kg
NH4-N	85	332	124		11		552	tonnes
NO3-N	1015	2.2	408		90		1515	tonnes
PO4-P	18	31	35		25		110	tonnes
Total N	1681	444	2335		447		4907	tonnes
Total P	88	53	95		50		286	tonnes
SiO2			81702		12885		94587	tonnes
S.P.M.		1442820	12433		27689		1482942	tonnes
TOC		363	39497		9595		49455	tonnes
COD		1230					1230	tonnes
BOD		726					726	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													
	Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station		Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd limit	Pb limit	S.P.M.
				Normal	1996	Normal	1996											
	sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		mS/m	tons	tons	tons	tons	Tons	tons	tons	tons	tons	t.tons
Glomma, Hvaler-Singlefj.	41918	41218	40221	16.5	17.3	16.9	17.8	4.68	424.66	111.53	13491	8515	973.72	48.04	295.98	1.72	10.94	170.29
Drammensvassdr, Dr.fj. V	17034	17028	16020	17.1	18	18.2	19.1	3.54	53.26	15.61	4022	2525	141.41	8.36	25.80	0.18	1.56	19.19
Numedalslågen, Larvikfj.	5577	5513	5197	21.2	21.9	21.2	21.9	3.12	36.12	14.01	1651	925	125.32	4.39	16.22	0.07	0.96	14.49
Skiensvassdr, Grenlandsf	10772	10348	10348	25.3	27.1	25.3	27.1	2.09	27.25	9.08	2659	1759	140.36	14.78	26.42	0.41	0.91	7.43
Otra, Kr.Sandsfj.	3738	3730	3668	39.8	40.1	39.8	42.6	1.83	18.26	4.68	1278	754	74.91	2.34	19.66	0.14	1.59	4.59
Orreelva, Orresanden	105	105	54	36.7	37	40.7	41.3	19.00	4.61	0.94	177	101	5.95	0.23	0.24	0.00	0.02	0.49
Suldalsl.,Sandsfj.Boknafj	1457	1457	1457	59	29.2	59	29.2	1.60	4.88	1.36	735	577	18.98	1.63	4.20	0.03	0.33	1.95
Orkla, Orkdalsfj.Tr.h.fj.	3053	2872	2247	21.7	22.5	21.7	22.5	6.08	8.45	2.56	540	316	19.65	14.25	41.27	0.10	0.10	2.93
Vefsna, Vefsenfj. S	4122	4113	3323	43.9	50.9	43.9	50.9	6.59	35.87	17.08	2243	666	113.88	43.16	82.57	0.17	16.80	19.93
Altaelva, Altafj.	7373	7367	6257	11.8	13.5	11.8	13.5	16.50	50.17	25.22	447	90	10.97	3.92	2.14	0.05	0.82	27.69

Watercourse	Parameters (mean values)													
			PCB (The folloving Congeners) IUPAC NOS											
	Hg limit	Gamma HCH	28 limit	52 limit	101 limit	118 limit	138 limit	153 limit	180 limit	SUM : limit	TOC	Cr-T limit	Ni limit	As limit
	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	t.tons	tons	tons	tons
Glomma, Hvaler-Singlefj.	49.97	13.08	0.64	0.64	0.64	0.64	0.64	0.64	0.64	4.504	107.88	10.72	25.52	2.57
Drammensvassdr, Dr.fj. V	9.18	7.62	0.28	0.28	0.28	0.28	0.28	0.28	0.28	1.928	32.14	4.59	6.15	2.20
Numedalslågen, Larvikfj.	8.85	2.80	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.774	12.53	1.84	2.10	0.37
Skiensvassdr, Grenlandsf	12.38	6.85	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1.734	18.16	4.13	3.22	0.83
Otra, Kr.Sandsfj.	6.09	5.15	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.983	10.63	2.34	3.98	0.47
Orreelva, Orresanden	0.12	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.026	0.67	0.06	0.29	0.04
Suldalsl.,Sandsfj.Boknafj	2.71	2.55	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.569	1.36	1.36	0.68	0.35
Orkla, Orkdalsfj.Tr.h.fj.	2.56	0.49	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.413	5.37	2.57	2.73	0.28
Vefsna, Vefsenfj. S	35.87	3.07	0.17	0.17	0.17	0.17	0.17	0.17	0.17	1.196	19.93	2.85	5.92	0.57
Altaelva, Altafj.	2.74	0.30	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.576	9.60	1.37	2.28	1.84

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

Watercourse	Runoff data							Parameters (mean values)										
	Drainage area			Discharge														
	Outlet	Sampl. station	Disch. gaug. station	Sampling station		gauging station		Cond	Tot-P	PO4-P	Tot-N	NO3-N	NH4-N	Cu	Zn	Cd zero	Pb zero	S.P.M.
				Normal	1996	Normal	1996											
	sq.km	sq.km	sq.km	l/s sq.km		l/s sq.km		mS/m	tons	tons	tons	tons	Tons	tons	tons	tons	tons	t.tons
Glomma, Hvaler-Singlefj.	41918	41218	40221	16.5	17.3	16.9	17.8	4.68	424.66	111.53	13491	8515	973.72	48.04	295.98	1.72	10.94	170.29
Drammensvassdr, Dr.fj. V	17034	17028	16020	17.1	18	18.2	19.1	3.54	53.26	15.61	4022	2525	141.41	8.36	25.80	0.18	1.56	19.19
Numedalslågen, Larvikfj.	5577	5513	5197	21.2	21.9	21.2	21.9	3.12	36.12	14.01	1651	925	125.32	4.39	16.22	0.07	0.96	14.49
Skiensvassdr, Grenlandsf	10772	10348	10348	25.3	27.1	25.3	27.1	2.09	27.25	9.08	2659	1759	140.36	14.78	26.42	0.41	0.91	7.43
Otra, Kr.Sandsfj.	3738	3730	3668	39.8	40.1	39.8	42.6	1.83	18.26	4.68	1278	754	74.91	2.34	19.66	0.14	1.59	4.59
Orreelva, Orresanden	105	105	54	36.7	37	40.7	41.3	19.00	4.61	0.94	177	101	5.95	0.23	0.24	0.00	0.02	0.49
Suldalsl.,Sandsfj.Boknafj	1457	1457	1457	59	29.2	59	29.2	1.60	4.88	1.36	735	577	18.98	1.63	4.20	0.03	0.33	1.95
Orkla, Orkdalsfj.Tr.h.fj.	3053	2872	2247	21.7	22.5	21.7	22.5	6.08	8.45	2.56	540	316	19.65	14.25	41.27	0.10	0.10	2.93
Vefsna, Vefsenfj. S	4122	4113	3323	43.9	50.9	43.9	50.9	6.59	35.87	17.08	2243	666	113.88	43.16	82.57	0.17	16.80	19.93
Altaelva, Altafj.	7373	7367	6257	11.8	13.5	11.8	13.5	16.50	50.17	25.22	447	90	10.97	3.92	2.14	0.05	0.82	27.69

Watercourse	Parameters (mean values)													
			PCB (The folloving Congeners) IUPAC NOS											
	Hg zero	Gamma HCH	28 zero	52 zero	101 zero	118 zero	138 zero	153 zero	180 zero	SUM : zero	TOC	Cr-T zero	Ni zero	As zero
	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	t.tons	tons	tons	tons
Glomma, Hvaler-Singlefj.	49.97	13.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	107.88	0.00	25.52	2.57
Drammensvassdr, Dr.fj. V	9.18	7.62	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.275	32.14	0.00	6.15	2.20
Numedalslågen, Larvikfj.	8.85	2.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	12.53	0.00	2.10	0.37
Skiensvassdr, Grenlandsf	12.38	6.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	18.16	0.00	3.22	0.00
Otra, Kr.Sandsfj.	6.09	5.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	10.63	0.00	3.98	0.47
Orreelva, Orresanden	0.12	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.67	0.00	0.29	0.04
Suldalsl.,Sandsfj.Boknafj	2.71	2.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.36	0.00	0.68	0.35
Orkla, Orkdalsfj.Tr.h.fj.	2.56	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	5.37	2.57	2.73	0.28
Vefsna, Vefsenfj. S	35.87	3.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	19.93	0.00	5.92	0.00
Altaelva, Altafj.	2.74	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	9.60	0.00	2.28	1.84

Table 10.6 The Skagerrak Region. "Mean" inputs from tributary rivers in The Sub-areas (1 - 5) (Mean concentrations 1996 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 *	0.04	0.01	0.01	0.08	0.09	1.05	tonnes	YES	_____	%
Cd **	0.04	0.02	0.01	0.08	0.09	1.05	tonnes		_____	%
Hg *	1.00	1.15	0.23	0.66	1.01	14.58	kg	YES	_____	%
Hg **	1.72	1.21	0.23	1.00	1.01	14.58	kg		_____	%
Cu	2.2	1.3	0.4	1.5	0.5	15.8	tonnes	YES	_____	%
Zn	6.3	3.4	4.6	18.1	7.1	144.5	tonnes	YES	_____	%
Pb *	0.58	0.37	0.14	0.32	0.21	12.35	tonnes	YES	_____	%
Pb **	0.58	0.37	0.14	0.32	0.21	12.35	tonnes		_____	%
Arsenic *	0.28	0.10	0.06	0.09	0.29	1.29	tonnes	YES	_____	%
Arsenic **	0.28	0.10	0.06	0.13	0.29	1.87	tonnes		_____	%
Cr-T *	0.28	0.06	0.11	0.06	0.00	0.00	tonnes	NO	_____	%
Cr-T **	0.63	0.29	0.11	0.31	0.51	4.96	tonnes		_____	%
Ni *	1.52	0.96	0.45	0.88	0.51	5.54	tonnes	YES	_____	%
Ni **	1.52	0.96	0.45	0.88	0.51	5.54	tonnes		_____	%
PCBs *	0.00	0.06	0.00	0.00	0.00	0.00	kg	NO	_____	%
PCBs **	0.23	0.13	0.03	0.13	0.21	2.08	kg		_____	%
gamma-HCH	0.64	0.11	0.08	0.30	1.01	8.80	kg	YES	_____	%
NH4-N	38.38	23.72	7.49	62.11	15.16	371.6	tonnes	YES	_____	%
NO3-N	937	477	316	675	253	2229	tonnes	YES	_____	%
PO4-P	7.5	6.6	3.6	15.8	0.6	15.9	tonnes	YES	_____	%
Total N	1377	740	342	895	414	3949	tonnes	YES	_____	%
Total P	22	21	5	20	3	73	tonnes	YES	_____	%
SiO2	3453	2244	1201	3228	2627	22899	tonnes	YES	_____	%
S.P.M.	7567	3088	3745	3750	1364	18712	tonnes	YES	_____	%
TOC	7476	2227	921	2522	4547	32228	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 1996 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 *	0.37	0.37	tonnes	NO	_____	%
Cd **	0.40	0.49	tonnes		_____	%
Hg *	18.24	18.23	kg	NO	_____	%
Hg **	19.23	34.69	kg		_____	%
Cu	5.8	19.7	tonnes	YES	_____	%
Zn	88.2	116.3	tonnes	YES	_____	%
Pb *	6.44	5.61	tonnes	YES	_____	%
Pb **	6.44	5.61	tonnes		_____	%
Arsenic *	0.58	1.77	tonnes	NO	_____	%
Arsenic **	1.67	3.91	tonnes		_____	%
Cr-T *	0.00	2.04	tonnes	NO	_____	%
Cr-T **	7.36	16.86	tonnes		_____	%
Ni *	5.96	5.10	tonnes	NO	_____	%
Ni **	6.30	9.42	tonnes		_____	%
PCBs *	0.00	0.00	kg	NO	_____	%
PCBs **	3.09	6.61	kg		_____	%
gamma-HCH	8.60	8.32	kg	YES	_____	%
NH4-N	310.21	241.99	tonnes	YES	_____	%
NO3-N	4479	4833	tonnes	YES	_____	%
PO4-P	23.4	54.6	tonnes	YES	_____	%
Total N	6462	7805	tonnes	YES	_____	%
Total P	73	147	tonnes	YES	_____	%
SiO2	21443	36076	tonnes	YES	_____	%
S.P.M.	11955	65722	tonnes	YES	_____	%
TOC	32431	30328	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 1996 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 measurements above the detection limit ?		Precision of the estimate of the load	
Sub-areas :	8	9					
Substance:							
Cd *	0.42	0.07	tonnes	NO			%
Cd **	0.52	0.32	tonnes				%
Hg *	82.62	95.65	kg	YES			%
Hg **	90.60	96.85	kg				%
Cu	50.1	26.9	tonnes	YES			%
Zn	69.3	45.0	tonnes	YES			%
Pb *	4.90	7.83	tonnes	YES			%
Pb **	4.90	7.87	tonnes				%
Arsenic *	6.68	9.34	tonnes	YES			%
Arsenic **	7.51	9.97	tonnes				%
Cr-T *	36.35	8.09	tonnes	NO			%
Cr-T **	40.23	16.87	tonnes				%
Ni *	42.10	21.60	tonnes	YES			%
Ni **	42.26	22.24	tonnes				%
PCBs *	0.00	0.00	kg	NO			%
PCBs **	7.04	5.93	kg				%
gamma-HCH	14.07	8.80	kg	YES			%
NH4-N	338.19	428.38	tonnes	YES			%
NO3-N	2852	1484	tonnes	YES			%
PO4-P	63.4	89.5	tonnes	YES			%
Total N	6894	3941	tonnes	YES			%
Total P	157	162	tonnes	YES			%
SiO2	27950	31997	tonnes	YES			%
S.P.M.	50632	228329	tonnes	YES			%
TOC	47328	5826	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 1996 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 *	0.18	tonnes	NO	%
Cd **	0.29	tonnes		%
Hg *	11.94	kg	NO	%
Hg **	25.06	kg		%
Cu	31.2	tonnes	YES	%
Zn	61.8	tonnes	YES	%
Pb *	5.47	tonnes	YES	%
Pb **	5.51	tonnes		%
Arsenic *	3.49	tonnes	NO	%
Arsenic **	3.76	tonnes		%
Cr-T *	5.98	tonnes	NO	%
Cr-T **	11.91	tonnes		%
Ni *	37.65	tonnes	NO	%
Ni **	38.51	tonnes		%
PCBs *	0.00	kg	NO	%
PCBs **	3.69	kg		%
gamma-HCH	3.51	kg	YES	%
NH4-N	124.09	tonnes		%
NO3-N	408	tonnes	YES	%
PO4-P	35.0	tonnes	YES	%
Total N	2335	tonnes	YES	%
Total P	95	tonnes	YES	%
SiO2	81702	tonnes	YES	%
S.P.M.	12433	tonnes	YES	%
TOC	39497	tonnes	YES	%

Measurements below detection limits are treated in two ways :

*) Detection limit = Zero

**) Detection limit = Limit