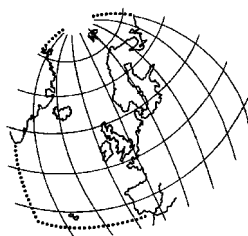


Dumping of Wastes at Sea in 2000



OSPAR Commission
2003

The Convention for the Protection of the Marine Environment of the North-East Atlantic (the “OSPAR Convention”) was opened for signature at the Ministerial Meeting of the former Oslo and Paris Commissions in Paris on 22 September 1992. The Convention entered into force on 25 March 1998. It has been ratified by Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland and the United Kingdom and approved by the European Community and Spain.

La Convention pour la protection du milieu marin de l'Atlantique du Nord-Est, dite Convention OSPAR, a été ouverte à la signature à la réunion ministérielle des anciennes Commissions d'Oslo et de Paris, à Paris le 22 septembre 1992. La Convention est entrée en vigueur le 25 mars 1998. La Convention a été ratifiée par l'Allemagne, la Belgique, le Danemark, la Finlande, la France, l'Irlande, l'Islande, le Luxembourg, la Norvège, les Pays-Bas, le Portugal, le Royaume-Uni de Grande Bretagne et d'Irlande du Nord, la Suède et la Suisse et approuvée par la Communauté européenne et l'Espagne.

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ASSESSMENT OF THE ANNUAL OSPAR REPORTS ON DUMPING OF WASTES AT SEA IN 1999 AND 2000

Introduction

Assessments of the OSPAR Reports on Dumping of Wastes at Sea should aim at identifying issues of concern related to data and information reported by Contracting Parties. They also should examine whether requirements of the OSPAR Guidelines for the Management of Dredged Materials (OSPAR agreement reference number 1998-20) and of the reporting formats (OSPAR agreement reference number 1996-1 (now superseded) and 2002/1) are fulfilled. A further issue of the assessment consists in providing reliable data on contaminant inputs to the OSPAR maritime area. Furthermore, the assessment should examine, whether trends of the amounts of dredged material dumped and the associated contaminant loads can be established.

All Contracting Parties (CPs) provided data on amounts of wastes dumped at sea for 1999, and for 2000. However due to late submission, Portugal's data for 2000 have not been taken into account in this assessment. In 1999, dredged material dumped at sea by Portugal only amounted to about 2% of the total quantity disposed of by all Contracting Parties. Therefore the lack of this information may not have much influence on the assessment of amounts disposed of.

However, information provided on contaminant loads often was not complete. 3 Contracting Parties did not report on contaminants at all, with the exception of few odd values. 6 CPs in 1999 and 7 CPs in 2000 provided complete data sets for trace metals, however only 2 complete data sets were received for organic contaminants. 3 CPs submitted organic contaminant loads only for part of the disposal sites.

France, Spain and the United Kingdom provided the additional information requested in the reporting format. However, additional information on analytical methods was available from the replies to the Questionnaire on Methods of Analysis of Sediments (SEABED 02/2/6). For trace metals analyses, on the one hand, different methods are used, which may result in systematic differences of measured concentrations in case total (coarse-grained) samples are analysed, and on the other hand, total samples or fine fractions are analysed. This may result in a lack of comparability for trace metal data provided by different CPs, and consequently in a large uncertainty of total trace metal loads. In principle, methods applied for organic contaminants and organotin compounds should give comparable results, however the reported differences in detection limits may influence the estimation of loads, as often concentrations of organic contaminants below detection limits are reported.

In order to assess the effectiveness of measures to reduce the quantities of dredged material as well as the associated contamination, it might be worth examining trends in the amounts dumped and contaminant inputs over a period of several years. At present, only the amounts dumped from 1995 - 2000 are comparable and can be examined, as the reporting requirements changed from wet weight of dredged material to dry weight only in 1995. As mentioned above, it may be even more difficult to establish trends in contaminant loads of dredged material due to incomplete data sets and a lack of comparability of data provided by different CPs. Currently, only a rough comparison can be carried out.

Permits

Table I of the Annual OSPAR Reports on Dumping of Wastes at Sea summarises the numbers of permits issued and the tonnes licensed for the different types of wastes dumped. The amounts actually disposed of are summarised in Table II and Table III. Although still several types of wastes are dumped, most of the permits were issued for dredged material, as in previous years: about 80% of the permits and more than 99% of the overall amount licensed for disposal at sea refer to dredged material. Disposal of 113 500 t and 280 000 t of inert material was permitted by Norway in 1999 and 2000. In 1999 and in

2000, a total of about 160 t fish waste each year was permitted for sea disposal by UK, and UK and Ireland, respectively. In addition Norway disposed of 200 t of fish meal in 2000. Norway also reported on a permit for disposal of 30 t of steel wire waste. The number of vessels licensed for disposal was much higher than in previous years: 33 and 34 licenses were issued in 1999 and 2000, whereas in previous years at maximum 18 vessels (1996) were dumped.

As in previous years, a comparison of the permits and the amounts of dredged material licensed in 1999 and 2000 reflect the different licensing procedures of the Contracting Parties (Table I of this assessment). Some CPs issue few permits for large amounts of dredged material, e.g. Belgium and the Netherlands with 5 permits for more than 10 Million t of dredged material, and on the other extreme, Norway issued more than 50 issues for about 600 000 t. In other Contracting Parties, a general permit (Iceland) or no formal permits are issued (Germany) or reported (Spain, Sweden).

Specific reporting on dumping permits

Only Norway specifically reported on permits for the disposal of vessels in both years, 1999 and 2000. However, it should be kept in mind, that at present not all Contracting Parties report on or issue permits. With the adoption of the new reporting format, also operations regulated by other means than licenses should be reported, and possibly, more information will be provided in future. Specific reporting may also be incomplete, since not all Contracting Parties have established national action levels yet.

Amounts of dredged material dumped

As disposal of dredged material may have physical impacts on the marine environment, total amounts of material disposed of are included in the assessment (Tables II and III). As in previous years, more than 90% of the dredged material reported to OSPAR were dumped by only 5 Contracting Parties (Belgium, France, Germany, The Netherlands, UK).

As the amounts of material to be dredged are strongly influenced by natural conditions, the dumping strategy, and capital dredging activities, trends in the amounts dumped may be difficult to observe. The overall amounts of material disposed of vary significantly from 1995 - 2000, however no trend can be observed.

Variations in national amounts dumped often are more distinct (Fig. 1 a and b). In the UK, quantities disposed of increased from about 20 million t dredged material from 1995 – 1998 to 32 million t in 1999, and decreased to about 17 million t in 2000, again. This peak in 1999 mainly is caused by one large capital dredging operation with about 17 million t dredged material. Also in Germany, capital dredging in the Elbe estuary gives rise to 6 million t in addition to 7 million t from maintenance dredging as usual. In the Netherlands, variations of the amount of material dredged possibly are due to various amounts of dredged material from Rotterdam Harbour. Whereas quantities disposed of in Sweden decreased significantly from 1995/1996 to 1999/2000 by about a factor 20, in Denmark an increase by a factor 5 can be found.

For most Contracting Parties, the bulk of dredged material originates from maintenance dredging. In 1999/2000, appreciable amounts of material from capital dredging, i.e. more than 10%, were reported by Belgium, Iceland, Ireland and the UK, and in addition, in 2000 by Germany and Spain. In Iceland, all the material came from capital dredging, whereas in Denmark, France, The Netherlands, Norway and Sweden no or only very small amounts originate from capital dredging. For the UK, the proportion of capital dredging is difficult to estimate, as often both, capital and maintenance dredging is indicated without giving the ratio of the respective amounts. However, in 1999 and 2000, about 18 and 3,2 million t, i.e. more than 50% and about 20% of the dredged material, respectively, are attributed to a single capital operation.

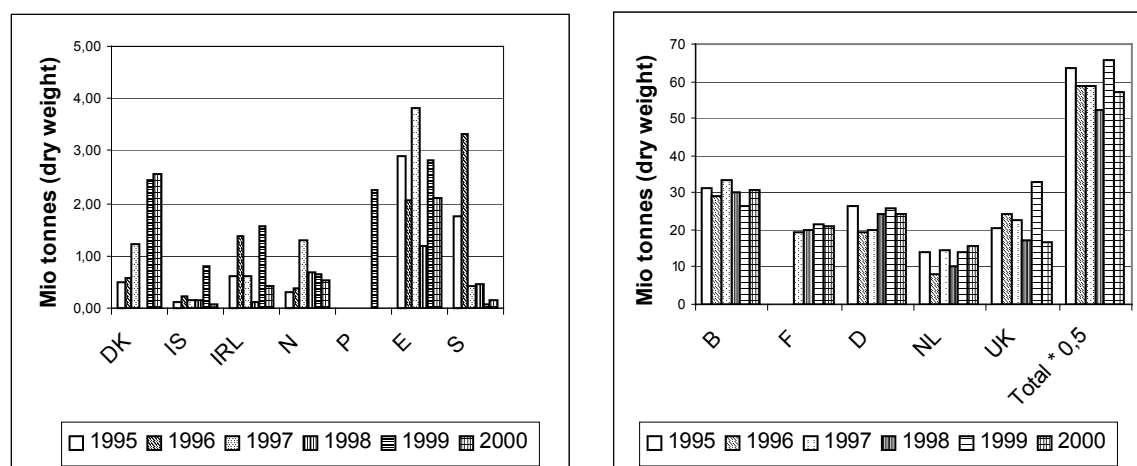


Fig. 1a and 1b: National and total amounts of dredged material disposed of from 1995 to 2000

In order to have one y-axis for all amounts, the total amount of dredged material for all CPs was multiplied by a factor of 0,5.

In addition, a separate evaluation of the amounts dredged in harbours on the one hand and in estuaries/sea channels on the other hand is carried out (cf. Tables IV and V). Contracting Parties often indicated more than one type of area dredged per dumping operation, but usually the reports did not include information on the percentages of dredged material associated with the respective types. When both, harbours and estuaries/sea channels, are indicated as origin of the dredged material without the respective percentages, usually 50% were attributed to harbours and 50% to estuaries/sea channels. These amounts assigned to harbours and to estuaries/sea channels have large uncertainties.

Similarly as from 1995 to 1998, the quantities of dredged material from estuaries or sea exceeded those from harbours significantly in 1999 and 2000, and the ratio of material from harbours to that from estuaries/channels is quite constant. However, compared to years before 1994, the relative amount of dredged material from estuaries/sea channels increased (Table VI).

It is difficult for Contracting Parties to distinguish exactly the contribution from the 3 categories. However, on the basis of reported data the total quantities of dredgings summed for all CPs from estuaries/sea channels exceeded those of harbours, although the distribution is quite different for Contracting Parties. The bulk of dredged material in Belgium, Germany and to a minor extent in France originates from estuaries and sea channels, whereas Iceland, The Netherlands and Norway only reported on dredged material from harbours. This distribution was quite constant over the last 6 years. For most of the other Contracting Parties, larger amounts of material came from harbours than from estuaries/sea channels. In 1999/2000 for most Contracting Parties the ratios of dredged material from harbours to that of estuaries/sea channels were similar as in previous years. However, in the UK this ratio decreased significantly from about 6 in 1995/1996 to 1,3 in 1999/2000. This may be due to the influence of large capital dredging projects in particular years.

As already observed in previous years, the number of dumping sites compared to the amounts dumped differs strongly for the Contracting Parties (cf. Table I). Belgium, France, Germany and the Netherlands disposed of much large quantities of dredged material per disposal site (e.g. in 1999: 12, 30, 20 and 8 dumping sites for about 26 Mt, 21 Mt, 26 Mt and 14 Mt of dredged material), whereas the ratio of the amount of dredged material to the number of dumping sites was considerably smaller in other Contracting Parties. In 1999, Norway and Sweden e.g., disposed of about 0,6 Mt and 0,09 Mt dredged

material at 14 and 9 dumping sites, respectively. This indicates that some of the dumping sites receive much higher amounts of dredged material than others. However, the dumping reports do not include information on the sizes of disposal sites, and these may differ. It is recommended that the evaluation of impacts on the seabed should be based on the monitoring reports.

Total contaminant loads

In 1999 and 2000, 6 or 7 CPs provided complete data sets on trace metal loads, and 1 or 2 further CPs submitted data only for part of the dumping sites. For most dumping sites without data for contaminant loads, there was no information whether the dredged material was exempted from analyses according to the OSPAR Dredged Material Guidelines or whether required data were not reported. This information would support data assessment, as contaminant loads of material exempted from analyses are negligible in contrast to contaminant loads of material that might be contaminated to varying degrees.

Nevertheless, trace metal data are considered to be sufficient for an assessment. However, it should be kept in mind that due to differences in the analytical approaches, as mentioned in § 4, comparison of national total trace metal loads between CPs may be associated with large uncertainty. Therefore, the overall total trace metal load for all CPs can be only regarded as rough estimate, to have an indication of the order of magnitude of loads.

For organic contaminants and TBT, no proper assessment can be carried out, as both, in 1999 and 2000, only little information on these contaminants is available. Contracting Parties often only reported on few organic contaminants and/or on selected dumping sites. As the Dredged Material Guidelines which introduced the requirement of analyses of organic contaminants, came into force only in June 1998, a more complete reporting on these compounds should be expected in future.

National total contaminant loads associated with dredged material are summarised in Tables II and III. Loads which could not be estimated reliably due to a lack of data are identified with brackets and italic letters. When concentrations below detection limits are reported, these values divided by 2 are used for further calculations.

Trace metal loads

For most CPs, national trace metal loads reported for 1999 and 2000 are quite similar. However, national loads estimated for Ireland and the UK in 2000 are significantly lower than those in 1999. At the same time, the quantities of dredged material disposed of in these countries decreased strongly.

Comparison between the current data from 1999/2000 with national loads reported for 1997 and 1998 showed a few considerable differences:

- For a few trace metals, loads reported by Belgium in 2000 and in 1997 seem to be up to a factor 2 - 5 higher than those reported for 1998 and 1999. However, it should be taken in account that in 1998 and 1999, no information on loads for internal dumping sites have been submitted. Dredged material disposed at these sites amounts to about 50% of the total quantities dumped. Furthermore, for some trace metals loads reported in 2000 as well as the corresponding concentrations are even higher than in 1997. This is probably due to new disposal sites which are located close to Antwerp Harbour.
- In Germany, trace metal loads reported for 1999 and 2000 cannot be compared to previous years because reporting of contaminant loads for 4 of the disposal sites in estuaries and navigation channels, which constitute most of the material dredged only started in 1999.
- In The Netherlands, the national totals for all trace metals in 1998 were almost a factor 2 lower than in 1997, 1999 and 2000. This difference is probably caused by dumping larger amounts of dredged material from the Rotterdam harbour in 1997, 1999 and 2000 compared to 1998.

- In 1999 and 2000, the UK reported arsenic loads which are significantly higher than in earlier years. However, this was due to a greater proportion of the dredged material being analysed for arsenic.

A comparison of the sums of the national total loads from 1995 to 2000 shows some variability, both for the total loads, and for specific total loads, i.e. total loads per e.g. 1 million tonnes, too (Fig. 2a). In 2000, specific total loads of most trace metals are higher than in 1999. Furthermore, these loads seem to be slightly higher in 1999/2000 than in 1997/1998. The apparent increase of all trace metal loads partially may be caused by additional reporting for large amounts of dredged material in Germany, and by additional reporting of loads from dredged material in Belgium disposed of at new disposal sites close to Antwerp Harbour. In addition, particularly, arsenic loads are higher in 1999/2000 than in earlier years, probably due to the aforementioned high loads reported by the UK.

Data are not considered to be sufficient for deriving a trend, especially having in mind that contaminant loads reported often were incomplete and are associated with large uncertainties. Furthermore, as data were lacking for France in 1995/1996, they were assumed to equal those in 1994. The use of these data might bias the comparison of contaminant loads slightly.

Comparative Contaminant Loads from Harbours and Estuaries / Sea Channels

As total contaminant loads may be influenced strongly by varying amounts of dredged material from areas with a different degree of contamination, trends probably can be established only, if long time series are available. In addition, trends in total contaminant loads of dredged material are not regarded as appropriate means to assess the effectiveness of measures for the reduction of contaminant inputs, as these loads include natural background contamination and may count in and even more than once those quantities that have been merely relocated and do not constitute new input. A trend assessment should focus on the new contaminant input, however, there is no agreed approach for its estimation available yet.

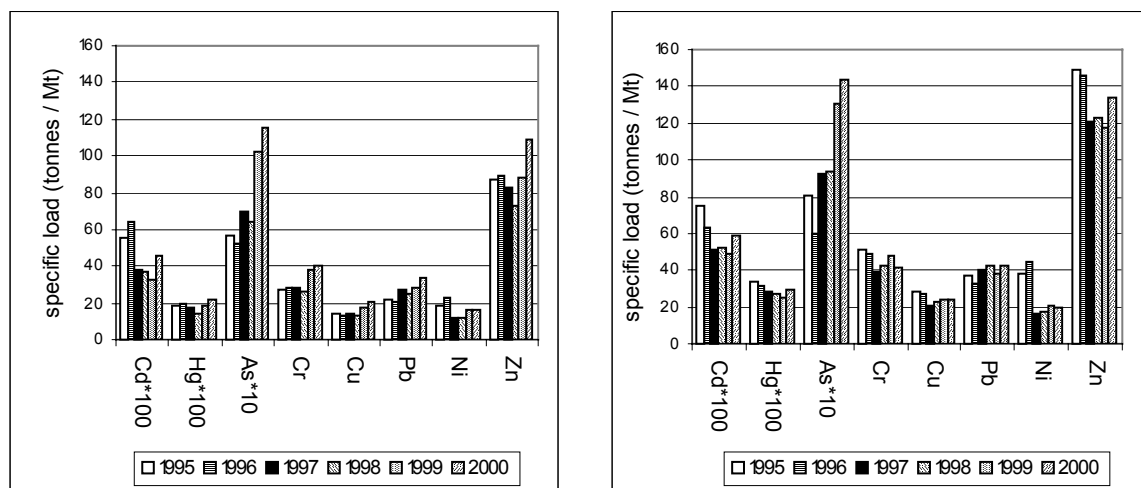
In order to reduce variability due to the relocation of large amounts of dredged material and the associated contaminants within estuaries and sea channels, and to make the identification of a potential trend more likely, contaminant loads from harbours and from estuaries and sea channels are assessed separately. However, as mentioned earlier, often both, dredged material from harbours as well as from estuaries and sea channels are disposed of at same disposal sites, and as the respective percentages usually are not indicated, 50% each, are attributed to harbours and to estuaries/sea channels, as an estimate. This rough estimate may add to the uncertainty of the assessment of contaminant loads from harbours significantly.

Furthermore, it is assumed, that usually dredged material relocated in estuaries and sea channels repeatedly only contribute to a minor extent to the new contaminant input compared to dredged material from harbours. However, it is recognised, that this approach is associated with large uncertainties. For example, some industrialised estuaries may need to be considered as potentially having similar effects to harbour dredgings as they may contribute to new contaminant inputs.

Tables IV and V give the contaminant loads separately for harbours (Tables IV a, V a) and for estuaries and sea channels (Tables IV b and V b).

Contaminant loads from harbour dredgings summed for all CPs are similar for both years, and they show a similar variability as the total loads. In Fig. 2, specific loads (i.e. tonnes of a trace metal / million tonnes of dredged material) from harbour dredgings since 1995 are compared with specific total loads from all dredged material sources. Patterns of loads from harbour dredgings and total loads are similar. Except the high arsenic loads in 1999/2000 (c.f. § 22) and a decrease of Ni loads by about 50% compared to 1995/1996, no significant trend can be established for harbour dredgings.

In 1999 and 2000, the mean percentage of trace metal loads in dredged material from harbours amounts to about 40 - 50% of the reported total trace metal loads. The percentage is very similar for all trace metals and both years, and also similar to results from 1997/1998. However, the 50% - 60% from estuaries / sea channels is contained in approximately double the volume of dredged material from harbours.



(a) All dredged material sources

(b) harbour only

Figures 2a and 2b: Specific total trace metal loads from all dredged material sources and specific loads of trace metals from harbour dredgings in 1995 to 2000

In order to have one y-axis for all trace metals, loads of Cd and Hg were multiplied by a factor of 100, and the As load was multiplied by a factor of ten for presentation in Figure 2.

Since the contaminant input to the OSPAR maritime area by dredged material estimated from total loads is overestimated, the former reporting formats required information on environmentally relevant loads in addition to total loads. However, these loads were only reported by the Netherlands for the dredged material from their harbours. The procedure for estimating environmentally relevant loads takes into account natural background concentrations of natural occurring substances (see SACSA 20/2/3-E).

The environmentally relevant loads estimated by the Netherlands for 1999/2000 only amount to about 20 - 40% of the total loads for Cd, Hg, As, Pb and Zn, and to about 0% - 5% for Cr, Cu and Ni. These results confirm that actual metal inputs may be considerably overestimated, if background concentrations are not taken into account. Particularly for Cr, Cu and Ni, the dredged material did not introduce a significant new load to the sea. For oil, the environmentally relevant load was about 20 - 50% of the total, and for PAHs by about 70% of the total load. For organochlorine and organotin compounds, the natural background concentrations are assumed to be zero, and the environmentally relevant load correspond to the total loads.

Conclusions

There are still small amounts of several wastes other than dredged material disposed of at sea (see Tables II and III).

Disposal sites receive significantly different amounts of dredged material. It is recommended that the evaluation of impacts on the seabed should be based on monitoring reports.

No trend could be established for total amounts of dredged material summed for all CPs. However, separate evaluation of amounts for individual CPs indicated some changes.

For a reliable trend assessment it would be preferable to perform a separate assessment on the one hand for the amounts of dredged material from harbours and of dredged material from estuaries / sea channels, and on the other hand for maintenance and capital dredgings. However, at present dumping reports do not include sufficient information for a proper separation.

Trends could be established neither for total contaminant loads nor for loads from harbour dredgings. At present, data are not considered to be sufficient for deriving a trend of total contaminant loads, especially having in mind that contaminant loads often are reported incompletely, and that they are associated with large uncertainties. Particularly for organic contaminants and TBT, there is a lack of information.

Furthermore, trend assessment of total contaminant loads are not regarded as appropriate means to evaluate the effectiveness of measures for the reduction of contaminant inputs due to the disposal of dredged material at sea.

As demonstrated by The Netherlands, background contamination contributes significantly to total trace metal loads.

Table I: Overview on the number of permits. Dumping sites and amounts of dredged material licensed (in tonnes dry weight) and dumped in 1999 and 2000

	1999				2000			
	Number of permits	Number of Dumping Sites	Amounts licensed	Amounts dumped	Number of permits	Number of Dumping Sites	Amounts licensed	Amounts dumped
Belgium	2	12	-	26 319 002	5	14	28 500 000	30 653 498
Denmark	16	33	3 115 000	2 438 774	18	27	1 485 800	2 574 572
France	33	30	21 502 328	21 502 328	43	16	21 123 482	21 238 482
Germany ²	-	20	-	26 040 000	-	18	-	24 272 000 ²
Iceland	G.P.	13	793 829	786 875	G.P.	7	71 837	71 837
Ireland	16	10	1 995 603	1 561 274	11	9	796 236	403 329
The Netherlands	5	8	11 268 540 ¹	13 987 835	5	9	11 456 180 ¹	15 782 317
Norway	58	14	633 879	633 879	61	14	544 703	545 998
Portugal	-9	11	27 140 000	2 259 000				
Spain	-	8	-	2 829 489	-	6	-	2 081 675
Sweden	13	9	90 918	90 918	13	13	14 125	141 225
UK	168	98	24 813 074	32 828 299	149	93	30 430 218	16 566 344

¹ tonnes dry weight converted from the volume reported with the factor derived from 1997 data

² The amounts dumped in Germany include sand (1999: 15 497 000; 2000: 13 256 000 tonnes)

NI: not indicated

Table II (1): Summary of Amounts of Wastes Dumped at Sea in 1999

Waste Material/ Country	total quantity (in metric tonnes) dry weight	in tonnes										in kilograms					
		Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT
<u>Dredged Material</u>																	
Belgium	26 319 002	(4,4)	(1,7)	(173)	(610)	(151)	(333)	(189)	(1 116)		(10,3)						(457)
Denmark	2 438 774	(0,11)	(0,04)	(0,28)	(8,0)	(4,8)	(7,4)	(0,59)	(29,5)								
France	21 502 328	7,6	2,8	246	940	369	755	379	2 147	(777)	2,1	(971)					
Germany (2)	26 040 000	5,6	5,5	186	705	244	462	287	1 801	(256)	(4,4)	(33,4)	(5,7)	(1,4)	(0,08)	(10,7)	(895)
Iceland	786 875																
Ireland	1 561 274	0,57	0,14	11,9	46,5	22,8	56,9	28,1	160			8,5	0,85	1,1	1,1	4,4	44
The Netherlands	13 987 835	8,0	3,9	179	497	247	456	196	1 557	1 135	14,3	226	19,0	18,0	20,0	10,0	16,0
Norway	633 879																
Portugal	2 259 000																
Spain	2 829 489	3,1	3,0	49	176	116	150	65,7	536		0,69	24,4					
Sweden	90 918	(0,16)	(0,21)		(0,26)	(0,70)	(0,36)	(0,22)	(2,3)								
UK	32 828 299	13,8	7,4	503	1 997	1 141	1 459	953	4 223	ND	ND	ND	ND	ND	ND	ND	ND
Total=	131 846 135	43,3	24,7	1 349	4 979	2 297	3 680	2 098	11 570	(2 168)	(31,8)	(1 263)	(25,5)	(20,5)	(21,2)	(25,1)	(1 412)
<u>Inert Materials</u>																	
Norway	113 462																
Spain	455 000																
total	568 462																
<u>Fish Waste</u>																	
UK	110																
<u>Vessels/Aircraft</u>																	
Norway (3)	35																

- (1) (...) data sets are incomplete
(2) This amount dumped in Germany includes sand (15 497 000 tonnes).
(3) number of vessels

Table III (1): Summary of Amounts of Wastes Dumped at Sea in 2000

Countries	total quantity (in metric tonnes) dry weight	in tonnes										in kilograms					
		Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT
<u>Dredged Material</u>																	
Belgium	30 653 498	17,4	4,2	337	1623	606	1006	357	3052	(10,4)		91,9					(428)
Denmark	2 574 572	(0,11)	(0,04)	(0,77)	(7,9)	(3,7)	(6,7)	(1,1)	(25,9)			(0,0002)					0,741
France	21 238 482	6,5	2,5	172	604	420	573	343	1 806	(85,0)	(2,4)	(294)	NI	NI	NI	NI	(356)
Germany (2)	24 272 000	5,9	5,9	206	780	259	502	361	2 014	(273)	(4,6)	(31,3)	(5,1)	(1,4)	(0,05)	(9,4)	(987)
Iceland	71 837																
Ireland	403 329	0,10	0,04	2,7	15,0	7,0	11,6	7,6	40,5			3,5	0,44	0,45	0,45	1,8	8,4
The Netherlands	15 782 317	9,5	4,0	185	344	246	418	203	1 666	1 014	14,6	193	17,0	16,0	15,0	3,00	16,0
Norway	545 998	(0,004)	(0,01)				(0,021)										
Portugal																	
Spain	2 081 675	3,5	1,9	60,3	65,5	71,6	134	30,5	563		2,1	90,8					
Sweden	141 225	(0,04)	(0,04)			(0,03)	(0,02)		(0,13)								
UK	16 566 344	9,4	6,6	351	1 176	750	1 252	571	3 289								
Total=	114 331 277	52,3	25,2	1 315	4 615	2 363	3 903	1 874	12 457	(1 372)	(34,1)	(705)	(22,6)	(17,9)	(15,5)	(14,2)	(1 796)
<u>Inert Materials</u>																	
Norway	260 455																
<u>Fish Waste</u>																	
Ireland	6																
Norway	200																
UK	26																
	232																
<u>Vessels/Aircraft</u>																	
Norway (3)	35																
<u>Other Waste Categories</u>																	
Norway (4)	30																

- (1) (...) data sets are incomplete
(2) This amount dumped in Germany include sand (13 256 000 tonnes)
(3) number of vessels
(4) steel wire

Table IV a (1): Amounts of Dredged Material and Associated Contaminants Dumped in 1999 from Harbours

Countries	total quantity (in metric tonnes) dry weight	in tonnes										in kilograms					
		Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT
Belgium	2 544 370	1,4	0,53	45,6	180	50,8	101	54,3	353		3,7						147
Denmark	809 942	(0,11)	(0,04)	(0,28)	(7,8)	(4,7)	(7,2)	(0,54)	(28,9)								
France	6 924 128	3,0	1,2	61,1	260	101	195	76,6	612	(383)	(2,1)	(521)					
Germany	1 666 000	0,58	0,50	29,8	120	27,4	71,2	56,5	221	(104)	(1,1)	(6,7)	(0,54)	(0,51)	(0,06)	(1,31)	(31,8)
Iceland	786 875																
Ireland	983 131	0,30	0,08	6,7	27,7	13,3	37,3	16,4	94,5			4,75	0,36	0,62	0,62	2,39	23,4
The Netherlands	13 987 835	8,0	3,9	179	497	247	456	196	1 557	1 135	14,3	226	19,0	18,0	20,0	10,0	16,0
Norway	633 879																
Portugal	46 800																
Spain	804 609	1,3	0,96	7,3	18,5	21,4	45,1	8,4	197		(0,25)	19,1					
Sweden	68 315	(0,16)	(0,21)		(0,26)	(0,70)	(0,36)	(0,22)	(2,3)								
UK	17 795 135	7,4	4,3	263	1 058	609	801	509	2 265	ND	ND	ND	ND	ND	ND	ND	ND
Total=	47 051 018	22,3	11,8	593	2 169	1 076	1 714	919	5 333	(1 621)	(21,4)	(778)	(19,9)	(19,1)	(20,7)	(13,7)	(218)

Table IV b (1): Amounts of Dredged Material and Associated Contaminants Dumped in 1999 from Estuaries and Sea Channels

Countries	total quantity (in metric tonnes) dry weight	in tonnes										in kilograms					
		Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT
Belgium	23 774 632	(3,0)	(1,2)	(127)	(430)	(101)	(232)	(134)	(762)		(6,6)						(310)
Denmark	1 628 833	(0,004)	(0,001)	(0,004)	(0,20)	(0,11)	(0,17)	(0,05)	(0,68)								
France	14 578 200	4,6	1,5	185	680	267	561	302	1 534	(395)		(450)					
Germany	24 374 000	5,0	4,9	157	585	216	390	231	1 579	(153)	(3,3)	(26,8)	(5,1)	(0,92)	(0,03)	(9,4)	(863)
Iceland																	
Ireland	578 143	0,27	0,06	5,2	18,8	9,4	19,6	11,8	65,7			3,72	0,49	0,49	0,49	2,02	20
The Netherlands																	
Norway																	
Portugal	2 212 200																
Spain	2 024 881	1,8	2,1	41,8	157	94,8	105	57,4	338		(0,43)	5,2					
Sweden	22 603																
UK	15 033 164	6,4	3,2	240	940	532	659	443	1 957	ND	ND	ND	ND	ND	ND	ND	ND
Total=	84 226 655	21,1	12,9	756	2 810	1 221	1 966	1 179	6 238	(548)	(10,3)	(485)	(5,6)	(1,4)	(0,5)	(11,4)	(1 194)

(1) (...) data sets are incomplete

Table V a (1): Amounts of Dredged Material and Associated Contaminants Dumped in 2000 from Harbours

Countries	total quantity (in metric tonnes) dry weight	in tonnes										in kilograms					
		Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT
Belgium	3 590 061	1,9	0,70	61,4	232	73,3	134	72,3	468		4,8						194
Denmark	601 560	(0,11)	(0,04)	(0,66)	(7,6)	(3,5)	(6,5)	(1,0)	(24,8)			(0,0002)					(0,74)
France	6 387 732	3,4	1,4	59,3	250	118,0	228	89,3	690	85,0	(2,1)	(270)					356
Germany	1 860 500	0,66	0,28	33,0	127	30,1	76,7	63,6	233	(111)	(1,3)	(7,4)	(0,59)	(0,57)	(0,03)	(1,53)	(35,4)
Iceland	71 837																
Ireland	240 809	0,06	0,03	1,5	8,7	4,1	6,6	4,5	23,1			2,0	0,23	0,23	0,23	0,91	5,2
The Netherlands	15 782 317	9,5	4,0	185	344	246	418	203	1 666	1 014	14,6	193	17,0	16,0	15,0	3,00	16,0
Norway	545 998	(0,0004)	(0,01)				(0,021)										
Portugal																	
Spain	1 249 569	2,6	1,2	34,1	32,8	48,7	80,6	18,1	366		1,9	87,8					
Sweden	139 825	(0,04)	(0,04)			(0,03)	(0,02)		(0,13)								
UK	9 760 675	5,3	4,4	201	641	441	747	335	1 900								
Total=	40 230 883	23,6	12,0	576	1 643	964	1697	787	5 371	(1 210)	(24,7)	(560)	(17,8)	(16,8)	(15,3)	(5,4)	(607)

Table V b (1): Amounts of Dredged Material and Associated Contaminants Dumped in 2000 from Estuaries and Sea Channels

Countries	total quantity (in metric tonnes) dry weight	in tonnes															
		Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT
Belgium	27 063 438	15,6	3,5	276	1391	533	872	285	2585		(5,6)		(92)				(235)
Denmark	1 973 012	(0,003)	(0,002)	(0,11)	(0,36)		(0,23)	(0,14)	(1,1)								
France	14 850 750	(3,0)	(1,1)	(113)	(354)	(302)	(345)	(254)	(1 117)		(0,36)	(23,3)					
Germany	22 411 500	5,3	5,6	173	654	229	425	298	1 781	162	3,3	23,9	4,5	0,85	0,02	7,9	951
Iceland																	
Ireland	162 520	0,04	0,02	1,2	6,4	2,9	5,0	3,2	17,4			1,5	0,22	0,22	0,22	0,87	3,3
The Netherlands																	
Norway																	
Portugal																	
Spain	832 107	0,87	0,68	26,2	32,8	22,9	53,3	12,5	197		0,24	3,0					
Sweden	1 400																
UK	6 805 669	4,08	2,25	150	534	309	505	236	1 389								
Total=	74 100 396	28,9	13,2	738	3 163	1 399	2 206	1 088	7 087	(162)	(9,4)	(28,4)	(4,8)	(1,1)	(0,24)	(8,7)	(1 201)

(1) (...) data sets are incomplete

Table VI Relative quantities of dredged material from different areas disposed of at sea since 1987

origin of dredged material	total dredged material (Mt dry weight)	harbour dredgings		estuaries/sea channel dredgings	
		(Mt dry weight)	(%)	(Mt dry weight)	(%)
2000	114	40	35	74	65
1999	131	47	36	84	64
1998	104	30	29	74	71
1997	117	43	37	74	63
1996	117	47	40	70	60
1995	127	49	39	78	61
1994	(1)	(1)	52	(1)	48
1993			42		58
1992			40		60
1991			46		54
1990			52		48
1989			47		51
1988			64		36
1987			44		56

(1): reported as wet weight

Report on Dumping Permits Issued in 2000

Table 1 **Overview of number of permits issued and tonnes licensed in 2000**

Contracting Party	Number of permits issued for waste category						Tonnes licensed (dry weight)	Notes
	Dredged material	Sewage sludge	Inert Material	Fish waste	Vessels or aircraft	Other waste		
Belgium	5						28 500 000	
France	43						21 238 482	
Denmark	18						1 485 800	
Germany								(1)
Iceland	GP						71 837	(2)
Ireland	11						796 236	(3)
				1			6	
The Netherlands	5						20 392 000 m3	(4)
Norway	61						544 703	
			18				280 460	
					34		NI	
Portugal	17						3 224 000	
		2					130 000	
			1				NI	
Sweden	13						14 125	
United Kingdom	149						30 430 218	(5)
				1			160	(5) (6)

NI = No information

Report on Dumping Permits Issued in 2000

Table 2 Specific reporting on permits issued in 2000*

Contracting Party	Number of permits issued per waste category					Contaminants/ Material of concern**		Reasons for classification
	Dredged material	Sewage sludge	Inert Material	Vessels or aircraft	Other waste	Type	Level 2 (mg/kg)	
Portugal (1)	NA	NA	2 (2)	1				
Norway (3)				34		34 wooden vessels		

* Reporting requirements are specified in Appendix 1, point (b) of the Reporting Formats adopted at PRAM 1995
for the Annual Reporting of Dumping Permits Issued

** Specification required only for dredged material and sewage sludge

Report on the Amounts of Wastes Dumped at Sea in 2000

Table 3a Details of deposit sites and dumping methods

OSPAR-codes	categories of waste					dredged material					other waste categories place of origin	total quantity (in metric tonnes)			notes
	Deposit site	dredged material	inert material	sewage sludge	fish waste	vessels/ aircraft	origin name of watersystem	type of areas dredged Harbour Estuary Sea	dredging operation type capital maintenance			dry weight	Tot. org. carbon	or similar	
Belgium															
B/1		X					CDNB Zeebrugge		X	X		1 684 517			
B/1		X					Scheur Oost		X	X		2 312 858			
B/1		X					Scheur West		X	X		1 560 586			
B/3		X					Pas van het Zand		X	X		235 637			
B/3		X					CDNB Zeebrugge		X	X		548 706			
B/3		X					Scheur Oost			X		614 657			
B/6		X					Haven en voorhaven Zeebrugge	X		X		3 029 774			
B/6		X					CDNB Zeebrugge		X	X		1 942 008			
B/9		X					Toegangseul Oostende		X	X		306 374			
B/9		X					Haven Oostende	X		X		252 958			
B/x1		X					Scheur Wielingen		X	X		310 670			
B/x2		X					Scheur Wielingen		X	X		51 150			
B/int0		X					Drempel van Zandvliet	X		X		429 140			(1)
B/int0		X					Toegangseul Zandvliet + Berendrechtsluizen	X		X		578 416			(1)
B/int0		X					Drempel van Frederik	X		X		283 995			(1)
B/int0		X					Drempel van Lillo	X		X		506 474			(1)
B/int0		X					Toegangseul Boudewijn- en Van Cauwelaertsluiz	X		X		84 758			(1)
B/int1bis		X					Drempel van Zandvliet	X		X		1 105 503			(1)
B/int1bis		X					Toegangseul Zandvliet + Berendrechtsluizen	X		X		558 550			(1)
B/int1bis		X					Drempel van Frederik	X		X		341 342			(1)
B/int1bis		X					Toegangseul Boudewijn- en Van Cauwelaertsluiz	X		X		352 213			(1)
B/int1bis		X					Drempel Krankeloon	X		X		12 797			(1)
B/int1		X					Drempel van Vlissingen	X		X		386 733			
B/int1		X					Drempel van Borsselle	X		X		796 684			
B/int1		X					Pas van Terneuzen	X		X		12 773			
B/int1		X					Put van Terneuzen	X		X		159 068			
B/int1		X					Gat Van Ossenissee	X		X		209 672			
B/int1		X					Drempel van Hansweert	X		X		647 644			
B/int1		X					Drempel van Walsoorden	X		X		43 029			
B/int1		X					Overloop Valkenisse	X		X		335 604			
B/int1		X					Drempel van Valkenisse	X		X		34 431			
B/int2		X					Drempel van Vlissingen	X		X		55 832			
B/int2		X					Drempel van Borsselle	X		X		457 523			
B/int2		X					Pas van Terneuzen	X		X		11 441			
B/int2		X					Put van Terneuzen	X		X		60 629			
B/int2		X					Gat Van Ossenissee	X		X		167 510			
B/int2		X					Drempel van Hansweert	X		X		600 625			
B/int2		X					Overloop Valkenisse	X		X		269 467			
B/int2		X					Drempel van Valkenisse	X		X		41 315			
B/int3		X					Overloop Hansweert	X		X		8 293			
B/int3		X					Drempel van Hansweert	X		X		224 708			
B/int3		X					Overloop Valkenisse	X		X		5 725			
B/int3		X					Drempel van Valkenisse	X		X		246 726			
B/int3		X					Drempel van Bath	X		X		282 862			
B/int4a		X					Drempel van Hansweert	X		X		107 783			
B/int4a		X					Overloop Valkenisse	X		X		306 597			
B/int4a		X					Drempel van Valkenisse	X		X		312 274			
B/int4a		X					Drempel van Bath	X		X		22 796			
B/int4b		X					Drempel van Hansweert	X		X		133 890			
B/int4b		X					Overloop Valkenisse	X		X		317 009			
B/int4b		X					Drempel van Valkenisse	X		X		376 553			
B/int4b		X					Drempel van Bath	X		X		38 905			
B/int5		X					Overloop Hansweert	X		X		75 329			
B/int5		X					Drempel van Hansweert	X		X		130 194			
B/int5		X					Drempel van Valkenisse	X		X		153 439			
B/int5		X					Drempel van Bath	X		X		99 874			
B/int7		X					Overloop Hansweert	X		X		122 249			
B/int7		X					Drempel van Valkenisse	X		X		128 102			
B/int7		X					Drempel van Bath	X		X		657 664			

OSPAR-codes	categories of waste					dredged material					other waste categories		total quantity			notes		
	Deposit site	dredged material	inert material	sewage sludge	fish waste	vessels/ aircraft	origin name of watersystem	type of areas dredged			dredging operation type		place of origin		(in metric tonnes)			
								Harbour	Estuary	Sea	capital	maintenance			dry weight	Tot. org. carbon	or similar	
B/int8		X					Drempel van Borssele		X			X			171 508			
B/int8		X					Pas van Terneuzen		X			X			322 891			
B/int8		X					Drempel van Hansweert		X			X			884 633			
B/int8		X					Drempel van Walsoorden		X			X			208 811			
B/int8		X					Overloop Valkenisse		X			X			308 390			
B/int8		X					Drempel van Bath		X			X			64 289			
B/int9		X					Overloop Hansweert		X			X			837 957			
B/int9		X					Drempel van Hansweert		X			X			742 352			
B/int9		X					Overloop Valkenisse		X			X			1 413 970			
B/int9		X					Drempel van Valkenisse		X			X			489 219			
B/int9		X					Drempel van Bath		X			X			65 443			
Total															30 653 498			

Denmark																	
FRB08		X					Gilleleje Østhavn + indsejling	X				X			7 402		
NJL01		X					Åsø Havn, sejrende og forhavn	X				X			2 700		
NJL03		X					Søsportshavnen, indsejling og forhavn	X							4 651		
NJL03		X					Frederikshavn Havn	X				X			61 965		
NJL03		X					Frederikshavn Havn, forhavn	X				X			24 000		
NJL07		X					Gjøl Havn	X				X			2 625		
NJL07		X					Nibe Havn, Sejrende		X			X			24 000		
NJL10		X					Sejrende over Hals Barre		X			X			1 018		
NJL13		X					Hirtshals Havn, sejrende		X			X			107 801		
NJL20		X					Løgster Grund		X						69 052		
NJL23		X					Als Odde, sejrenden til Mariager Fjord		X			X			36 276		
NJL31		X					Rønnerhavnen, indsejlingen		X			X			4 140		
NJL37		X					Strandby Havn		X						3 552		
NJL41		X					Sæby Havn	X							8 160		
NJL45		X					Øster Hurup havn	X				X			3 072		
NJL45		X					Øster Hurup Havn	X			X				5 400		
NJL50		X					Ålbæk Havn	X				X			14 715		
RIB01		X					Grådyb Barre, indsejlingen		X			X			577 500		
RIB01		X					Esbjerg Havn, sejrende indenfor bøje 16		X			X			11 445		
RIB01		X					Esbjerg Havn, Dokhavnen	X				X			3 050		
RIB02		X					Grådyb Barre, indsejlingen		X			X			570 000		
RIB02		X					Fanø Lo		X			X			6 158		
RIB03		X					Slunden m Esbjerg og Fanø		X			X			6 962		
RIB03		X					Esbjerg Havn	X				X			99 400		
RIB04		X					Esbjerg Havn	X				X			99 400		
RIB08		X					Grådyb Barre, indsejlingen		X			X			517 500		
RIN05		X					Sælhundeolm Løb		X			X			34 205		
RIN05		X					Thyborøn yderhavn, tilsejling Industrifis	X				X			19 695		
RIN05		X					Thyborøn Færgehavn og sejrende	X				X			10 260		
RIN24		X					Sejrenden til Skaven Havn	X			X				1 988		
RIN25		X					Sejrenden til Stauning Havn	X			X				7 182		
SJL09		X					Rømø Havn	X				X			14 835		
VIB06		X					Skive Søsportshavn	X				X			1 354		
VIB09		X					Hanstholm Havn, Indsejlingen	X				X			197 064		
VIB21		X					Virksund Lystbådehavn	X				X			1 656		
VSI39		X					Odden Havn, Indsejlingen		X			X			3 404		
AAR01		X					Anholt Havn	X				X			10 988		
Total															2 574 572	0	

France (2)																	(3)
F/05901-2		X					Port de Dunkerque (Ouest)	X				X			1 152 000	26 323	
F/05903-4		X					Port de Dunkerque (Est)	X				X			719 000	14 819	
F/06201		X					Port de Calais	X				X			507 000	NI	
F/06202		X					Port de Boulogne	X				X			1 105 000	NI	
F/07601		X					Port de Rouen		X			X			5 454 600	NI	
F/07602		X					Port du Havre	X				X			1 358 160	43 461	
F/05601-2-3		X					Port de Driasker (Port-Louis)	X				X			42 775	16 155	
F/04401		X					Port de Nantes Saint Nazaire		X			X			3 296 150	113 915	
F/04412		X					Port de Pornic-Noeuvillard	X				X			56 000	1 680	

OSPAR-codes	categories of waste					dredged material						other waste categories	total quantity			notes
	Deposit site	dredged material	inert material	sewage sludge	fish waste	vessels/ aircraft	origin name of watersystem	type of areas dredged			dredging operation type		(in metric tonnes)			
							Harbour	Estuary	Sea	capital	maintenance	place of origin	dry weight	Tot. org. carbon	or similar	
F/08505-6-7	X					Port de Saint- Gilles-Croix-de-Vie	X				X		8 406	185		
F/08508-9-10	X					Port des Sables d'Olonne	X				X		25 243	665		
F/01701-6	X					Ports de La Rochelle- Pallice et de La Rochelle	X				X		233 371	5 134		
F/01702-4-5-7-8-9						Ports de Rivedoux-plage, Fouras, Palmyre (Les Mathes), Rochefort-sur-Mer, d'Ars-en-Ré, St Pierre d'Oleron, Le Chateau-d'Oleron, Bourcefranc-Le Chapus, L'Eguille, St Denis-d'Oleron, St Georges-d'Oleron							159 477	2 995		
	X						X				X					
F/03301-02-03-05-06-07-08-09-11-12-13-14-15-16-17-18-19						Port de Bordeaux							6 100 000	79 681		
	X							X			X					
F/03310-20	X					Port d'Arcachon	X				X		111 600	5 999		
F/06401-2	X					Port de Bayonne	X				X		909 700	17 739		
Total													21 238 482	328 751		

Germany																	
10	X						Dagebüll harbour	X				X		31 000			(4)
12	X						Husum harbour	X				X		48 000			(4)
13	X						Harbour and outer harbour of Büsum	X				X		29 000			(4)
14	X						Elbe estuary / navigation channel; outer	X	X		X	X		5 574 000			(4)(5)(6)
15	X						Weser estuary / navigation channel		X			X		412 000	27,7		(4)(5)(7)
17	X						Jade bay / navigation channel	X	X			X		2 282 000	23,7		(4)(5)(8)
19	X						Niedersachsenbrücke Wilhelmshaven	X				X		10 000			(4)
20	X						Outer harbour of Hooksiel	X				X		8 000			(4)
21	X						Wangerooge harbour	X				X		22 000			(4)
22	X						Spiekeroog harbour	X				X		17 000			(4)
25	X						Baltrum harbour	X				X		7 000			(4)
30	X						Harbours Norderney and Norddeich	X				X		20 000			(4)
32	X						Norddeich harbour	X				X		24 000			(4)
34	X						Ems estuary / navigation channel		X			X		2 391 000	13,3		(4)(5)(9)
41	X						Niedersachsenbrücke Wilhelmshaven	X	X			X		75 000			(4)
43	X						Bensersiel harbour	X				X		19 000			(4)
44	X						Harbours Langeoog and Bensersiel	X				X		27 000			(4)
45	X						Approach channel of Juist harbour	X				X		20 000			(4)
Total														11 016 000	65		

Iceland																	
IS 3	X						Arnarstapi	X			X			467			
IS 31	X						Árskógssandur	X			X			1 830			
IS 33	X						Akureyri	X			X			610			
IS 45	X						Eskifjörður	X			X			4 026			
IS 51	X						Hornafjörður	X			X			18 300			
IS 52	X						Vestmannaeyjar	X			X			34 404			
IS 58	X						Hafnafj/Straumsvík	X			X			12 200			
Total														71 837			

Ireland																	
Irl 6	X						Dun Laoghaire Harbour	X			X			26 222			
Irl 6	X						Liffey Estuary	X				X		4 188			
Irl 8	X						Suir/Barrow Estuary	X	X			X		185 660			
Irl 10	X						Kilmore Quay	X		X	X			10 757			
Irl 13	X						Barrow Estuary	X				X		2 534			
Irl 17	X						Cork Harbour	X	X			X		125 756			
Irl 31	X						Shannon Estuary	X	X			X		2 867			
Irl 34				X			-	-	-	-	-	-	Crab Shells	6			
Irl 35	X						Dingle Harbour	X			X			33 331			
Irl 36	X						Tralee Bay/Fenit Harbour	X				X		12 014			
Total														403 335			

OSPAR-codes Deposit site	categories of waste					dredged material						other waste categories place of origin	total quantity (in metric tonnes)			notes
	dredged material	inert material	sewage sludge	fish waste	vessels/ aircraft	origin name of watersystem	type of areas dredged Harbour Estuary Sea			dredging operation type capital maintenance			dry weight	Tot. org. carbon	or similar	
Netherlands																
NL-6	X					Scheveningen Harbour	X				X		176 700	N.D.		
NL-7	X					IJmuiden Harbour	X				X		984 779	N.D.		
NL-8	X					Rotterdam Harbour	X				X		8 400 181	N.D.		
NL-10	X					Eastern Scheldt Harbours	X				X		26 152	1 228		
NL-11	X					Western Scheldt Harbours	X				X		5 356 097	135 309		
NL-13	X					Waddensea W Harbours	X				X		645 167	N.D.		
NL-13a	X					Waddensea W Harbours	X			X			193 241	N.D.		(10)
NL-14						Waddensea E Harbours										(11)
NL-15						Ems-Dollard Harbours										(11)
Total													15 782 317	136 537		

Norway																
1/Østfold	X					Oslofjord	X			X		60				
2/Østfold	X					Oslofjord	X			X		1 800				
3/Østfold	X					Oslofjord	X			X		120				
4/Østfold	X					Oslofjord	X			X		240				
5/Østfold	X					Oslofjord	X			X		2 400				
6/Østfold	X					Oslofjord	X			X		240				
7/Østfold	X					Oslofjord	X			X		9 000				
8/Østfold	X					Oslofjord	X			X		360				
9/Østfold	X					Oslofjord	X			X		480				
10/Vestfold	X					Oslofjord	X			X		125				
11/Vestfold	X					Oslofjord	X			X		150				
12/Vestfold	X					Oslofjord	X			X		540				
13/Vestfold	X					Oslofjord	X			X		150				
14/Vestfold	X					Oslofjord	X			X		450				
15/Vestfold	X					Oslofjord	X			X		450				
16/Vestfold	X					Oslofjord	X			X		300				
17/Vestfold	X					Oslofjord	X			X		300				
18/Vestfold	X					Oslofjord	X			X		100				
19/Vestfold	X					Oslofjord	X			X		90				
20/Vestfold	X					Oslofjord	X			X		200				
21/Vestfold	X					Oslofjord	X			X		300				
22/Vestfold	X					Oslofjord	X			X		200				
23/Vestfold	X					Oslofjord	X			X		870				
24/Vestfold	X					Oslofjord	X			X		430				
25/Vestfold	X					Oslofjord	X			X		340				
26/Vestfold	X					Oslofjord	X			X		800				
27/Vestfold	X					Oslofjord	X			X		150				
28/Vestfold	X					Oslofjord	X			X		320				
29/Vestfold	X					Oslofjord	X			X		400				
30/Vestfold	X					Oslofjord	X			X		1 600				
31/Vestfold	X					Oslofjord	X			X		150				
32/Vestfold	X					Oslofjord	X			X		200				
33/Vestfold	X					Oslofjord	X			X		450				
34/Vestfold	X					Oslofjord	X			X		500				
35/Vestfold	X					Oslofjord	X			X		2 000				
36/Vestfold	X					Oslofjord	X			X		6 500				
37/Vestfold	X					Oslofjord	X			X		200				
38/Vestfold	X					Oslofjorden	X					300				
39/Telemark					X	Oslofjorden										
40/Telemark					X	Oslofjorden										
41/Aust-Agder	X					Skagerrak	X			X		24				
42/Aust-Agder	X					Skagerrak	X			X		54				
43/Aust-Agder	X					Skagerrak	X			X		300				
44/Buskerud	X					Oslofjorden	X			X		120				
45/Buskerud					X	Oslofjorden										
46/Vest-Agder	X					Skagerrak	X			X		150				
47/Vest-Agder	X					Skagerrak	X			X		1 000				
48/Vest-Agder	X					Skagerrak	X			X		2 500				
49/Vest-Agder	X					Skagerrak	X			X		3 500				
50/Rogaland					X	North Sea	X									
51/Rogaland					X	North Sea	X									
52/Hordaland	X					North Sea	X			X						

OSPAR-codes	categories of waste					dredged material					other waste categories		total quantity (in metric tonnes)			notes		
	Deposit site	dredged material	inert material	sewage sludge	fish waste	vessels/ aircraft	origin name of watersystem		type of areas dredged Harbour Estuary Sea		dredging operation type capital maintenance		place of origin	dry weight	Tot. org. carbon		or similar	
53/Hordaland			X				North Sea		X			X		2 000				
54/Hordaland			X				North Sea/Sørfjorden		X			X		190 000				
55/Hordaland			X				North Sea/Sørfjorden		X			X						
56/Hordaland			X				North Sea		X			X		3 000				
57/Hordaland			X				North Sea		X			X		50 000				
58/Hordaland						X	North Sea/Bjørnafjorden											
59/Hordaland						X	North Sea/Bjørnafjorden											
60/Sogn og Fjordane		X					Norwegian Sea/Sognefjorden		X			X		200				
61/Sogn og Fjordane							Norwegian Sea/Vågsfjorden						Steel wire	30				
62/Møre & Romsdal						X	Norwegian Sea											
63/Møre & Romsdal						X	Norwegian Sea											
64/Møre & Romsdal						X	Norwegian Sea											
65/Møre & Romsdal	X						Norwegian Sea							10 000				
66/Møre & Romsdal	X						Norwegian Sea							3 500				
67/Sør-Trøndelag						X	Norwegian Sea											
68/Nord-Trøndelag						X	Norwegian Sea											
69/Nord-Trøndelag						X	Norwegian Sea											
70/Nordland						X	Norwegian Sea											
71/Nordland						X	Norwegian Sea											
72/Nordland						X	Norwegian Sea											
73/Nordland						X	Norwegian Sea											
74/Nordland						X	Norwegian Sea											
75/Nordland						X	Norwegian Sea											
76/Nordland						X	Norwegian Sea											
77/Nordland						X	Norwegian Sea											
78/Nordland						X	Norwegian Sea											
79/Nordland						X	Norwegian Sea											
80/Nordland						X	Norwegian Sea											
81/Nordland						X	Norwegian Sea											
82/Nordland						X	Norwegian Sea											
83/Nordland						X	Norwegian Sea											
84/Nordland						X	Norwegian Sea											
85/Nordland		X					Norwegian Sea		X			X		7 755				
86/Nordland		X					Norwegian Sea		X			X		7 700				
87/Nordland	X	X					Norwegian Sea		X			X		277 930				
88/Nordland	X	X					Norwegian Sea		X			X		4 540				
89/Nordland	X	X					Norwegian Sea		X			X		2 970				
90/Nordland	X						Norwegian Sea		X			X		9 600				
91/Nordland	X	X					Norwegian Sea		X			X		74 300				
92/Nordland	X						Norwegian Sea		X			X		1 830				
93/Nordland	X						Norwegian Sea		X			X		450				
94/Nordland	X						Norwegian Sea		X			X		5 500				
96/Troms	X						Barents Sea		X			X		5 000				
97/Troms	X						Barents Sea		X			X		55 000				
98/Troms	X						Barents Sea		X			X		600				
99/Troms	X						Barents Sea		X			X		15 000				
100/Troms	X						Barents Sea		X			X		3 500				
101/Troms						X	Barents Sea											
102/Troms						X	Barents Sea											
103/Finnmark	X						Barents Sea		X			X		30 000				
104/Finnmark	X						Barents Sea		X			X						
105/Finnmark	X						Barents Sea		X			X		1 500				
106/Finnmark	X						Barents Sea		X			X		3 500				
107/Finnmark					X		Barents Sea						Fish meal	80				
108/Finnmark					X		Barents Sea						Fish meal	120				
109/Finnmark						X	Barents Sea											
110/Finnmark							Barents Sea						Fiber glass boat					
111/Finnmark						X	Barents Sea						Fiber glass boat					
112/Finnmark						X	Barents Sea											
113/Finnmark						X	Barents Sea											
Total														806 718				

OSPAR-codes	categories of waste					dredged material					other waste categories		total quantity (in metric tonnes)			notes		
	Deposit site	dredged material	inert material	sewage sludge	fish waste	vessels/ aircraft	origin name of watersystem	type of areas dredged		dredging operation type		place of origin	dry weight	Tot. org. carbon	or similar			
Portugal																	12)	
P/1		X					Viana do Castelo			X	X					65 000		
P/2	X						Figueira da Foz			X		X				78 000		
P/3	X						Lisboa	X				X				260 000		
P/4	X						Lisboa	X				X				117 000		
P/5	X						Lisboa	X				X				26 000		
P/6	X						Lisboa	X				X				117 000		
P/7	X						Lisboa	X				X				52 000		
P/8	X						Lisboa	X			X					26 000		
P/9			X				Lagos	X				X				65 000		
P/10	X						Lagos	X				X				78 000		
P/11	X						Albufeira	X								260 000	13)	
P/12	X						Albufeira	X								650 000	13)	
P/13	X						Albufeira	X								780 000	13)	
P/14	X						Quarteira			X		X				65 000		
P/15	X						Quarteira	X				X				13 000		
P/16	X						Quarteira	X				X				15 600		
P/17	X						Olhão	X			X	X				520 000		
P/18	X						Vila Real St. António	X				X				136 500		
P/19						X	Ponta Delgada (Açores)						ship hull/harbour				14)	
P/20	X						Ponta Delgada (Açores)	X			X					29 900		
Total																	3 354 000	
Spain																		
E/1	X						Puerto de Pasajes	X				X		NI	NI			
E/2	X						Puerto de Bilbao	X				X		324 245	9 389			
E/3	X						Puerto de Santander	X	X		X	X		859 924	20 939			
E/5	X						Puerto de Aviles	X	X		X	X		564 059	7 127			
E/8	X						Puerto de Villagarcía		X		X			120 115	5 081			
E/12	X						Puerto de Cádiz	X			X			213 332	16 427			
Total																	2 081 675	58 962
Sweden																		
SWE/1	X						St. Björkholmen (Skagerrack)	X				X		210				
SWE/2	X						St Borgen (Skagerrack)	X				X		1 449				
SWE/3	X						Bohus Malmön (Skagerrack)	X				X		371				
SWE/4	X						Norra Hamnen (Skagerrack)	X				X		105				
SWE/5	X						Kolkefjorden (Skagerrack)	X				X		1 408				
SWE/6	X						Räbbehuvud (Skagerrack)	X				X		266				
SWE/7	X						Holmen Grå (Skagerrack)	X				X		3 381				
SWE/8	X						Guleskären (Kattegatt)			X		X		1 400				
SWE/9	X						Stora Kalvsund (Kattegatt)	X				X		2 814				
SWE/10	X						Hakefjorden (Kattegatt)	X				X		5 936				
SWE/11	X						Vinga (Kattegatt)	X				X		64 925				
SWE/12	X						Träslövsläge (Kattegatt)	X				X		33 000				
SWE/13	X						Falkonbergs Hamn (Kattegatt)	X				X		25 960				
Total																	141 225	
UK																		
CR019	X						Cromarty Firth	X				X		29 772				
CR021	X						Moray Firth			X		X		74 493				
CR030	X						Moray Firth	X				X		5 591				
CR031	X						Grampian Coast			X		X		800				
CR040	X						Spey Bay/Moray Firth	X				X		1 761				
CR050	X						Grampian Coast	X				X		2 607				
CR080	X						Grampian Coast	X				X		3 000				
CR110	X						Dee River/North Sea	X		X		X		126 047				
DM001	X						Cumbria Coast	X				X		1 409				
DV010	X						Kent Coast	X			X	X		190 015				
DV011	X						Kent Coast	X				X		0				
FI068	X						Shetland Coast	X			X			12 378				

OSPAR-codes	categories of waste					dredged material						other waste categories	total quantity			notes
	Deposit site	dredged material	inert material	sewage sludge	fish waste	vessels/ aircraft	origin name of watersystem	type of areas dredged			dredging operation type		(in metric tonnes)			
								Harbour	Estuary	Sea	capital maintenance	place of origin	dry weight	Tot. org. carbon	or similar	
FI070	X						Shetland Coast			X	X		1 736			
FI095	X						Scalloway, Shetland	X			X		0			
FO010	X						South Esk River	X			X		39 374			
FO020	X						Tayside Coast	X		X	X	X	11 438			
FO028	X						Firth of Tay	X			X		31 470			
FO036	X						Firth of Forth	X			X		734 438			
FO038	X						Firth Of Forth	X			X		27 324			
FO041	X						Firth Of Forth	X	X		X		803			
FO044	X						Firth Of Forth	X			X		450 978			
FO048	X						Firth Of Forth	X			X		0			
FO051	X						Firth of Forth/Fife Coast	X			X		0			
FO080	X						Eye River	X	X		X	X	9 187			
HE020	X						Isles of Muck and Figg	X			X		10 365			
HE025	X						Loch Scresort, Isle of Rhum	X			X		17 427			
HU015	X						Humberside Coast	X				X	8 236			
HU020	X						Humber River	X	X		X	X	131 903			
HU030	X						Humber River	X	X	X		X	728 926			
HU040	X						Humber River	X				X	3 241			
HU041	X						Humber River	X				X	3 298			
HU060	X						Humber River	X	X	X	X	X	1 046 841			
HU080	X						Humber River	X	X			X	1 878 174			
HU090	X						Humber River	X	X			X	256 472			
HU139	X						Witham River	X	X	X		X	0			
HU141	X						Great Ouse River	X	X			X	0			
HU143	X						Great Ouse River	X	X			X	28 835			
HU150	X						Yare River	X	X	X	X	X	15 317			
HU162	X						Humber River			X	X		0			
HU170	X						Witham River	X	X	X		X	39 178			
IS040	X						Anglesey Coast	X			X	X	147 874			
IS055	X						Conwy River	X				X	0			
IS110	X						Mersey River	X	X			X	144 233			
IS120	X						Mersey River	X	X	X		X	43 596			
IS128	X						Mersey River		X			X	35 012			
IS140	X						Mersey River	X	X	X		X	776 816			
IS150	X						Mersey River/Liverpool Bay	X	X	X	X	X	212 321			
IS170	X						Wyre River	X				X	496 588			
IS180	X						Cumbria Coast	X			X	X	0			
IS192	X						Lune River	X				X	2 150			
IS200	X						Morecambe Bay	X				X	106 647			
IS205	X						Cumbria Coast	X			X	X	0			
IS230	X						Cumbria Coast	X			X		0			
IS240	X						Cumbria Coast	X				X	33 007			
IS241	X						Cumbria Coast	X				X	118 682			
IS245	X						Solway Firth	X				X	0			
IS250	X						Solway Firth	X				X	0			
IS251	X						Solway Firth	X				X	0			
IS286	X						Luce Bay	X				X	3 000			
IS288	X						Luce Bay	X				X	0			
IS400	X						Douglas Harbour, Isle of Man	X				X	450			
IS590	X						Lagan River/Belfast Lough	X	X			X	2 800			
IS591	X						Lagan River		X			X	434 470			
IS650	X						Down Coast	X				X	4 680			
IS671	X						Carlingford Lough	X				X	0			
LU010	X						Camel River	X				X	2 638			
LU055	X						Somerset Coast	X			X		14 210			
LU070	X						Avon River	X	X			X	4 590			
LU080	X						Avon River	X	X			X	75 164			
LU083	X						Avon River	X	X			X	157 213			
LU084	X						Avon River	X	X			X	40 111			
LU085	X						Avon River	X	X			X	27 294			
LU086	X						Avon River	X	X			X	0			
LU110	X						Taff R./Severn Est.	X	X		X	X	327 522			
LU115	X						Severn Estuary	X				X	8 945			
LU125	X						Neath River	X				X	0			
LU130	X						Neath River/Swansea Bay	X	X	X	X	X	1 153 734			

OSPAR-codes Deposit site	categories of waste					dredged material						other waste categories place of origin	total quantity (in metric tonnes)			notes
	dredged material	inert material	sewage sludge	fish waste	vessels/ aircraft	origin name of watersystem	Harbour	Estuary	Sea	dredging operation type capital maintenance	dry weight		Tot. org. carbon	or similar		
LU140	X					Usk River	X			X	X	18 423				
LU168	X					Milford Haven	X				X	0				
MA010	X					Loch Ryan		X			X	19 561				
MA021	X					Firth Of Clyde	X				X	79 301				
MA025	X					Firth Of Clyde	X				X	9 723				
MA050	X					Firth Of Clyde	X			X	X	331 642				
MA501	X					Foyle River	X				X	0				
MA545	X					Foyle River	X				X	0				
MA571	X					Antrim Coast	X				X	0				
MA605	X					Antrim Coast	X				X	13 012				
PL019	X					Salcombe Estuary	X				X	0				
PL030	X					Tamar River	X	X			X	0				
PL031	X					Tamar River	X			X	X	65 999				
PL060	X					Fowey River/Cornwall Coast South	X	X			X	38 574				
PL075	X					Falmouth Harbour/Truro River	X	X		X	X	4 862				
PL100	X					Mounts Bay	X				X	3 980				
PO070	X					Teign River	X				X	0				
PO090	X					Teign River	X				X	0				
TH005	X					Waveney River	X				X	27 726				
TH038	X					Orwell River	X				X	4 334				
TH041	X					Orwell River/Suffolk Coast	X		X	X		0				
TH049	X					Orwell/Stour Rivers + Essex/Suffolk Co	X		X	X		3 204 142				
TH052	X					Orwell/Stour Rivers + Essex/Suffolk Co	X	X	X	X	X	619 723				
TH070	X					Thames River	X	X	X	X		37 619				
TH073	X					Thames Estuary	X				X	0				
TH103	X					Thames Estuary/Medway Estuary		X	X		X	0				
TH140	X					Kent Coast	X				X	31 098				
TH200	X					Orwell River	X				X	0				
TH201	X					Orwell River	X				X	0				
TH202	X					Orwell River	X				X	0				
TH203	X					Orwell River	X				X	0				
TH204	X					Orwell River	X				X	0				
TH205	X					Orwell River	X				X	1 980				
TH206	X					Orwell River	X				X	2 970				
TY022	X					Coquet River	X				X	1 262				
TY025	X					Coquest River	X	X			X	30 730				
TY042	X					Northumberland Coast	X				X	112 843				
TY070	X					Tyne River	X				X	144 012				
TY081	X					Tyne River	X	X			X	143 337				
TY090	X					Wear River	X			X	X	108 054				
TY130	X					Durham Coast	X				X	17 105				
TY150	X					Tees River/Hartlepool Bay	X	X	X		X	0				
TY160	X					Tees River/Hartlepool Bay	X	X	X		X	540 570				
TY180	X					Esk River	X		X		X	24 573				
TY190	X					North Yorkshire Coast	X				X	9 556				
WI010	X					Ouse River (E.Sussex)	X				X	2 254				
WI020	X					East Sussex Coast	X				X	24 578				
WI031	X					Adur River/Sussex Coast	X	X	X		X	39 068				
WI035	X					Sussex Coast			X		X	2 264				
WI060	X					So'ton Water, IoW, Portsmouth	X	X	X	X	X	502 767				
WI080	X					So'ton Water, IoW etc.	X	X			X	19 313				
WI090	X					So'ton Water, IoW etc.	X				X	1 937				
WI110	X					Poole Harbour	X	X	X	X	X	30 876				
FI045				X							Stromness, Orkney Isles	36				
FI050				X							Stromness, Orkney Isles	0				
Total												16 566 380				

Amounts of Wastes Dumped at Sea in 2000

Table 3b **Total loads (methods of determination indicated in Part II)**

OSPAR-codes	in tonnes												in kilogramms													
Deposit site	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	N	P	CB 28	CB 52	CB 101	CB 118	CB 138	CB 153	CB 180	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT	other/notes
Belgium													pesticides (15)													
B/1	0,674	0,286	30,490	112,357	26,110	61,316	34,701	200,458		1,668											0				57	
B/1	0,347	0,139	20,446	0,347	56,665	29,142	18,595	91,589		0,601											0				35	
B/1	0,234	0,094	13,796	38,234	7,023	19,663	12,547	61,799		0,406											0				24	
B/3	0,066	0,024	2,592	8,106	1,798	4,642	2,521	14,468		0,122											0				6	
B/3	0,219	0,093	9,932	36,599	8,505	19,973	11,303	65,296		0,543											0				18	
B/3	0,092	0,037	5,434	0,092	15,059	7,745	4,942	24,340		0,160											0				9	
B/6	1,727	0,636	54,536	216,932	59,990	120,585	65,140	421,139		4,302											0				174	
B/6	0,777	0,330	35,150	129,532	30,101	70,689	40,005	231,099		1,923											0				65	
B/9	0,058	0,028	2,963	0,058	2,252	5,392	3,125	17,463		0,126											0				19	
B/9	0,142	0,048	4,174	14,925	5,818	9,840	4,654	34,655		0,455											0				15	
B/x1	0,047	0,019	2,746	7,611	1,398	3,914	2,498	12,303		0,081											0				5	
B/x2	0,008	0,003	0,452	1,253	0,230	0,644	0,411	1,998		0,013											0				1	
B/int0	0,579	0,086	5,150	17,595	17,595	15,449	5,150	83,682													7,1					0,4
B/int0	1,735	0,327	17,352	63,047	86,762	75,149	17,352	280,532													26,6					1,8
B/int0	1,945	0,368	17,466	52,539	55,379	54,811	16,472	296,775													3,0					0,9
B/int0	0,937	0,111	6,331	21,778	15,701	20,259	6,837	49,634													11,2					2,6
B/int0	0,343	0,046	2,331	7,543	7,543	8,561	2,288	40,260													3,5					0,2
B/int1bis	1,492	0,221	13,266	45,326	45,326	39,798	13,266	215,573													18,2					1,1
B/int1bis	3,826	0,723	34,351	103,332	108,917	107,800	32,396	583,685													5,9					1,8
B/int1bis	0,631	0,075	4,267	14,678	10,582	13,654	4,608	33,452													7,5					1,7
B/int1bis	1,004	0,174	6,340	24,303	31,347	23,422	8,383	89,814													3,9					1,1
B/int1bis	0,005	0,000	0,109	0,037	0,084	0,224	0,059	0,909													0,0					0,0
B/int1	0,015	0,005	1,779	3,635	0,039	1,702	1,856	6,961													0					0
B/int1	0,016	0,006	2,948	7,728	0,319	2,709	2,868	11,154													0					0
B/int1	0,000	0,000	0,051	0,128	0,004	0,046	0,049	0,179													0					0
B/int1	0,003	0,001	0,604	2,068	0,064	0,493	0,509	2,386													0,0					0,0
B/int1	0,000	0,002	1,531	4,403	0,042	0,964	0,944	4,193													0,0					0,0
B/int1	0,032	0,032	0,130	7,772	0,777	0,389	0,194	3,238													0,8					0,0
B/int1	0,003	0,000	0,004	0,026	0,043	0,017	0,009	0,043													0,0					0,0
B/int1	0,007	0,003	1,611	3,692	0,067	1,510	1,577	6,041													0,0					0,0
B/int1	0,003	0,001	0,148	0,723	0,110	0,272	0,310	1,033													0,1					0,0
B/int2	0,002	0,001	0,257	525,000	0,006	246,000	0,268	1,005													0,0					0,0
B/int2	0,009	0,003	1,693	4,438	0,183	1,556	1,647	6,405													0,0					0,0
B/int2	0,000	0,000	0,046	0,114	0,003	0,041	0,043	0,160													0,0					0,0
B/int2	0,001	0,000	0,230	0,788	0,024	0,188	0,194	0,909													0,0					0,0
B/int2	0,000	0,002	1,223	3,518	0,034	0,771	0,754	3,350													0,0					0,0
B/int2	0,048	0,030	0,120	7,207	0,721	0,360	0,180	3,003													0,8					0,0
B/int2	0,005	0,003	1,293	2,964	0,054	1,213	1,266	4,850													0,0					0,0
B/int2	0,004	0,002	0,178	0,868	0,132	0,326	0,372	1,239													0					0
B/int3	0,000	0,000	0,039	0,141	0,002	0,028	0,027	0,116													0					0
B/int3	0,018	0,011	0,045	2,696	0,270	0,135	0,067	1,124													0					0
B/int3	0,000	0,000	0,027	0,063	0,001	0,026	0,027	0,103													0					0
B/int3	0,022	0,010	1,061	5,181	0,790	1,949	2,221	7,402													0					0
B/int3	0,000	0,002	2,065	4,526	0,042	1,188	1,160	4,526													0					0
B/int4a	0,009	0,005	0,022	1,293	0,129	0,065	0,032	0,539													0					0
B/int4a	0,004	0,003	1,248	3,596	0,051	1,111	1,128	5,071													0,0					0
B/int4a	0,028	0,013	1,343	6,558	0,999	2,467	2,810	9,368													0,0					0
B/int4a	0,000	0,000	0,166	0,365	0,003	0,096	0,093	0,365													0,0					0
B/int4b	0,011	0,007	0,027	1,607	0,161	0,080	0,027	0,669													0,0					0

Table 3b **Total loads (methods of determination indicated in Part II)**

OSPAP-codes	in tonnes												in kilograms														
Deposit site	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	N	P	CB 28	CB 52	CB 101	CB 118	CB 138	CB 153	CB 180	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT	other/notes	
B/int4b	0,005	0,003	1,336	3,673	0,054	1,203	1,230	5,335														0,0				0	
B/int4b	0,034	0,015	1,619	7,908	1,205	2,975	3,389	11,297														0,0				0	
B/int4b	0,000	0,000	0,284	0,622	0,006	0,163	0,160	0,622														0				0	
B/int5	0,000	0,006	0,354	1,281	0,015	0,256	0,249	1,055														0,0				0,0	
B/int5	0,010	0,007	0,026	1,562	0,156	0,078	0,039	0,651														0,2				0,0	
B/int5	0,014	0,006	0,660	3,222	0,491	1,212	1,381	4,603														0,0				0,0	
B/int5	0,000	0,001	0,729	1,598	0,015	0,419	0,409	1,598														0,0				0,0	
B/int7	0,000	0,001	0,575	2,078	0,024	0,416	0,403	1,711														0,0				0,0	
B/int7	0,012	0,005	0,551	2,690	0,410	1,012	1,153	3,843														0,0				0,0	
B/int7	0,001	0,004	4,801	10,523	0,099	2,762	2,696	10,523														0,007				0	
B/int8	0,003	0,001	0,635	1,664	0,069	0,583	0,617	2,401														0				0	
B/int8	0,006	0,002	1,292	3,229	0,097	1,162	1,227	4,520														0				0	
B/int8	0,071	0,044	0,177	10,616	1,062	0,531	0,265	4,423														1				0	
B/int8	0,015	0,002	0,021	0,125	0,209	0,084	0,042	0,209														0				0	
B/int8	0,006	0,0031	1,480	3,392	0,062	1,388	1,449	5,551														0,003				0	
B/int8	0,006	0,0026	0,276	1,350	0,206	0,508	0,579	1,929														0,003				0	
B/int9	0,001	0,007	3,938	14,245	0,168	2,849	2,765	11,731														0				0	
B/int9	0,059	0,037	0,148	8,908	0,891	0,445	0,223	3,712														1				0	
B/int9	0,024	0,014	6,397	15,944	0,263	5,896	6,101	24,673														0				0	
B/int9	0,044	0,020	2,104	10,274	1,565	3,865	4,403	14,677														0				0	
B/int9	0,000	0,000	0,478	1,047	0,010	0,275	0,268	1,047														0				0	
Total	17	4	337	1 623	606	1 006	357	3 052	10													92					

Denmark										
FRB08	0,001	0,000		0,007	0,037	0,015	0,008	0,067		
NJL01										
NJL03										
NJL03										
NJL03										
NJL07										
NJL07										
NJL10										
NJL13										
NJL20										
NJL23										
NJL31										
NJL37	0,001	0,000	0,004	0,025	0,028	0,036	0,007	0,178		
NJL41										
NJL45										
NJL45										
NJL50										
RIB01										
RIB01										
RIB01	0,016	0,000		0,110	0,070	0,110		0,461		
RIB02										
RIB02										
RIB03	0,002	0,001		0,139	0,057	0,111		0,439		
RIB03	0,037	0,014		2,684	1,233	2,485		9,045		
RIB04	0,037	0,014		2,684	1,233	2,485		9,045		
RIB08										
RIN05	0,001	0,001	0,109	0,226	0,103	0,120	0,140	0,626		
RIN05	0,003	0,001	0,108	0,380	0,250	0,246	0,087	1,418	0,20	

Table 3b Total loads (methods of determination indicated in Part II)

OSPAR-codes	in tonnes												in kilograms															
Deposit site	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	N	P	CB 28	CB 52	CB 101	CB 118	CB 138	CB 153	CB 180	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT	other/notes		
RIN05	0,000	0,000	0,030	0,078	0,048	0,072	0,046	0,257												0					0,00			
RIN24	0,000	0,000	0,003	0,010	0,004	0,004	0,010	0,040																				
RIN25	0,002	0,000	0,026	0,037	0,037	0,050	0,062	0,381																				
SJL09	0,005	0,003	0,445	0,949	0,430	0,608	0,504	2,418																	0,54			
VIB06	0,000	0,000	0,008	0,011	0,013	0,012	0,010	0,055																				
VIB09	0,006	0,006	0,020	0,571	0,138	0,335	0,236	1,458																				
VIB21	0,001	0,000	0,007	0,014	0,023	0,010	0,012	0,053																				
VSJ39																												
AAR01	0,001	0,000	0,012	0,048	0,033	0,075	0,032	0,185																				
Total	0,11	0	1	8	4	7	1	26												0,00					0,74			
France																												(16)
F/05901-2	0,6	0,1	11,9	65,5	11,8	48,9	16,8	101,7	7,3	NI	0,3	991,6	0,0	0,2	0,1	0,9	1,9	1,9	0,0	NI	NI	NI	NI	NI	15,5			
F/05903-4	0,3	0,1	6,9	37,5	6,4	30,8	9,7	64,2	21,9	NI	0,2	599,6	0,0	0,0	0,2	0,6	1,2	1,3	0,2	NI	NI	NI	NI	NI	25,1			
F/06201	0,1	0,1	4,7	5,0	20,1	11,5	6,9	66,0	0,0	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	24,4			
F/06202	1,5	0,3	8,0	33,3	15,7	40,3	15,3	197,6	0,0	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	13,9			
F/07601	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI			
F/07602	0,5	0,5	12,6	76,5	37,1	60,8	24,3	126,8	NI	2,1	3 188,6	1 181,3	0,0	0,0	1,0	3,3	18,6	21,0	5,8	260,4	NI	NI	NI	NI	96,6			
F/05601-2-3	<DL	0,0	0,5	2,9	1,2	0,8	1,4	4,8	2,7	NI	157,0	32,2	0,1	0,1	0,1	0,2	0,2	0,3	0,1	NI	NI	NI	NI	NI	NI			
F/04401	1,9	0,5	45,7	255,6	82,7	177,4	111,7	423,6	0,0	0,4	6 265,6	1 686,3	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI			
F/04412	0,0	0,0	1,2	3,5	1,5	2,6	1,6	6,2	9,5	NI	168,0	1 686,3	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	5,0			
F/08505-6-7	0,0	0,0	0,1	0,4	0,2	0,3	0,2	0,9	17,9	NI	0,0	NI	<DL	<DL	<DL	<DL	<DL	<DL	<DL	NI	NI	NI	NI	NI	NI	(17)		
F/08508-9-10	0,0	0,0	0,3	1,1	1,9	1,1	0,4	4,3	25,7	NI	0,0	1,1	0,0	0,0	0,1	0,1	0,1	0,1	0,1	NI	NI	NI	NI	NI	172,6			
F/01701-6	0,0	0,0	3,6	14,8	5,1	8,1	3,5	31,2	0,0	NI	207,1	68,1	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	1,0			
F/01702-4-5-7-8-9	0,1	0,0	2,5	2,8	2,8	6,4	1,2	22,5	0,0	NI	119,3	24,4	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	1,0			
F/03301-02-03-05-06-07-08-09-11-12-13-14-15-16-17-18-19	1,1	0,7	67,0	98,7	219,7	167,6	142,4	693,1	0,0	NI	NI	NI	1,7	4,9	4,1	3,0	3,3	3,6	2,7	NI	NI	NI	NI	NI	0,1			
F/03310-20	<DL	0,0	0,1	0,1	0,4	0,5	0,1	1,6	0,0	NI	NI	NI	<DL	<DL	<DL	<DL	<DL	<DL	<DL	NI	NI	NI	NI	NI	1,1	(17)		
F/06401-2	0,3	0,1	6,9	6,3	13,8	15,6	8,1	62,2	0,0	NI	1 722,4	615,6	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI			
Total	6	2	172	604	420	573	343	1 806	85	2	11 828	6 886	2	5	6	8	25	28	9	260	NI	NI	NI	NI	356			
Germany																												
10	0,010	0,004	0,405	0,961	0,204	0,400	0,400	1,807	<0,157	0,003	62,62	17,62																
12	0,027	0,015	0,947	2,851	1,337	2,018	1,217	8,288	0,833	0,027	158,61	58,06																
13	0,016	0,010	0,443	1,366	0,568	0,856	0,539	3,964	0,924	0,014	65,96	24,21																
14	3,902	4,905	117,045	418,019	167,208	278,679	195,076	1343,235																	836,038			
15	0,103	0,041	2,145	9,487	3,217	8,250	4,537	26,811	8,250	0,384			0,412	0,206	0,206	0,124	0,371	0,371	0,247	1,939	0,103	0,052	<1,237	13,200				
17	1,050	0,456	52,484	214,498	43,356	118,659	107,249	349,130	216,780	2,510			1,369	1,164	2,966	1,734	2,510	3,651	1,050	14,444	1,141	1,118	2,510	68,457				
19	<0,005	0,004	0,234	1,119	0,264	0,681	0,386	1,729	<0,153	0,003			<0,020	<0,010	<0,010	<0,010	<0,005	<0,005	<0,005	<0,066	<0,005	<0,002	<0,010	<0,061	0,132			
20	0,005	0,003	0,214	0,815	0,230	0,535	0,296	1,482	0,247	0,002			<0,016	<0,008	<0,008	<0,008	0,008	0,005	0,004	<0,058	0,008	0,002	<0,008	<0,049	0,584			
21	0,009	0,001	0,502	1,070	0,655	1,485	0,830	4,586																				
22	0,007	0,001	0,391	0,934	0,527	1,121	0,815	3,856																				
25	0,004	0,000	0,155	0,392	0,229	0,480	0,244	1,656																				
30	0,009	0,001	0,454	1,050	0,668	1,269	0,681	4,492																				
32	0,011	0,001	0,568	1,305	0,821	1,570	0,846	5,605																				
34	0,717	0,430	26,303	114,776	35,867	76,517	43,041	229,552	45,432	1,602			2,009	1,076	1,746	1,483	3,658	3,587	1,028	14,586	3,850	0,239	5,763	67,431				
41	<0,037	0,026	1,715	8,204	1,939	4,997	2,834	12,679	<1,1187	0,019			<0,149	<0,075	<0,075	<0,075	<0,037	<0,037	<0,037	<0,485	<0,037	<0,015	<0,075	<0,447	0,970			

Table 3b **Total loads (methods of determination indicated in Part II)**

OSPAR-codes	in tonnes												in kilograms													
Deposit site	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	N	P	CB 28	CB 52	CB 101	CB 118	CB 138	CB 153	CB 180	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT	other/notes
43	0,009	0,001	0,464	1,039	0,575	1,261	0,668	4,210																		
44	0,012	0,001	0,656	1,458	0,787	1,825	0,966	6,017																		
45	0,008	0,001	0,440	1,084	0,552	1,319	0,654	4,631																		
Total	<5,9	6	206	780	259	502	361	2 014	<272,8	5	287	100	<4,0	<2,5	<5,0	<3,4	<6,6	<7,7	<2,4	<31,6	<5,1	<1,4	<0,1	<10,1	986,81	

Ireland																							
Irl 6	0,005	0,002	0,217	1,412	0,455	0,585	0,525	2,048	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.06	
Irl 6	0,008	0,002	0,077	0,256	0,261	0,639	0,188	1,787	<0,121	<0,043	<0,017	<0,015	<0,018	<0,019	<0,012	<0,246	<0,005	<0,005	<0,005	<0,038	0,680		
Irl 8	0,030	0,008	1,099	6,687	1,229	4,051	2,623	15,465	<0,63	<0,063	<0,63	<0,63	<0,63	<0,63	<0,63	<4,41	<0,63	<0,63	<0,63	<2,52	<0,48		
Irl 10	0,0002	<0,0001	<0,004	0,016	0,006	0,009	0,012	0,049	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,002	<0,013	<0,002	<0,002	<0,002	<0,007	<0,009		
Irl 13	<0,001	<0,001	0,003	0,019	0,013	0,033	0,011	0,140	<0,009	<0,009	<0,009	<0,009	<0,009	<0,009	<0,009	<0,063	<0,009	<0,009	<0,009	<0,036	ND		
Irl 17	0,050	0,026	1,224	5,910	4,485	5,819	3,645	19,006	<0,24	<0,26	<0,24	<0,24	<0,24	<0,24	<0,24	<1,7	<0,24	<0,25	<0,25	<0,93	<12,55		
Irl 31	0,001	0,000	0,028	0,115	0,033	0,084	0,074	0,265	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,007	<0,001	<0,001	<0,001	<0,03	<0,014		
Irl 34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Irl 35	0,004	0,006	ND	0,453	0,437	0,275	0,348	1,247	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,403	
Irl 36	0,005	0,0003	0,066	0,153	0,066	0,101	0,211	0,464	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001	<0,009	<0,001	<0,001	<0,001	<0,007	<0,6		
Total	<0,1	<0,044	<2,7	15	7	12	8	40	<1,0	<1,0	<1,0	<1,0	<1,0	<1,0	<1,0	<6,0	<1,0	<1,0	<1,0	<4,0	<16,0		

Netherlands																										
NL-6	0,000	0,000	1,985	9,587	5,458	8,657	2,018	18,688	25,669	0,000	N.D.	N.D.	0	0	0	0	0	0	0	0	0	0	0	0		
NL-7	0,418	0,264	15,628	45,074	17,140	39,270	17,624	126,718	133,160	0,853	N.D.	N.D.	2	2	2	2	2	2	14	2	2	2	N.D.	10		
NL-8	5,578	2,358	98,878	235,147	128,746	198,897	95,585	961,835	286,623	7,544	N.D.	N.D.	27	17	18	14	16	23	14	129	11	8	7	N.D.	N.D.	
NL-10	0,017	0,005	0,298	0,762	0,275	0,499	0,276	2,024	2,570	0,036	N.D.	N.D.	0	0	0	0	0	0	0	0	0	0	0	N.D.		
NL-11	3,014	1,083	58,110	18,546	77,297	137,899	73,253	452,374	499,347	4,858	N.D.	N.D.	4	4	4	6	9	8	6	36	3	3	3	N.D.		
NL-13	0,276	0,182	6,323	24,809	12,122	21,948	10,124	70,634	64,422	0,965	N.D.	N.D.	1	1	1	1	2	2	1	11	1	3	3	N.D.	6	
NL-13a	0,208	0,090	3,498	9,587	4,706	10,507	4,021	34,057	1,932	0,342	N.D.	N.D.	1	0	0	0	1	1	0	3	0	0	0	N.D.	0	
NL-14																										
NL-15																										
Total	10	4	185	344	246	418	203	1 666	1 014	15	0	0	35	24	25	23	30	36	23	193	17	16	15	3	16	

Norway				
1/Østfold				
2/Østfold				
3/Østfold				
4/Østfold				
5/Østfold				
6/Østfold				
7/Østfold				
8/Østfold				
9/Østfold				
10/Vestfold	0,0001	0,00001	0,0013	
11/Vestfold		0,0001		
12/Vestfold	0,0001	0,0002	0,003	
13/Vestfold				
14/Vestfold				
15/Vestfold				
16/Vestfold				
17/Vestfold				
18/Vestfold				
19/Vestfold				
20/Vestfold	0,0001	0,00005	0,0100	
21/Vestfold		0,00003	0,0010	

Table 3b **Total loads (methods of determination indicated in Part II)**

OSPAR-codes	in tonnes												in kilograms														
Deposit site	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	N	P	CB 28	CB 52	CB 101	CB 118	CB 138	CB 153	CB 180	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT	other/notes	
22/Vestfold	0,00005					0,0008																					
23/Vestfold																											
24/Vestfold																											
25/Vestfold																											
26/Vestfold																											
27/Vestfold																											
28/Vestfold																											
29/Vestfold																											
30/Vestfold																											
31/Vestfold																											
32/Vestfold																											
33/Vestfold																											
34/Vestfold																											
35/Vestfold																											
36/Vestfold																											
37/Vestfold																											
38/Vestfold																											
39/Telemark																											
40/Telemark																											
41/Aust-Agder																											
42/Aust-Agder																											
43/Aust-Agder																											
44/Buskerud	0,0001	0,0013						0,001																			
45/Buskerud																											
46/Vest-Agder																											
47/Vest-Agder																											
48/Vest-Agder																											
49/Vest-Agder																											
50/Rogaland																											
51/Rogaland																											
52/Hordaland																											
53/Hordaland																											
54/Hordaland																											
55/Hordaland																											
56/Hordaland																											
57/Hordaland																											
58/Hordaland																											
59/Hordaland																											
60/Sogn og Fjordane																											
61/Sogn og Fjordane																											
62/Møre & Romsdal																											
63/Møre & Romsdal																											
64/Møre & Romsdal																											
65/Møre & Romsdal																											
66/Møre & Romsdal																											
67/Sør-Trøndelag																											
68/Nord-Trøndelag																											
69/Nord-Trøndelag																											
70/Nordland																											
71/Nordland																											
72/Nordland																											
73/Nordland																											

Table 3b Total loads (methods of determination indicated in Part II)

OSPAR-codes	in tonnes												in kilograms													
Deposit site	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	N	P	CB 28	CB 52	CB 101	CB 118	CB 138	CB 153	CB 180	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT	other/notes
74/Nordland																										
75/Nordland																										
76/Nordland																										
77/Nordland																										
78/Nordland																										
79/Nordland																										
80/Nordland																										
81/Nordland																										
82/Nordland																										
83/Nordland																										
84/Nordland																										
85/Nordland																										
86/Nordland																										
87/Nordland																										
88/Nordland																										
89/Nordland																										
90/Nordland																										
91/Nordland																										
92/Nordland																										
93/Nordland																										
94/Nordland																										
96/Troms																										
97/Troms																										
98/Troms																										
99/Troms																										
100/Troms																										
101/Troms																										
102/Troms																										
103/Finnmark																										
104/Finnmark																										
105/Finnmark																										
106/Finnmark																										
107/Finnmark																										
108/Finnmark																										
109/Finnmark																										
110/Finnmark																										
111/Finnmark																										
112/Finnmark																										
113/Finnmark																										
Total	0	0				0,02																				

Portugal																										(18)
P/1	<1	<0,5	<20	<50	<35	<50	<30	<100	NI	<300	NI	NI								<5	<0,5	NI	NI	NI	NI	
P/2	<3	<1,5	<50	<100	<150	<150	<75	<600	NI	<2000	NI	NI								<25	<2,5	NI	NI	NI	NI	
P/3	<3	<1,5	<50	<100	<150	<150	<75	<600	NI	<2000	NI	NI								<25	<2,5	NI	NI	NI	NI	
P/4	<5	<3	<100	<400	<300	<500	<125	<1500	NI	<6000	NI	NI								<100	<10	NI	NI	NI		
P/5	<3	<1,5	<50	<100	<150	<150	<75	<600	NI	<2000	NI	NI								<25	<2,5	NI	NI	NI	NI	
P/6	<3	<1,5	<50	<100	<150	<150	<75	<600	NI	<2000	NI	NI								<25	<2,5	NI	NI	NI	NI	
P/7	<3	<1,5	<50	<100	<150	<150	<75	<600	NI	<2000	NI	NI								<25	<2,5	NI	NI	NI	NI	
P/8	<3	<1,5	<50	<100	<150	<150	<75	<600	NI	<2000	NI	NI								<25	<2,5	NI	NI	NI	NI	
P/9	<1	<0,5	<20	<50	<35	<50	<30	<100	NI	<300	NI	NI								<5	<0,5	NI	NI	NI	NI	

Table 3b **Total loads (methods of determination indicated in Part II)**

OSPAR-codes	in tonnes												in kilogramms													
Deposit site	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	N	P	CB 28	CB 52	CB 101	CB 118	CB 138	CB 153	CB 180	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT	other/ notes
P/10	<5	<3	<100	<400	<300	<500	<125	<1500	NI	<6000	NI	NI								<100	<10	NI	NI	NI		
P/11	<3	<1,5	<50	<100	<150	<150	<75	<600	NI	<2000	NI	NI								<25	<2,5	NI	NI	NI	NI	
P/12	<3	<1,5	<50	<100	<150	<150	<75	<600	NI	<2000	NI	NI								<25	<2,5	NI	NI	NI	NI	
P/13	<5	<3	<100	<400	<300	<500	<125	<1500	NI	<6000	NI	NI								<100	<10	NI	NI	NI		
P/14	<3	<1,5	<50	<100	<150	<150	<75	<600	NI	<2000	NI	NI								<25	<2,5	NI	NI	NI	NI	
P/15	<5	<3	<100	<400	<300	<500	<125	<1500	NI	<6000	NI	NI								<100	<10	NI	NI	NI		
P/16	<3	<1,5	<50	<100	<150	<150	<75	<600	NI	<2000	NI	NI								<25	<2,5	NI	NI	NI	NI	
P/17	<5	<3	<100	<400	<300	<500	<125	<1500	NI	<6000	NI	NI								<100	<10	NI	NI	NI		
P/18	<5	<3	<100	<400	<300	<500	<125	<1500	NI	<6000	NI	NI								<100	<10	NI	NI	NI		
P/19																										
P/20	<5	<3	<100	<400	<300	<500	<125	<1500	NI	<6000	NI	NI								<100	<10	NI	NI	NI		
Total	<67	<37	<1240	<3900	<3670	<5100	<1685	<16700	NI	<62600	NI	NI								<960	<96	NI	NI	NI	NI	

Spain																			
E/1	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		
E/2	1,800	0,576	10,698	15,191	33,851	32,236	9,134	181,130	1,662	3,065	2,857	9,517	2,642	19,494	23,826	23,449	84,851		
E/3	0,808	0,394	37,844	26,660	20,963	61,419	12,060	205,258	0,382	NI	NI	NI	NI	NI	NI	NI	0,974		
E/5	0,726	0,818	8,932	7,275	8,040	34,893	5,092	161,854	NI	NI	NI	NI	NI	NI	NI	NI	4,674		
E/8	0,103	0,076	2,805	15,796	8,368	5,099	3,910	13,281	0,046	NI	NI	NI	NI	NI	NI	NI	0,193		
E/12	0,020	0,004	0,023	0,604	0,359	0,252	0,346	1,024	NI	NI	NI	NI	NI	NI	NI	NI	0,139		
Total	3	2	60	66	72	134	31	563	0	2	3	3	10	3	19	24	23	91	

[illegible]

Table 3b **Total loads (methods of determination indicated in Part II)**

OSPAR-codes	in tonnes												in kilogramms													
Deposit site	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	N	P	CB 28	CB 52	CB 101	CB 118	CB 138	CB 153	CB 180	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT	other/notes

UK										
CR019	0,006	0,008	0,260	0,141	0,378	0,575	0,426	3,662		
CR021	0,002	0,009	0,100	0,352	0,107	0,121	0,167	1,274		
CR030	0,001	0,000	0,026	0,058	0,099	0,094	0,036	0,462		
CR031	0,000	0,000	0,002	0,010	0,013	0,012	0,057	0,040		
CR040	0,000	0,000	0,010	0,023	0,018	0,022	0,049	0,111		
CR050	0,000	0,000	0,007	0,027	0,023	0,022	0,026	0,066		
CR080	0,000	0,000	0,010	0,043	0,017	0,027	0,031	0,089		
CR110	0,045	0,017	1,029	3,655	3,302	4,613	2,471	13,991		
DM001	0,000	0,000	0,028	0,074	0,037	0,064	0,044	0,167		
DV010	0,029	0,026	2,484	5,776	1,784	3,732	4,428	11,081		
DV011	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000		
FI068	0,004	0,001	0,089	0,418	0,319	0,419	0,399	3,017		
FI070	0,001	0,000	0,003	0,024	0,007	0,002	0,017	0,033		
FI095	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000		
FO010	0,006	0,003	0,301	0,969	0,921	0,732	0,717	2,756		
FO020	0,003	0,002	0,134	0,492	0,216	0,435	0,526	0,995		
FO028	0,008	0,001	0,318	1,316	0,900	1,469	0,875	4,597		
FO036	0,139	0,908	12,747	3,467	34,147	52,867	25,978	126,266		
FO038	0,020	0,033	0,431	1,755	1,234	2,691	1,871	4,099		
FO041	0,000	0,001	0,013	0,047	0,046	0,063	0,035	0,190		
FO044	0,081	0,648	7,125	31,884	23,053	31,090	17,616	65,149		
FO048	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000		
FO051	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000		
FO080	0,004	0,003	0,091	0,426	0,416	0,510	0,319	1,338		
HE020	0,001	0,000	0,035	0,049	0,063	0,089	0,662	0,412		
HE025	0,002	0,001	0,059	0,082	0,107	0,149	1,113	0,693		
HU015	0,004	0,002	0,110	0,420	0,462	0,221	0,199	4,328		
HU020	0,096	0,040	5,104	15,543	6,231	14,151	6,728	33,340		
HU030	0,531	0,220	28,201	85,860	34,563	79,195	37,203	184,276		
HU040	0,004	0,001	0,145	0,446	0,220	0,523	0,181	1,124		
HU041	0,004	0,001	0,147	0,454	0,224	0,532	0,184	1,144		
HU060	0,733	0,306	39,464	118,431	48,303	109,428	52,032	257,287		
HU080	1,369	0,566	72,673	221,323	88,718	201,503	95,796	474,734		
HU090	0,181	0,074	9,921	29,204	12,827	28,247	13,851	65,266		
HU139	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000		
HU141	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000		
HU143	0,015	0,004	0,385	1,258	0,493	1,433	0,714	2,719		
HU150	0,002	0,001	0,062	0,053	0,050	0,155	0,093	0,311		
HU162	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000		
HU170	0,046	0,004	0,577	1,931	0,655	1,380	1,015	3,563		
IS040	0,033	0,053	1,506	5,722	3,169	5,962	5,569	15,372		
IS055	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000		
IS110	0,097	0,149	2,360	6,556	5,507	9,965	2,885	29,633		
IS120	0,035	0,057	0,820	2,916	2,187	4,509	1,148	11,425		
IS128	0,002	0,003	0,000	0,340	0,126	0,392	0,174	1,919		
IS140	0,608	0,981	14,217	49,859	37,369	76,840	19,869	197,437		
IS150	0,046	0,020	1,456	6,132	2,300	2,555	3,909	11,498		
IS170	0,094	0,046	3,521	12,497	4,960	9,491	5,475	30,519		
IS180	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000		
IS192	0,000	0,001	0,014	0,069	0,023	0,052	0,030	0,147		

Table 3b **Total loads (methods of determination indicated in Part II)**

Total loads (methods of determination indicated in Part II)

OSPAP-codes	in tonnes												in kilograms													
Deposit site	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	N	P	CB 28	CB 52	CB 101	CB 118	CB 138	CB 153	CB 180	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT	other/notes
IS200	0,025	0,041	0,909	4,114	1,607	4,105	2,127	10,505																		
IS205	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
IS230	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
IS240	0,017	0,004	0,487	1,555	0,691	1,498	0,749	4,032																		
IS241	0,060	0,015	1,750	5,592	2,486	5,385	2,693	14,499																		
IS245	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
IS250	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
IS251	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
IS286	0,001	0,000	0,011	0,068	0,028	0,030	0,037	0,146																		
IS288	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
IS400	0,000	0,000	0,009	0,018	0,058	0,083	0,011	0,148																		
ISS90	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
IS591	0,120	0,052	3,315	44,661	6,655	13,849	11,905	40,942																		
IS650	0,004	0,001	0,000	0,107	0,067	0,123	0,055	0,471																		
IS671	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
LU010	0,001	0,000	0,103	0,103	0,164	0,109	0,080	0,419																		
LU055	0,007	0,005	0,209	0,792	0,522	1,189	0,580	3,016																		
LU070	0,002	0,002	0,061	0,286	0,117	0,377	0,173	1,010																		
LU080	0,033	0,027	1,034	4,755	1,921	6,180	2,808	16,630																		
LU083	0,070	0,056	2,162	9,947	4,018	12,926	5,873	34,785																		
LU084	0,018	0,014	0,551	2,535	1,025	3,298	1,500	8,871																		
LU085	0,012	0,010	0,373	1,720	0,698	2,244	1,022	6,031																		
LU086	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
LU110	0,287	0,133	5,402	24,121	15,492	35,761	14,259	96,633																		
LU115	0,003	0,003	0,133	0,495	0,266	0,685	0,266	1,903																		
LU125	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
LU130	1,135	0,390	40,885	55,444	82,617	130,278	41,021	451,246																		
LU140	0,057	0,013	0,375	3,063	1,669	2,940	0,850	8,138																		
LU168	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
MA010	0,000	0,000	0,089	0,483	0,073	0,091	0,419	0,578																		
MA021	0,109	0,081	1,403	23,348	8,961	26,929	2,203	32,957																		
MA025	0,004	0,001	0,034	1,322	0,266	0,241	0,543	1,070																		
MA050	0,070	0,076	4,129	16,602	5,046	15,900	16,400	34,316																		
MA501	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
MA545	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
MA571	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
MA605	0,002	0,001	0,061	0,575	0,314	0,164	1,352	0,762																		
PL019	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
PL030	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
PL031	0,047	0,083	7,665	4,619	19,496	11,232	2,535	24,626																		
PL060	0,033	0,004	0,998	0,929	2,868	1,435	0,509	6,555																		
PL075	0,010	0,004	0,808	0,248	2,845	0,853	0,146	5,037																		
PL100	0,001	0,001	0,114	0,106	0,203	0,142	0,066	0,427																		
PO070	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
PO090	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
TH005	0,033	0,002	0,612	3,524	0,798	1,289	2,365	3,227																		
TH038	0,002	0,001	0,075	0,324	0,311	0,244	0,159	0,670																		
TH041	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
TH049	0,758	0,085	40,034	145,424	69,092	29,234	78,409	164,227																		
TH052	0,124	0,062	0,000	40,751	1,120	21,280	20,035	59,981																		
TH070	0,074	0,074	0,518	3,288	2,492	4,173	1,160	8,525																		
TH073	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		

Table 3b **Total loads (methods of determination indicated in Part II)**

OSPAP-codes	in tonnes												in kilogramms													
Deposit site	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	N	P	CB 28	CB 52	CB 101	CB 118	CB 138	CB 153	CB 180	Total CB	HCB	γ-HCH	Diel-drin	DDT	TBT	other/notes
TH103	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
TH140	0,007	0,003	0,424	1,198	0,491	0,889	0,615	1,767																		
TH200	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
TH201	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
TH202	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
TH203	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
TH204	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
TH205	0,001	0,000	0,021	0,063	0,020	0,031	0,033	0,088																		
TH206	0,001	0,000	0,031	0,095	0,030	0,047	0,049	0,132																		
TY022	0,001	0,000	0,007	0,010	0,002	0,009	0,007	0,023																		
TY025	0,009	0,003	0,297	1,199	1,918	0,808	0,531	2,414																		
TY042	0,016	0,005	0,967	2,418	1,451	2,741	2,096	6,126																		
TY070	0,396	0,076	2,563	10,115	15,687	50,673	6,098	108,399																		
TY081	0,389	0,077	2,553	10,000	15,572	50,344	6,053	106,113																		
TY090	0,043	0,036	2,501	5,123	4,257	16,137	2,792	17,934																		
TY130	0,009	0,002	0,284	0,496	0,422	1,019	0,462	1,715																		
TY150	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000																		
TY160	0,965	0,920	11,616	105,496	144,751	128,803	22,081	383,957																		
TY180	0,006	0,004	0,384	1,252	0,709	1,502	0,709	3,379																		
TY190	0,001	0,002	0,137	0,380	0,359	0,542	0,184	1,334																		
WI010	0,001	0,000	0,004	0,085	0,032	0,039	0,037	0,142																		
WI020	0,011	0,001	0,370	0,962	0,356	0,484	0,484	1,496																		
WI031	0,019	0,004	0,430	0,835	0,724	0,963	0,608	2,900																		
WI035	0,000	0,000	0,065	0,063	0,015	0,027	0,051	0,100																		
WI060	0,125	0,058	6,933	22,709	11,793	14,410	9,527	36,326																		
WI080	0,007	0,002	0,403	1,095	0,682	0,756	0,653	2,284																		
WI090	0,000	0,000	0,039	0,107	0,180	0,104	0,056	0,293																		
WI110	0,015	0,008	0,352	0,957	0,899	1,155	0,520	3,094																		
FI045																										
FI050																										
Total	9	7	351	1 176	750	1 252	571	3 289																		

Amounts of Wastes Dumped at Sea in 2000

Table 3c **Environmentally relevant loads (principles and methods of calculation indicated in Part II)**

OSPAR-codes	in tonnes												in kilogramms														
Deposit site	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	Total PAH	N	P	CB 28	CB 52	CB 101	CB 118	CB 138	CB 153	CB 180	Total HCB CB	γ-HCH	Diel-drin	DDT	TBT	other/notes		
Netherlands																											
NL-6	0,000	0,000	0,879	0,000	0,389	2,417	0,000	5,611	9,362	0,000	N.D.	N.D.	0	0	0	0	0	0	0	0	0	0	0	0	0		
NL-7	0,000	0,000	0,000	0,000	0,000	0,000	0,000	11,102	84,941	0,119	N.D.	N.D.	1	1	0	0	0	0	0	2	0	2	1	N.D.	10		
NL-8	2,635	0,927	30,566	0,000	0,000	61,325	0,000	255,693	82,988	7,544	N.D.	N.D.	27	17	18	14	16	23	14	129	11	8	7	N.D.	N.D.		
NL-10	0,004	0,005	0,120	0,000	0,000	0,041	0,000	0,000	0,000	0,000	N.D.	N.D.	0	0	0	0	0	0	0	0	0	0	0	N.D.			
NL-11	0,415	0,104	20,852	0,000	13,425	43,413	0,000	0,000	0,000	0,000	N.D.	N.D.	4	4	4	6	9	8	6	36	3	3	3	N.D.			
NL-13	0,000	0,003	0,000	0,000	0,000	0,000	0,000	0,011	46,409	0,605	N.D.	N.D.	2	1	0	0	1	1	0	5	0	3	3	N.D.	6		
NL-13a	0,073	0,035	0,000	0,000	0,000	0,000	0,000	9,252	0,000	0,225	N.D.	N.D.	0	0	0	0	0	0	0	0	0	0	N.D.	0			
NL-14																											
NL-15																											
Total	3	1	52	0	14	107	0	282	224	8	0	0	34	23	22	20	26	32	20	172	14	16	14	3	16		

[illegible]

GENERAL INFORMATION

The continental decimal system is used throughout this report. Empty cells indicate that no information was available. Italic numbers are used when the measured/calculated value was smaller than the actual number given in the cell.

ADDITIONAL INFORMATION

(Referring to Part II of the Formats for the Annual Reporting of Amounts of Wastes Dumped at Sea adopted at PRAM 1995)

1. DEPOSIT SITE

France

Deposit site codes are presented below.

Deposit Sites in France - OSPAR 2000								
Department	OSCOM codes 2000 (1)	Deposit sites (2)	Site Position (3)	Method (4)	Depth (m) (5)	Position (6)		OSCOM codes 1999
						latitude	longitude	
Nord (59)	F/05901	Vidage ouest sud (Dunkerque)	3	2	20	51°04.22'N	002°09.57'E	
	F/05902	Vidage ouest nord (Dunkerque)	3	2	20	51°05.85'N	002°11.00'E	
	F/05903	Vidage milieu (Dunkerque)	3	2	14	51°05.15'N	002°18.00'E	
	F/05904	Vidage est (Dunkerque)	3	2	14	51°04.82'N	002°20.65'E	
Pas de Calais (62)	F/06201	(Calais)	3	2		50°59.50'N	001°50.00'E	
	F/06202	(Boulogne)	3	2		50°46.25'N	001°30.62'E	
Seine Maritime (76)	F/07601	Dépôt du Kannick (Rouen)	3	2		49°27.40'N	000°03.90'E	
	F/07602	Dépôt d'Octeville (Le Havre)	3	2	5 à 14 sous 0 CM	49°33.10'N	000°01.40'E	
	F/07603	(Dieppe)	2	2	9,5 sous 0 CM	49°57.92'N	001°05.58'E	
	F/07604	(St Valéry en Caux)	3	3	0 sous 0 CM	49°52.00'N	000°42.68'E	
	F/07605	(Fécamp)	2	2	21 sous 0 CM	49°47.40'N	000°19.67'E	
	F/07606	(Tréport)	2	2	15 à 30 sous 0 CM	50°05.80'N	001°19.20'E	
	F/07603	(Dieppe)	2	2	9,5	49°57.92'N	001°05.58'E	
	F/07604	(St Valéry en Caux)	3	3	0	49°55.00'N	000°43.00'E	
	F/07605	(Fécamp)	2	2	21	49°47.40'N	000°19.67'E	
	F/07606	(Tréport)	2	2	15 à 30	50°05.80'N	001°19.20'E	
Calvados (14)	F/01401	(Caen Ouistreham)	3	2	3 à 9	49°19.13'N	000°12.48'O	
	F/01402	(Port en Bessin)	3	2	12	49°21.70'N	000°44.70'O	
	F/01403	(Grandcamp-Maisy)	2	2	14	49°25.00'N	001°00.95'O	
	F/01404	(Dielette)	3		15	49°34.35'N	001°52.55'O	
Manche (50)	F/05001	Le Cocaleu (Granville)	3	2	5	48°50.25'N	001°39.25'O	
	F/05002	Le Loup (Granville)	2	3	1	48°49.48'N	001°36.05'O	
	F/05003	Darse des Mielles (Cherbourg)	2	1	1	49°38.80'N	001°36.25'O	
	F/05004	(Dielette)	3		15	49°34.35'N	001°52.55'O	
Finistère (29)	F/02901	(Camaret)	2	2	15 à 20	48°17.42'N	004°34.66'O	
	F/02902	(Douarnenez)	2	2	19,3	48°08.13'O	004°20.80'O	
	F/02903	(Lesconil)	2	2	15 à 20	47°45.80'O	004°11.26'O	
	F/02904	(Cap-Coz - Fouesnant - Port-La-Forêt)	2	2	19	47°50.63'O	003°57.00'O	
	F/02905	(Crozon-Morgat)	2	2	3 à 6	48°14.00'O	004°30.00'O	
	F/02906	(Audierne)	2	2	25 à 30	47°58.00'O	004°33.00'O	
Ile et Vilaine (35)	F/03501	(St Malo)	3	2	20	48°42.63'N	002°07.11'O	
Morbihan (56)	F/05601	Groix (Lorient)	2	2	20 à 25	47°40.00'N	003°26.00'O	
	F/05602	Zone Est du département - site A (Vannes)		2	13 à 18	47°26.77'N	002°53.29'O	
	F/05603	Zone Est du département - site B (Vannes)		2	20 à 30	47°29.64'N	47°12.16'O	

Loire Atlantique (44)	F/04401	La Lambarde (Nantes St Nazaire)	2	2	10 à 24	47°09.70'N	002°22.40'O	F/04401
	F/04402	(Pornic-Ria)	2	2	20	47°05.65'N	002°15.48'O	F/04402
	F/04403	Dépôt nord (Piriac sur Mer)	2	2	10	47°24.50'N	002°33.00'O	F/04403
	F/04404	Dépôt sud (Piriac sur Mer)	2	2	18	47°22.00'N	002°36.50'O	F/04404
	F/04405	(La Turballe pêche)	2	2	8	47°20.58'N	002°31.50'O	F/04405
	F/04406	Zone 1 (La Turballe-Le Croisic)	2	2	20	47°19.94'N	002°36.08'O	
	F/04407	Zone 2 (La Turballe-Le Croisic)	2	2	10	47°19.94'N	002°32.08'O	
	F/04408	(La Baule-Le Pouliguen)	2	3	2	47°15.00'N	002°25.00'O	
	F/04409	(Pornichet la Baule)	2	3	0	47°14.41'N	002°20.14'O	
	F/04410	(St Michel-Chef-Chef)	2	3	0	47°10.59'N	002°10.25'O	
	F/04411	(La Plaine sur Mer)	2	3	0	47°09.93'N	002°12.96'O	
	F/04412	(Pornic-Noëveillard)	2	3	5	47°06.22'N	002°07.36'O	
Vendée (85)	F/08501	Noirmoutier-en-l'Île, L'Herbaudière, Pilier Nord	2	1	>20	47°04.25'N	002°23.13'O	
	F/08502	Noirmoutier-en-l'Île, L'Herbaudière, la pointe	2	3	< 0 CM			
	F/08503	La Barre-de-Monts, Fromentine, S.W.	2	1	3	46°52.33'N	002°12.37'O	
	F/08504	L'Île d'Yeu, Port-Joinville, Nord	2	1	12	46°48.25'N	002°18.35'O	
	F/08505	Saint-Gilles-Croix-de-Vie, Ouest	2	1	24	46°37.35'N	002°03.60'O	
	F/08506	Saint-Gilles-Croix-de-Vie, Plage	2	3	maxi 1 sur 0 CM			
	F/08507	Saint-Gilles-Croix-de-Vie, Chenal	2	3	maxi 1 sur 0 CM			
	F/08508	Les Sables d'Olonne, N.W.	2	1	18 à 20	46°27.66'N	001°48.55'O	
	F/08509	Les Sables d'Olonne, près plage	2	1	1	46°29.31'N	001°46.47'O	
	F/08510	Talmont-Saint-Hilaire, Bourgenay	2	3	maxi 1 sur 0 CM			
Charente Maritime (17)	F/01701	Dépôt du Lavardin (La Rochelle et La Pallice)	1	2	15 à 18	46°07.57'N	001°14.29'O	
	F/01702	Fosse d'Aix (Fouras, Aix et St Denis d'Oléron)	1	2	15 à 18	46°01.00'N	001°12.05'O	
	F/01704	Fosse de Chevarache (St Martin de Ré)	1	2	15 à 18	46°13.37'N	001°23.02'O	
	F/01705	Pertuis de Maumusson (Le Château d'Oléron, La Tremblade)	1	2	15 à 18	45°49.05'N	001°12.40'O	
	F/01706	Rejet Pointe des Minimes (Port des Minimes)	1	3		46°08.20'N	001°10.37'O	
	F/01707	Rejet en Charente (Rochefort-Tonnay Charente)	3	2 ou 3		45°56.38'N	000°57.07'O	
	F/01708	Dépôt de Lamouroux (Bourcefranc le Chapus, Le Château d'Oléron)	1	2	15 à 18	45°55.13'N	001°10.10'O	
	F/01709	Coureau de la Pallice	1	2	15 à 18	46°13.13'N	001°19.06'O	
	F/03301	Zone 1-1 (Bordeaux)	1	2	3 à 6	44°57.28'N	000°32.45'O	F/03301
Gironde (33)	F/03302	Zone 1-2 (Bordeaux)	1	2	3 à 6	44°57.64'N	000°32.35'O	F/03301
	F/03303	Zone 1-3 (Bordeaux)	1	2	3 à 6	44°57.92'N	000°32.31'O	F/03301
	F/03305	Zone 1-5 (Bordeaux)	1	2	3 à 6	45°00.71'N	000°35.16'O	F/03302
	F/03306	Zone 1-6 (Bordeaux)	1	2	3 à 6	45°01.09'N	000°35.70'O	F/03302
	F/03307	Zone 1-8 (Bordeaux)	1	2	3 à 6	45°05.62'N	000°39.99'O	F/03303
	F/03308	Zone 2-1 (Bordeaux)	1	2	3 à 6	45°08.97'N	000°41.78'O	F/03304
	F/03309	Zone 2-2 (Bordeaux)	1	2	3 à 6	45°11.48'N	000°43.03'O	F/03305
	F/03311	Zone 2-4 (Bordeaux)	1	2	3 à 6	45°13.95'N	000°44.03'O	F/03305
	F/03312	Zone 3-1 (Bordeaux)	1	2	3 à 6	45°16.66'N	000°44.72'O	F/03306
	F/03313	Zone 3-2 (Bordeaux)	1	2	3 à 6	45°22.19'N	000°47.35'O	F/03307
	F/03314	Zone 3-3 (Bordeaux)	1	2	3 à 6	45°23.98'N	000°49.45'O	F/03307
	F/03315	Zone 3-4 (Bordeaux)	1	2	3 à 6	45°25.66'N	000°51.14'O	F/03307
	F/03316	Zone 3-5 (Bordeaux)	1	2	3 à 6	45°27.46'N	000°53.34'O	F/03307
	F/03317	Zone 3-7 (Bordeaux)	1	2	3 à 6	45°29.22'N	000°55.18'O	F/03307
	F/03318	Zone 4-1 (Bordeaux)	2	2	15 à 20	45°35.74'N	001°04.75'O	F/03308
	F/03319	Zone 4-3 (Bordeaux)	3	2	15	45°35.95'N	001°19.95'O	F/03309
	F/03310	Landing buoy North (Bassin d'Arcachon)	3		20	44°35.35'N	001°18.105'O	F/03310
	F/03320	South Landing Buoy North (Bassin d'Arcachon)	3	2	25	44°33.00'N	001°19.80'O	
Pyrénées Atlantiques (64)	F/06401	Bayonne	3	2	25	43°32.00'N	001°33.40'O	F/06401
	F/06402	Bayonne	3	2	5	43°30.30'N	001°32.80'O	

(1) Giving the area a code number:

Enter the code number for the dumping area according to the following format:

F/(3 figures representing the department number)(2 figures representing the area within the department)

(2) Name of dumping site:

Local name for site (principal port connected thereto)

(3) Positioning of dumping site:

Position 1: Upstream of the limit of the sea

Position 2: Upstream of baseline (inner maritime waters)

Position 3: Downstream of baseline (territorial waters)

Reminder: The baselines are the low water mark and the straight baselines (particularly in the case of indented coasts and those with offshore islands) and the lines closing the bays which are determined by Decree.

The width of France's territorial waters is fixed at 12 nautical miles. The transverse limit of the sea in the estuaries is the artificial limit of separation of sea and river which is defined by the administration.

(4) Method used:

Code	Method
1	stationary dumping while at anchor
2	dumping while in motion
3	discharge by pipeline

(5) Depth:

Measured with regard to Nautical Chart reference (0 Nautical Chart or 0 low water in estuary).

(6) Position:

Position of a point representative of the dumping area.

(7) Plan to be supplied:

Position of the dumping area on a Nautical Chart extract, with details of the coordinates of the characteristic points defining the area.

Ireland

An additional three, not previously used, sites have been used in 2000 – IRL 34, 35 & 36. Their positions are given in Table 1 of Figure 5.

Portugal

Areas of Dumping at Sea:

Code	Areas	Zone	Dumping points		Category of material	Quantity	
			Long. W	Lat. N		1 000m3	1 000Ton(s)
P1	Viana do Castelo	Sea	08° 53´ 00´´	41° 39´00´´	Clean dredged material (Class 1)	50	65
P9	Lagos	Beach	NI			50	65
P19	Ponta Delgada	Sea	26° 10´00´´	37° 34´00´´		Ship hull	
P/2	Figueira da Foz	Sea	08° 54´ 30´´	40° 07´30´´	Dredged Material with traceable contamination (Class 2)	60	78
P/3	Lisboa	Estuary	09° 09´30´´	38° 41´ 40´´		200	260
P/5		Estuary	09° 09´30´´	38° 41´ 40´´		20	26
P/6		Estuary	09° 09´30´´	38° 41´ 40´´		90	117
P/7		Estuary	09° 09´30´´	38° 41´ 40´´		40	52
P/8		Estuary	09° 09´30´´	38° 41´ 40´´		20	26
P/11	Albufeira	Sea	08° 16´30´´	36° 57´30´´		200	260
P/12		Sea	08° 16´30´´	36° 57´30´´		500	650
P/14	Quarteira	Sea	08° 07´30´´	36° 55´00´´		50	65
P/16		Sea	08° 07´30´´	36° 55´00´´		12	15,6
P/4	Lisboa	Sea	09° 19´ 00´´	38° 29´00´´	Dredged material with low contamination (Class 3)	90	117
P/10	Lagos	Sea	08° 40´00´´	37° 03´45´´		60	78
P/13	Albufeira	Sea	08° 16´30´´	36° 49´ 30´´		600	780
P/15	Quarteira	Sea	08° 02´30´´	36° 45´30´´		10	13
P/17	Olhão	Sea	07° 49´00´´	36° 57´00´´		400	520
P/18	V. R. St. António	Sea	07° 26´ 00´´	37° 03´30´´		105	136,5
P/20	Ponta Delgada	Sea	25° 40´ ?	37° 40´ ?		23	29,9

United Kingdom

DM001 was a deposit site at Harrington Harbour off the North-West coast of England.

2. METHOD OF DETERMINATION

France

Definition of assumptions made in calculating quantities of dry matter in table 3a

Relationship between the saturated density of the mixture ρ_{sat} and the concentration of dry matter ρ_{ms} :

These two parameters are connected through the following relationship:

$$\rho_{ms} = \frac{\rho_{ss}}{(\rho_{ss} - \rho_o)} \times (\rho_{sat} - \rho_o) \text{ in which:}$$

- ρ_{sat} = density of the mixture (in kg/m³)
- ρ_{ms} = concentration of dry matter in the mixture (in kg dry matter/m³)
- ρ_o = density of water at 4°C (in kg/m³)
- ρ_{ss} = density of the dry sediment (in kg/m³).

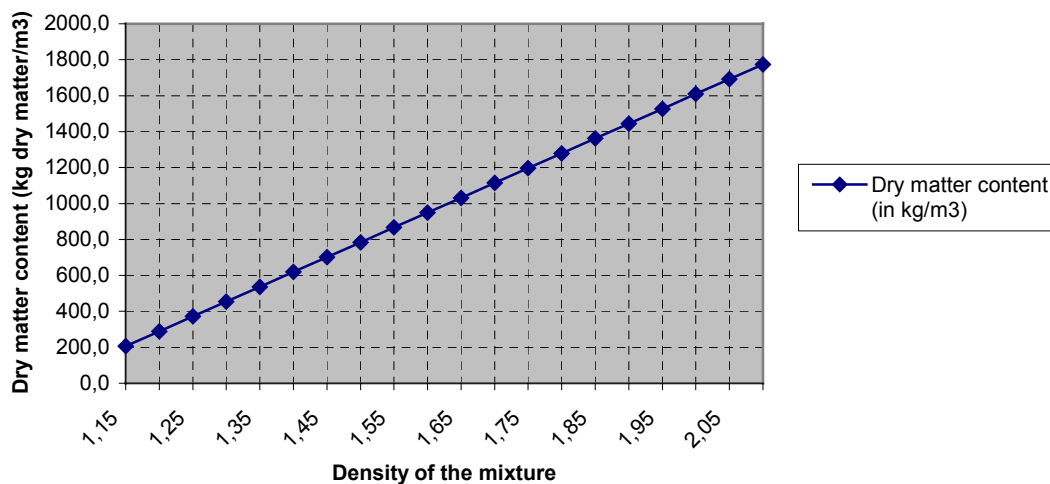
Assuming that $\rho_{ss} = 2\,600 \text{ kg/m}^3$ and $\rho_o = 1\,025 \text{ kg/m}^3$, the following simplified formula is obtained:

$$\rho_{ms} = 1\,650,8 \times (d - 1\,025)$$

where d is the density of the mixture.

This can be represented graphically as follows:

Estimation of dry matter content as a function of the density



Calculation of quantities of dry matter deposited

If the volume in situ to be dredged is known, an approximate calculation of the quantities of dry matter dredged can be carried out using the following assumptions according to the situation encountered:

Type of material	Mean density in situ	Density for calculation	Dry matter content (kg dry matter/m ³)
Fresh sludge	1,1 to 1,3	1,2	288,9
Consolidated sludge	1,3 to 1,6	1,45	701,6
Sand	1,6 to 2	1,8	1 279,4

In practice, data relating to the mean densities in situ of the sediments dredged in the principal French ports are known and listed by the Groupement d'Interêt Economique Dragages-Ports (Port-dredging Economic Interest Grouping).

If the volume in the hoppers is known, an approximate calculation of the quantities of dry matter dredged can be carried out using the following assumptions according to the situation encountered:

Type of dredging	Type of material	Mean density in the Hoppers	Density for calculation	Dry matter content (kg dry matter/m ³)
Trailer suction dredge	Liquid sludge	1,2	1,2	288,9
	Consolidated sludge	1,25 to 1,35	1,3	454,0
	Sand	1,8	1,8	1 279,4
Mechanical dredge	Fresh sludge	1,15 to 1,25	1,2	288,9
	Consolidated sludge	1,3 to 1,4	1,35	536,5
	Sand	1,8	1,8	1 279,4

Spain

With regard to the grain size fraction analysed, in all cases has been smaller than 0,063 mm, apart from the analysis of the deposit sites E/8 (Villagarcía), done with a smaller 2 mm than fraction.

With respect to the methods of determination used, they have been the following ones:

Sample preparation

- Drying of the sample at 60°C during 24h.
- Sieving of the sample with a 2 mm sieve.
- Separation, when done, of the smaller than 0,063 mm fraction, using water and a 0,063 mm plastic sieve.
- Homogenisation and grinding of the sample in an agate mortar.
- Determination of the humidity by drying at 105°C up to constant weight.

Heavy metals analysis

For Cd, Pb, Cu, Zn, Ni and Cu:

- Acid digestion with nitric acid in a microwave oven.
- Quantitative determination by atomic absorption spectrophotometry, in flame or in graphite chamber, depending on the sample concentration.

For As:

- Acid digestion in microwave oven with nitric acid.
- Previous reduction of the sample.
- Determination by hydride generation matched to an atomic absorption spectrophotometer.

For Hg:

- Acid digestion in microwave oven with nitric acid.
- Determination by cold steam technique matched to atomic absorption spectrophotometry.

Poly-chlorinated-biphenyls

- Extraction of homogenised and grinded sample with a methylene chloride:hexane (1:1) mixture.
- Extract concentration and passing through an anhydrous sodium sulphate column.
- Sulphur elimination by purification with powder of copper.
- Extract purification in column, avoiding the organochlorated compounds with a mixture of ethylic ether in hexane at successive concentrations of 6, 15 and 50%, ending with pure hexane.
- Quantitative determination by gas chromatography with electron capture detector, using an HP-S capillary column of 0,22 mm inner diameter.

Polyaromatic hydrocarbons

- Extraction by means of decantation, mixture with acetone:hexane (1:1) and ultrasounds.
- Purification by means of decantation with salt saturated with sodium sulfate.
- Determination using gas chromatography with a 60 mm capillary column, BOD5 and flame ionization detector.
- Confirmation, when necessary, by means of mass chromatography.

Organic matter

For this parameter we have used two types of techniques.

As volatile solids:

- Drying of the sample at 105°C, grinding in a mortar and combustion in muffle at 550°C up to constant weight.
- Determination of total quantity as (formula used in our "Recommendations for the management of dredged material in the ports of Spain"):

$$TOC \text{ mass (tn)} = \frac{0,35 \times \text{Volatile solids concentration (\%)} \times \text{dumped mass (tn)}}{100}$$

As Total organic carbon (TOC):

- Drying at 105°C, elimination of the inorganic carbon with HCL and determination by means of calcination and detection of CO₂ with an infrared detector (Elementary analysis).
- Determination of the total quantity as:

$$TOC \text{ mass (tn)} = \frac{TOC \text{ concentration (\%)} \times \text{dumped mass (tn)}}{100}$$

United Kingdom

All analyses of dredged material on <2mm fraction. Methods of determination as specified in reports listed below:

Allchin, C.A., Kelly, C.A. and Portmann, J.P. (1989) Methods of analysis for chlorinated hydrocarbons in marine and other samples. Aquatic Environmental Protection: Analytical Methods, MAFF Directorate of Fisheries Research, Lowestoft, (6), 25 pp.

Jones, B.R. and Laslett, R.E. (1994) Methods for analysis of trace metals in marine and other samples. Aquatic Environmental Protection: Analytical Methods, MAFF Directorate of Fisheries Research, Lowestoft, (11), 29 pp.

Kelly, C.A., Law, R.J., and Emerson, H.S. (2000) Methods of analysing hydrocarbons and polycyclic aromatic hydrocarbons (PAH) in marine samples. Science Series, Aquatic Environmental Protection: Analytical Methods, CEFAS Lowestoft. (12), 18pp.

Law, R.J., Fileman, T.W. and Portmann, J.P. (1988) Methods of analysis of hydrocarbons in marine and other samples. Aquatic Environmental Protection: Analytical Methods, MAFF Directorate of Fisheries Research, Lowestoft, (2), 25 pp.

Waldock, M.J., Waite, M.E., Miller, D., Smith, D.J. and Law, R.J. (1989) The determination of total tin and organotin compounds in environmental samples. Aquatic Environmental Protection: Analytical Methods, MAFF Directorate of Fisheries Research, Lowestoft, (4), 25 pp.

FOOTNOTES TO ALL TABLES

Table 1

- (1) Specific permits for the dumping of dredged material are not issued in Germany but all dumping are carried out under national regulations which are in accordance with OSPAR/London requirements.
- (2) There is a general permit in Iceland for disposing dredged material when the contamination of the sediment does not exceed given threshold values.
- (3) One of the 11 Ireland permits was not activated – 38 000 tonnes (dry).
- (4) The figure for licensing is in m3 not in metric tonnes for the Netherlands.
- (5) UK licensed tonnages are usually on a wet weight basis. These are the estimated dry weight equivalents.
- (6) An additional 1 000 tonnes dry weight of fish waste was licensed for deposit in the sea in 2000. The material was licensed for deposit directly onto the intertidal zone but is not dumping under the terms of the Convention. 1 559 tonnes of fish waste was deposited under this licence during 2000.

Table 2

- (1) There is no permits issued for dredged material exceeding action level 2.
- (2) The type of inert material is fine sand. It was classified as inert under the national classification.
- (3) Norway did not report on contaminants as only minor amounts were detected.

Table 3a

- (1) New disposal sites close to Antwerp Harbour.
- (2) See “deposit site” in section 1.
- (3) For France, where necessary, the quantities have been converted from m3 into tonnes by using the conversion method explained in section 2 “Methods for determination”.
- (4) For Germany where necessary, the quantities have been converted from cubic metres into tonnes by whereby the following conversion factors (specific gravity) have been used:
 - in case of silt: 1,2
 - in case of sand: 1,8
 - in case of lacking information: 1,5
 - in cases where no dry weight (DW) was indicated, the DW was estimated to be 50% (in order to calculate the annual load from the concentration given).
- (5) The total load figures in table 3b for the sites 14, 15, 17 and 34 have been calculated on the basis of the silk fraction only.
- (6) Additional quantity of 6 081 000 t sand, exempt from chemical analysis according to § 3.3.1.
- (7) Additional quantity of 3 623 000 t sand, exempt from chemical analysis according to § 3.3.1.
- (8) Additional quantity of 800 000 t sand, exempt from chemical analysis according to § 3.3.1.
- (9) Additional quantity of 2 752 000 t sand, exempt from chemical analysis according to § 3.3.1.
- (10) NL-13a is introduced for the construction of a new harbour entrance.
- (11) For NL-14 and NL-15 no data was made available.
- (12) For Portugal, the total quantity in metric tonnes for all sites are in wet weight.
- (13) Dredged of land material for the marina.
- (14) No information available on the type, size and weight of the vessel.

Table 3b

- (15) Quantities of pesticides.
- (16) Cd, Hg, As, Cr, Cu, Pb, Ni, Zn, poly-chlorinated-biphenyls, HPA total and TBT values are deducted from concentrations in the fraction of dry matter inferior to 2mm.

- (17) <DL; for concentration of poly-chlorinated-biphenyls and cadmium, detection limit is equal to 1µg/kg and 1mg/kg of dry matter fraction inferior to 2mm, respectively.
- (18) The values for metals are in mg/Kg and for organic compounds in µg/Kg.

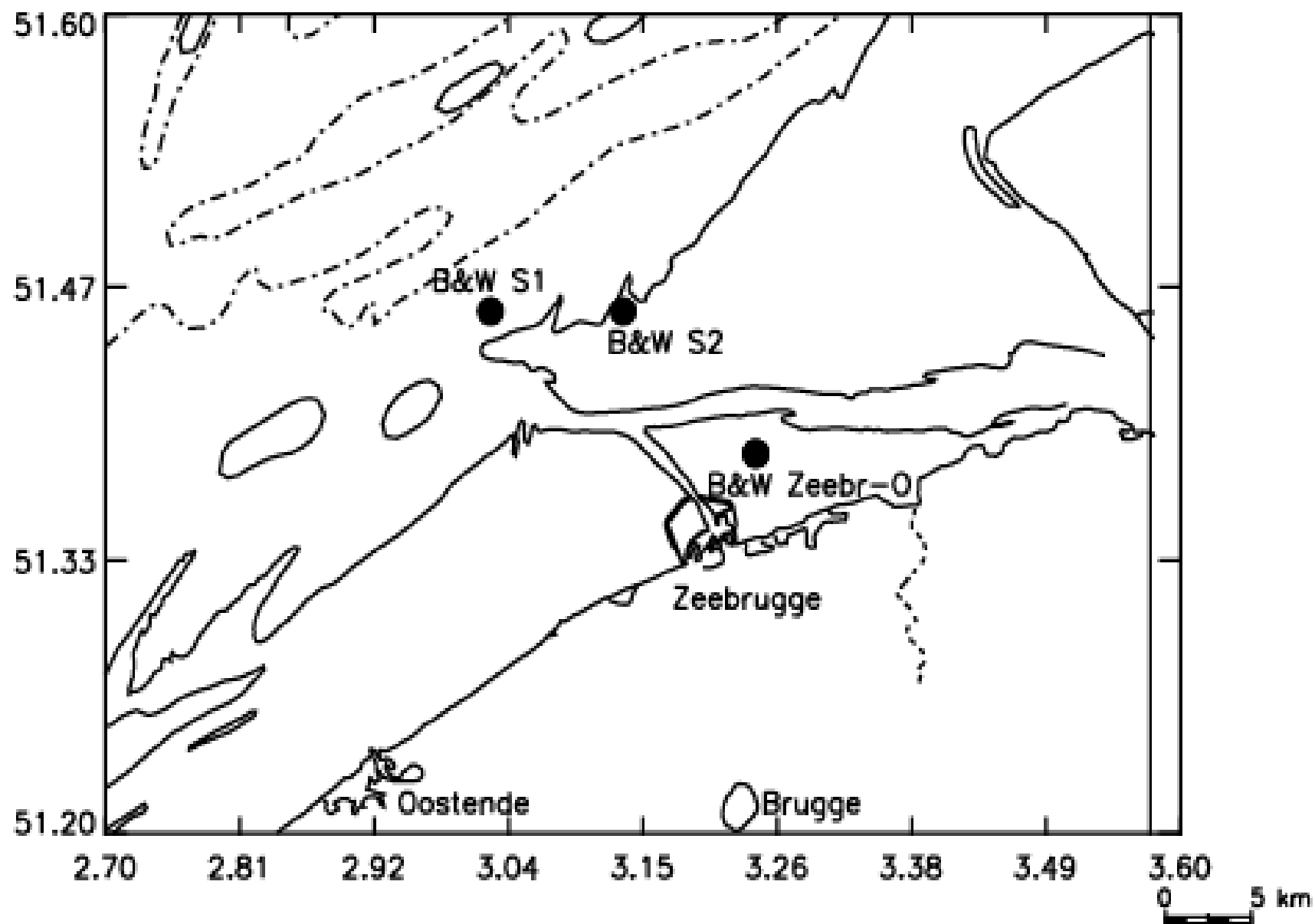


Figure 1a Dumping of dredged material in internal waters was carried out in 2000

The following maps "Approximate positions of the dumping sites for dredged material used by France (Atlantic Ocean / English Channel and North Sea)", indicate the approximate positions of the dumping sites used during 2000.

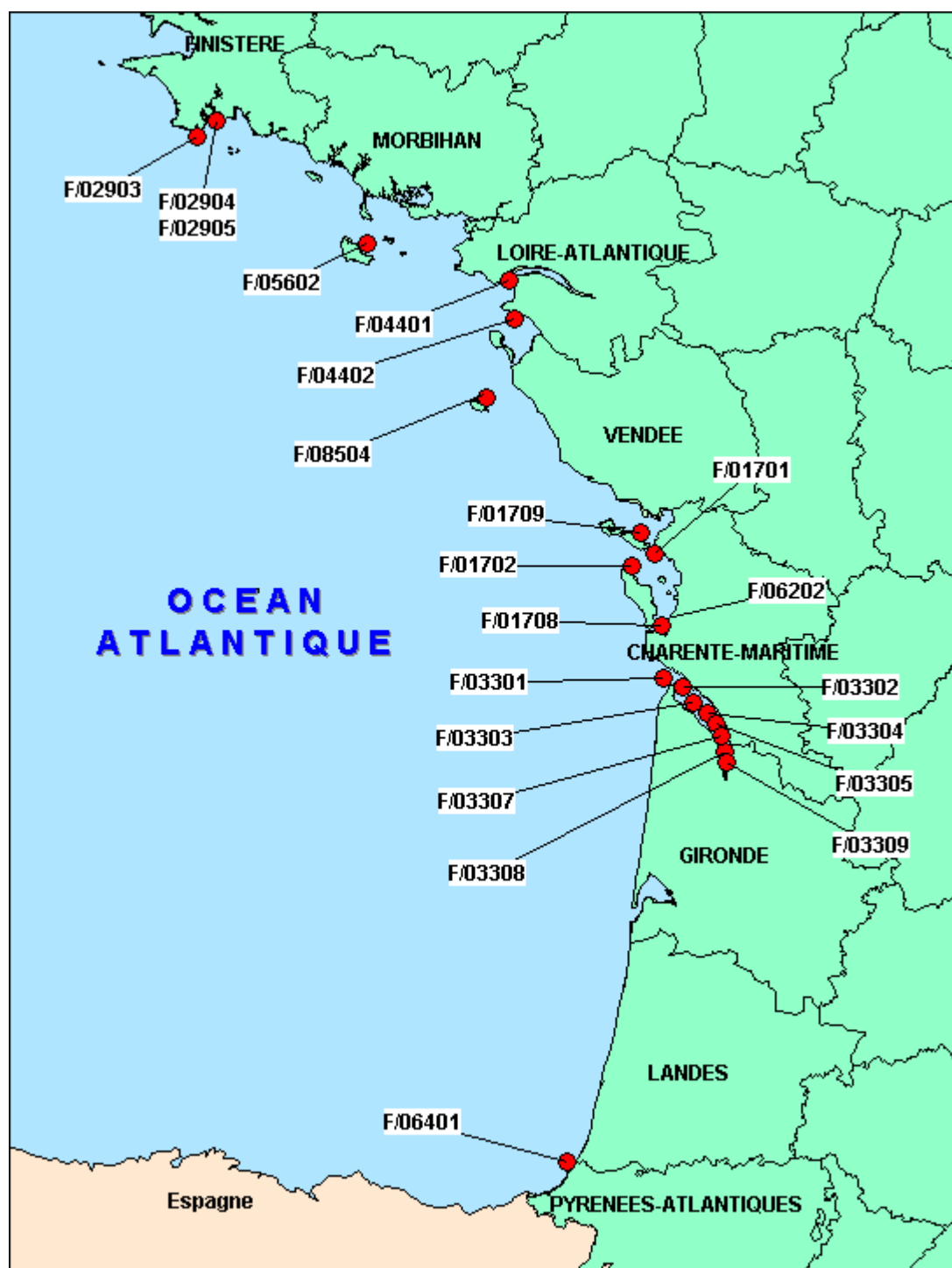


Figure 2a: Approximative positions of the dumping sites for dredged material used by France in 2000 (Atlantic Ocean)

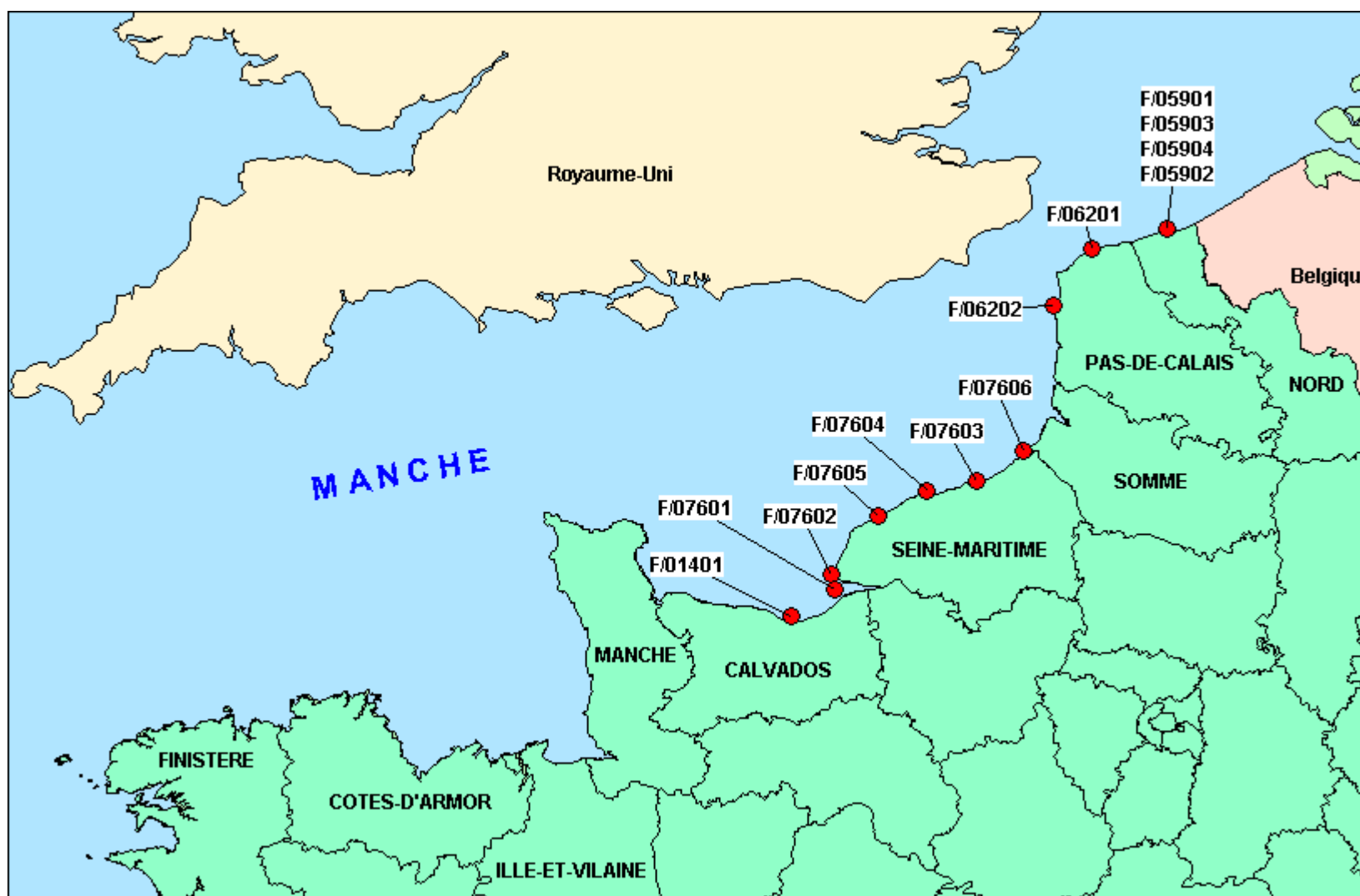
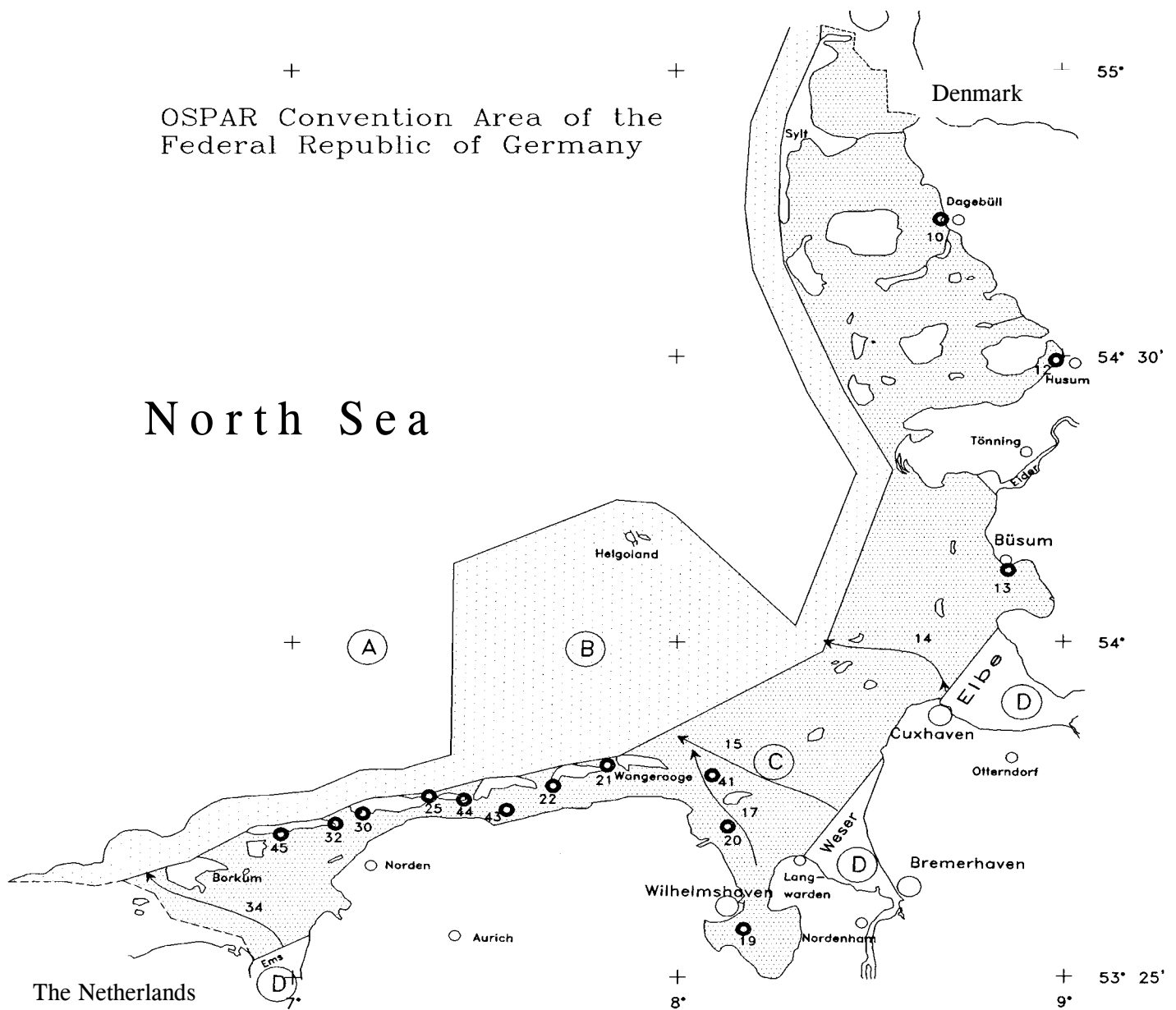


Figure 2b: Approximative positions of the dumping sites for dredged material used by France in 2000
(English Channel and North Sea)

Figure 3: Approximate positions of the dumping sites for dredged material used by Germany in 2000



Dumping of dredged materials

A, B = Convention waters

C, D = Internal waters

● = sites of dumping of dredged materials (2000)

Disposal of dredged material 2000

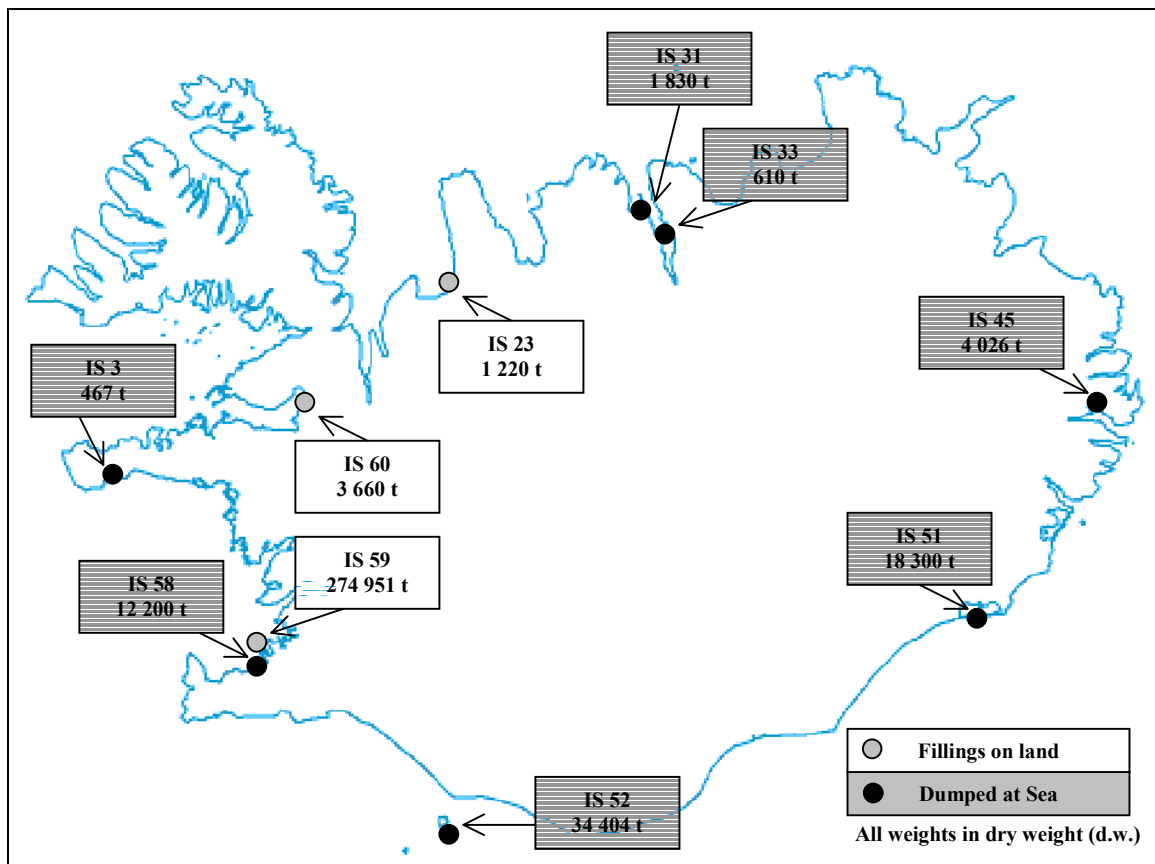


Figure 4: Approximate position of the dumping sites for dredged material used by Iceland in 2000 (OSPAR codes of dumping sites and weights in tonnes dry weight)

Figure 5: Ireland Dumpsites 2000.

Table 1: Co-ordinates of the sites

Site No.	Latitude	Longitude
Irl 6	53.32	-6.05
Irl 8	52.13	-6.95
Irl 10	52.16	-6.62
Irl 13	52.25	-6.99
Irl 17	51.72	-8.18
Irl 31	52.653	-8.689
Irl 34	51.533	-10.105
Irl 35	52.136	-10.274
Irl 36	52.32	-9.91

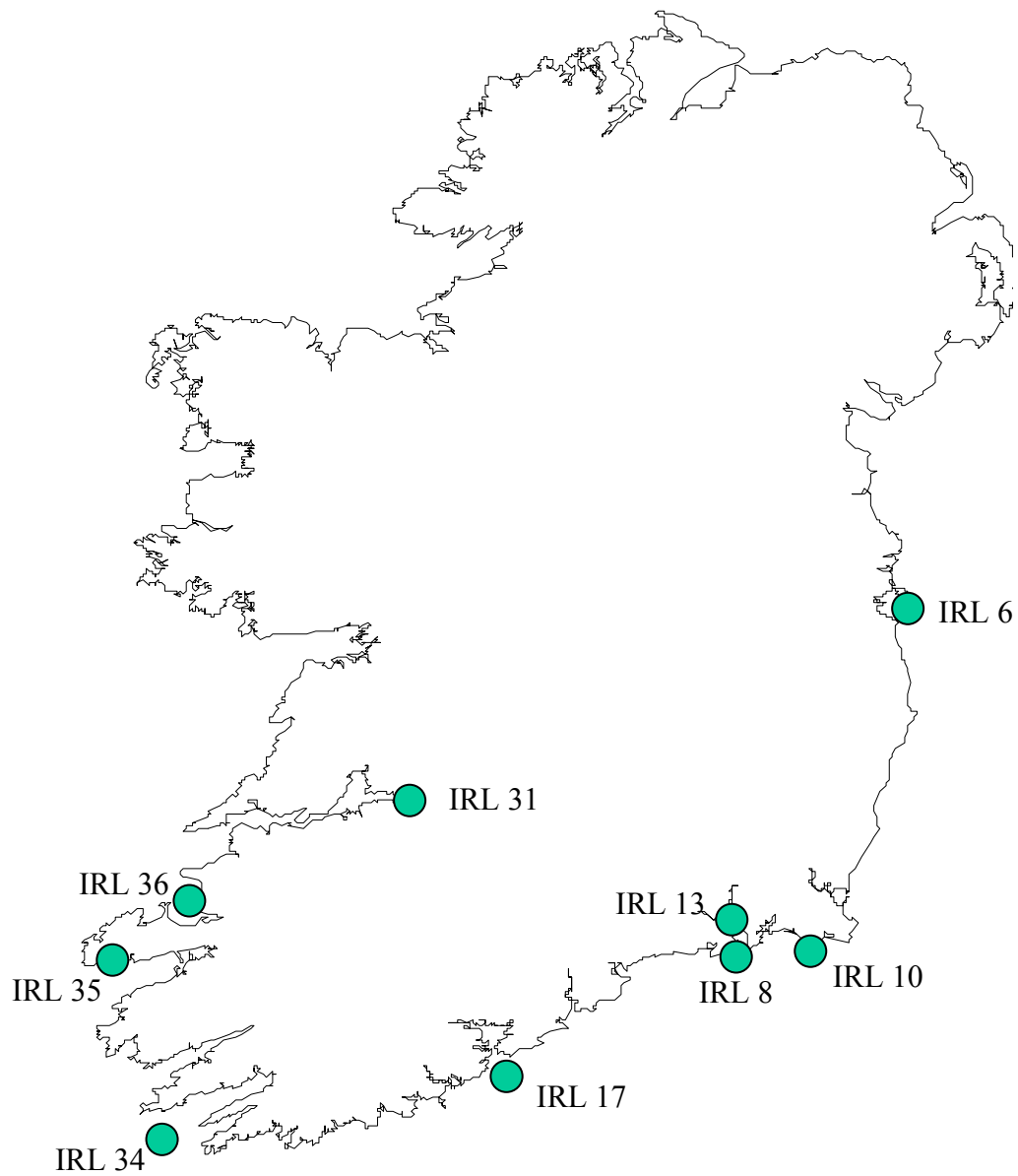


Figure 6

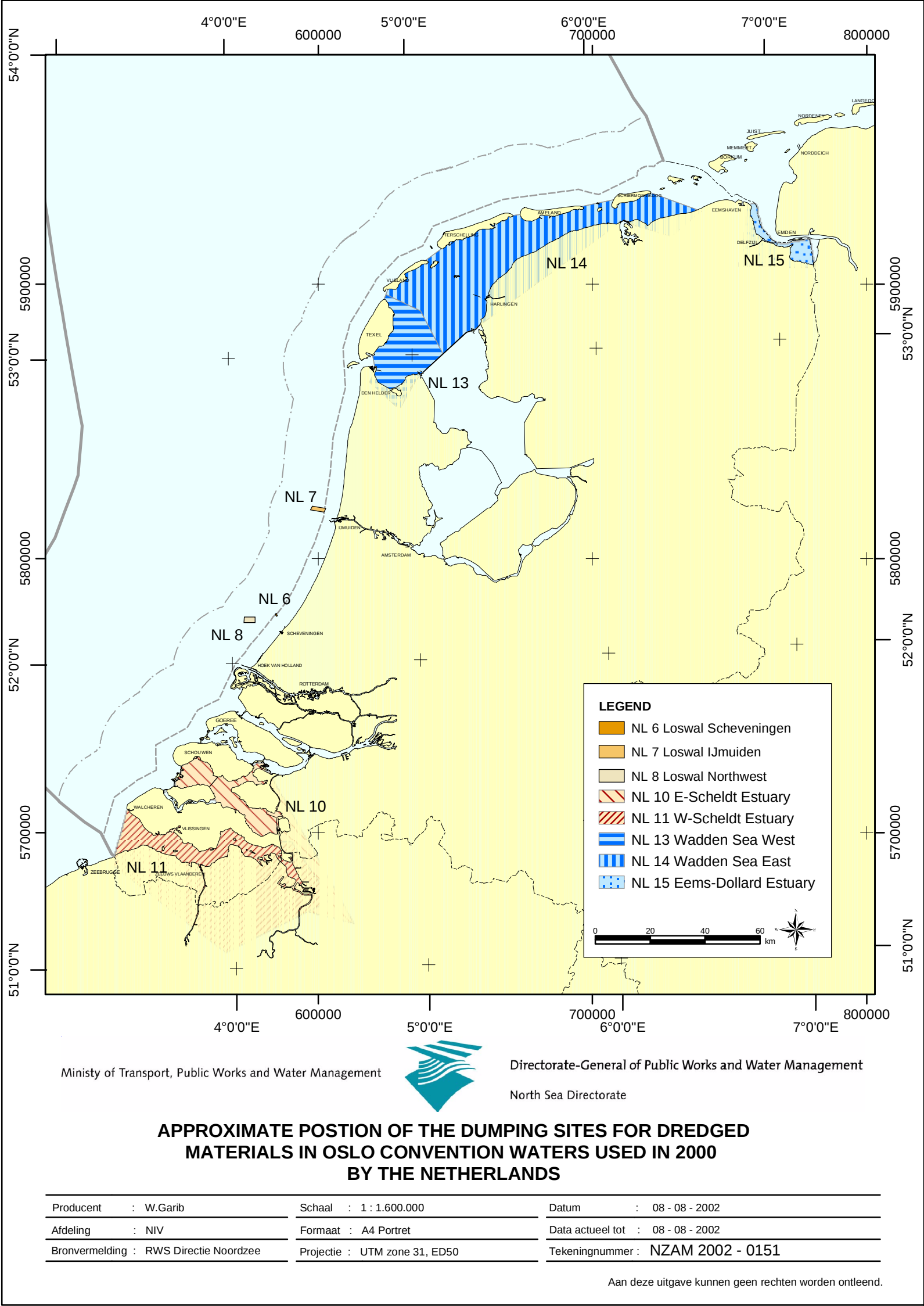


Figure 7: Dumping sites of dredged material in Norway in 2000

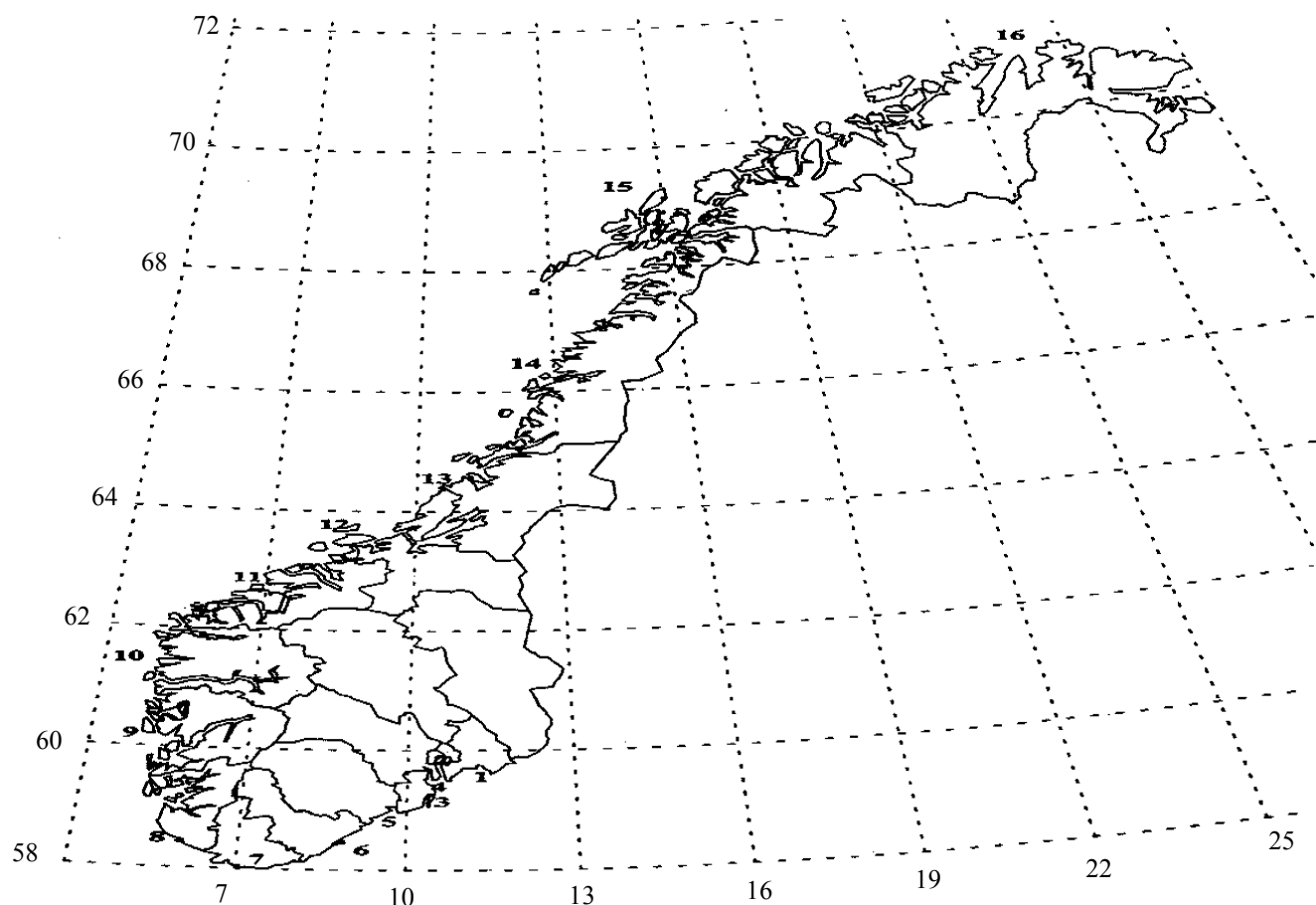


Figure 1. Map of Norway showing latitude (58-72°N, left side) and longitude (7-25°E, bottom). The different counties along the coast are indicated.
 1:Østfold, 2:Akershus/Oslo, 3:Vestfold, 4:Buskerud, 5:Telemark, 6:Aust-Agder, 7:Vest-Agder, 8:Rogaland, 9:Hordaland, 10:Sogn og fjordane, 11:Møre og Romsdal, 12:Sør-Trøndelag, 13 Nord-Trøndelag, 14:Nordland, 15 Troms, 16:Finnmark.

Dredged material:	N/ 1, 3, 4, 6, 7, 9, 11, 14-16
Inert material:	N/ 9, 10, 14
Fish waste	N/ 16
Other waste:	N/ 4, 5, 8-16

Figure 8: Approximate positions of dumping sites for dredged material in Portugal in 2000

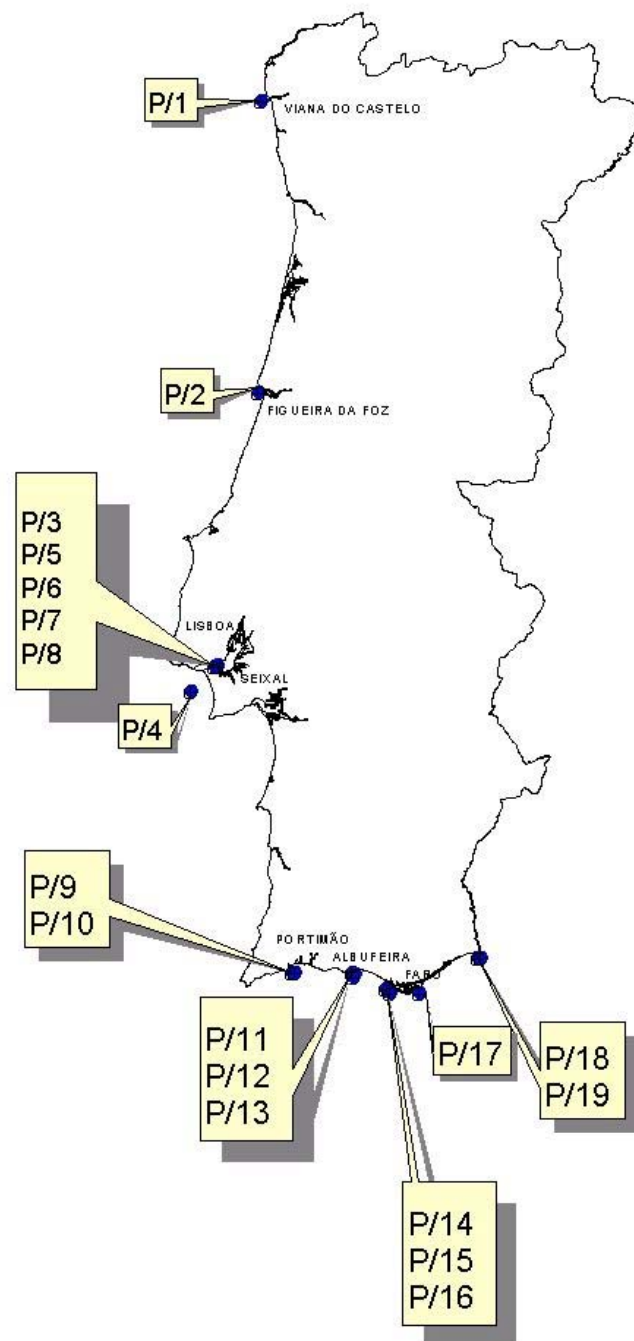


Figure 9:

Approximate positions of the dumping sites for
dredged material used by Sweden in 2000
(KATTEGATT and SKAGERRAK)



Marine disposal sites in Northeastern England. Site codes and quantities deposited in tonnes dry weight, in 2000. All tonnages are for dredged material unless otherwise stated.

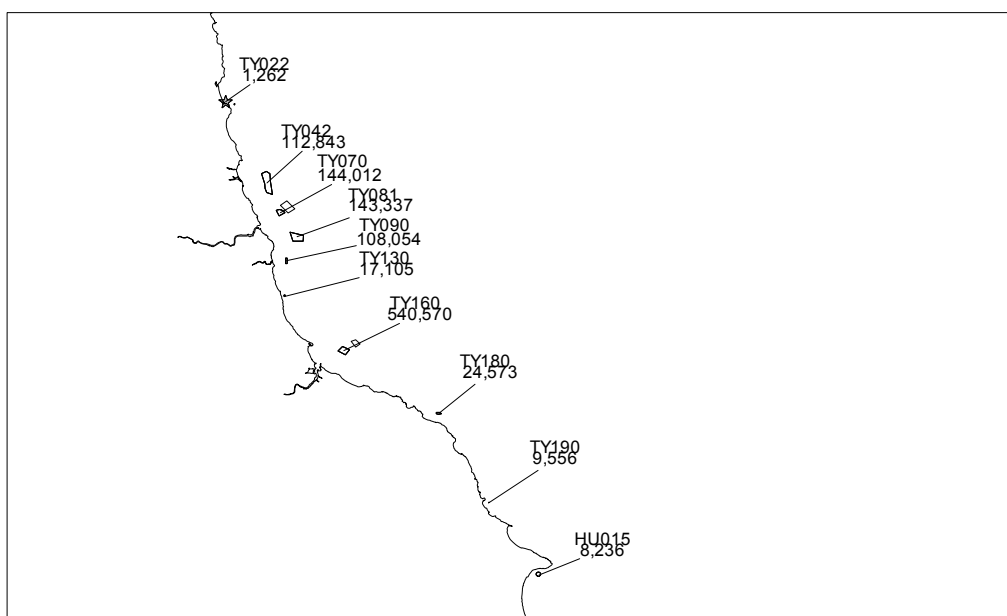


Figure 10a Approximate positions, site codes and quantities (in tonnes) disposed of by the UK in 2000 in North Eastern England

Marine disposal sites in Eastern England. Site codes and quantities deposited in tonnes dry weight, in 2000. All tonnages are for dredged material unless otherwise stated.

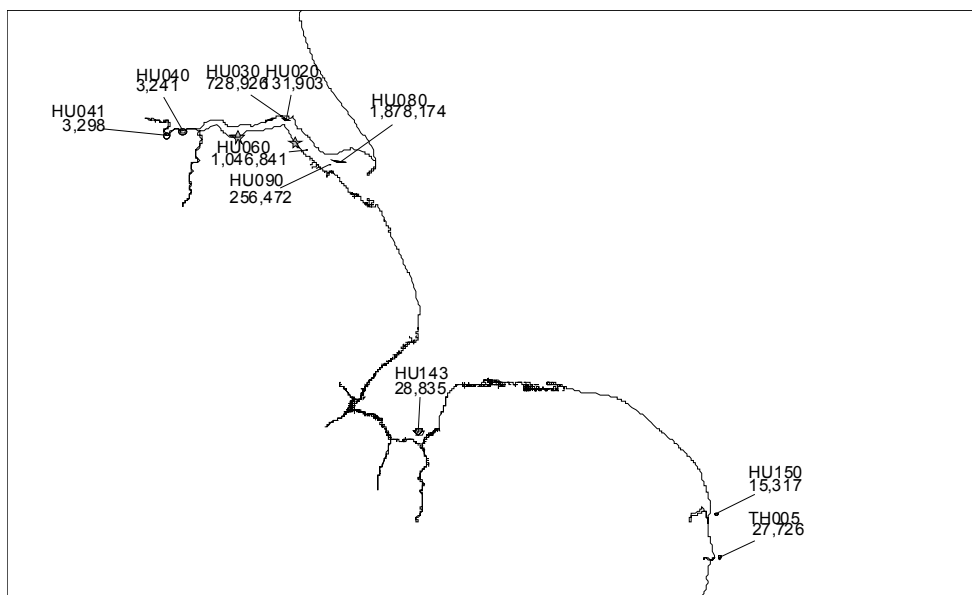


Figure 10b Approximate positions, site codes and quantities (in tonnes) disposed of by the UK in 2000 in Eastern England

Marine disposal sites in Southeastern England. Site codes and quantities deposited in tonnes dry weight, in 2000. All tonnages are for dredged material unless otherwise stated.

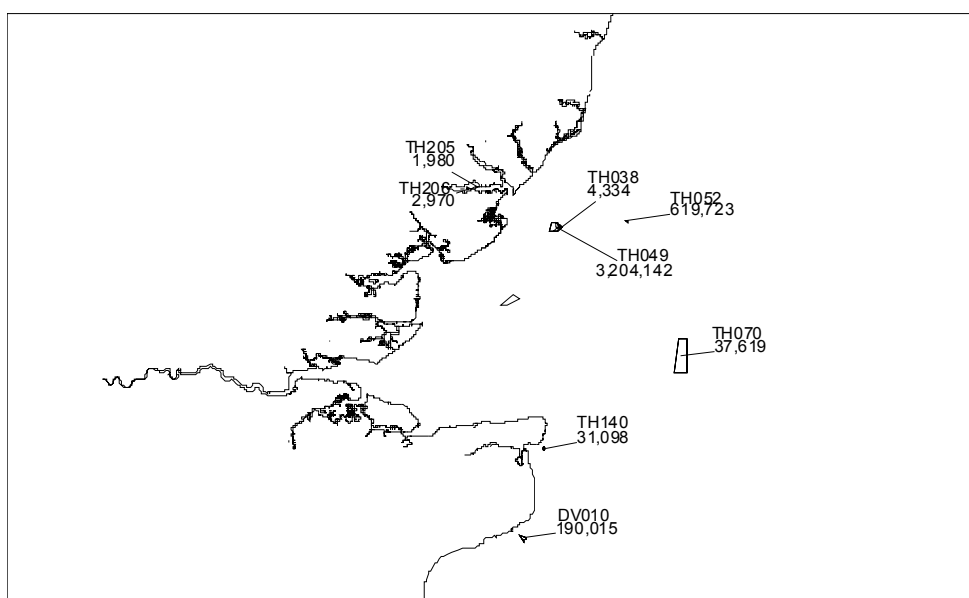


Figure 10c Approximate positions, site codes and quantities (in tonnes) disposed of by the UK in 2000 in Southeastern England

Marine disposal sites in Southern England. Site codes and quantities deposited in tonnes dry weight, in 2000. All tonnages are for dredged material unless otherwise stated.

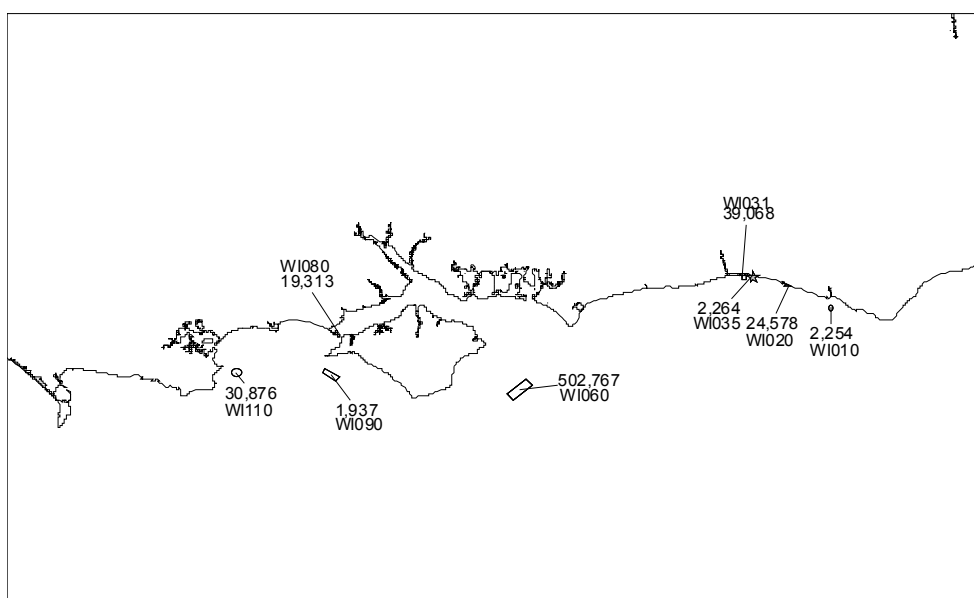


Figure 10d Approximate positions, site codes and quantities (in tonnes) disposed of by the UK in 2000 in Southern England

Marine disposal sites in Southwestern England. Site codes and quantities deposited in tonnes dry weight, in 2000. All tonnages are for dredged material unless otherwise stated.

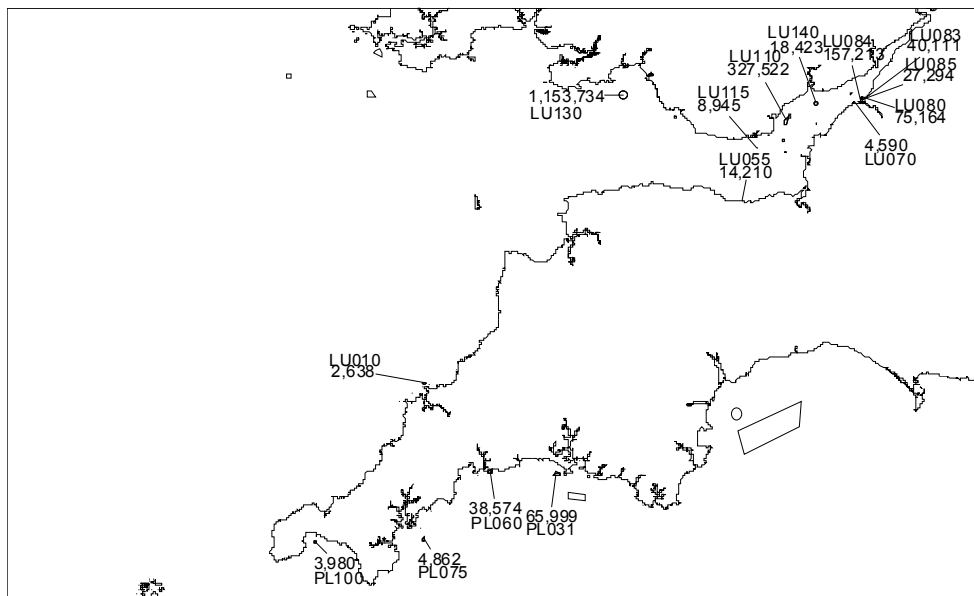


Figure 10e Approximate positions, site codes and quantities (in tonnes) disposed of by the UK in 2000 in Southwestern England

Marine disposal sites in the Irish Sea. Site codes and quantities deposited in tonnes dry weight, in 2000. All tonnages are for dredged material unless otherwise stated.

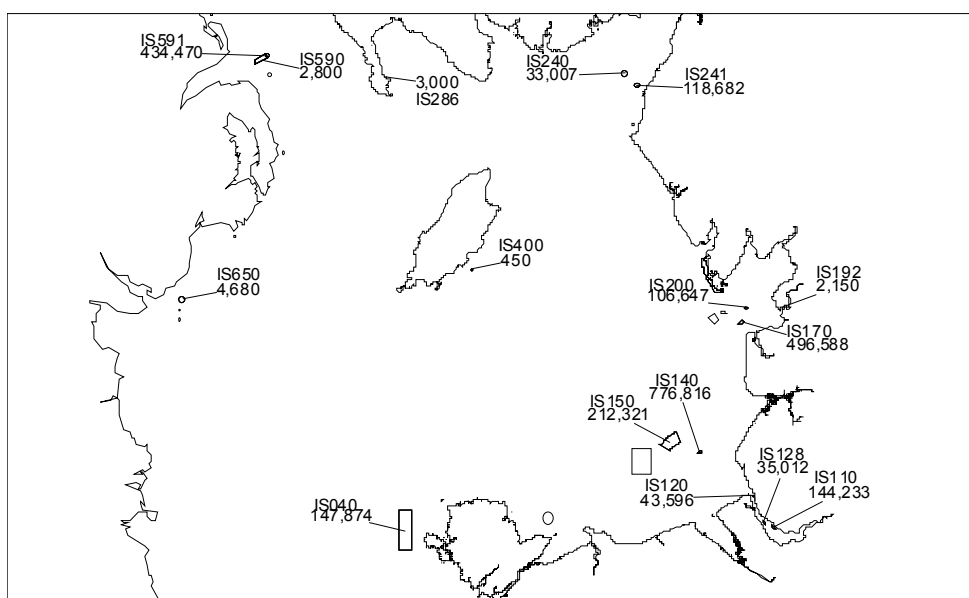


Figure 10f Approximate positions, site codes and quantities (in tonnes) disposed of by the UK in 2000 in the Irish Sea

Marine disposal sites in Western Scotland. Site codes and quantities deposited in tonnes dry weight, in 2000. All tonnages are for dredged material unless otherwise stated.

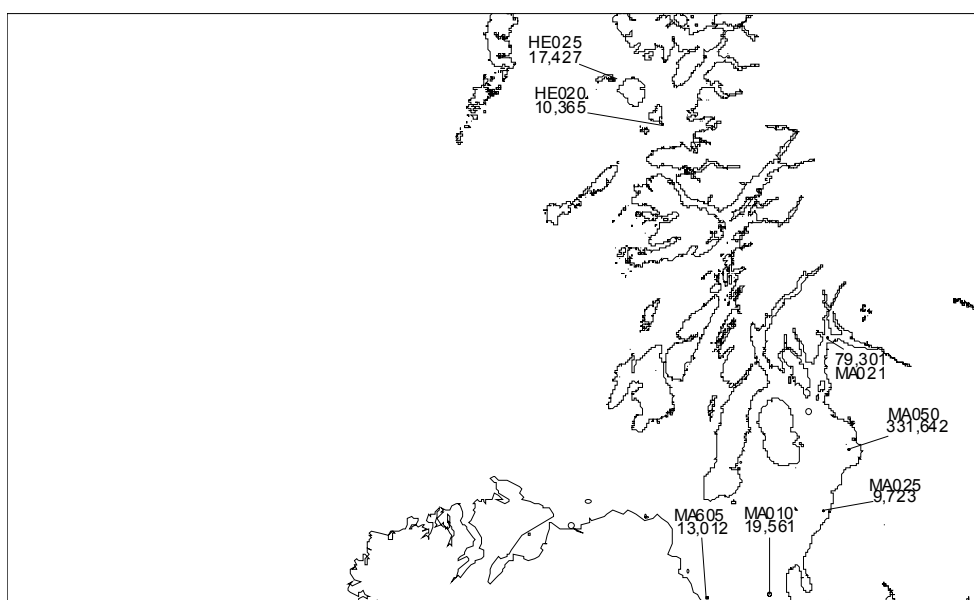


Figure 10g Approximate positions, site codes and quantities (in tonnes) disposed of by the UK in 2000 in the Western Scotland

Marine disposal sites in Northern Scotland. Site codes and quantities deposited in tonnes dry weight, in 2000. All tonnages are for dredged material unless otherwise stated.

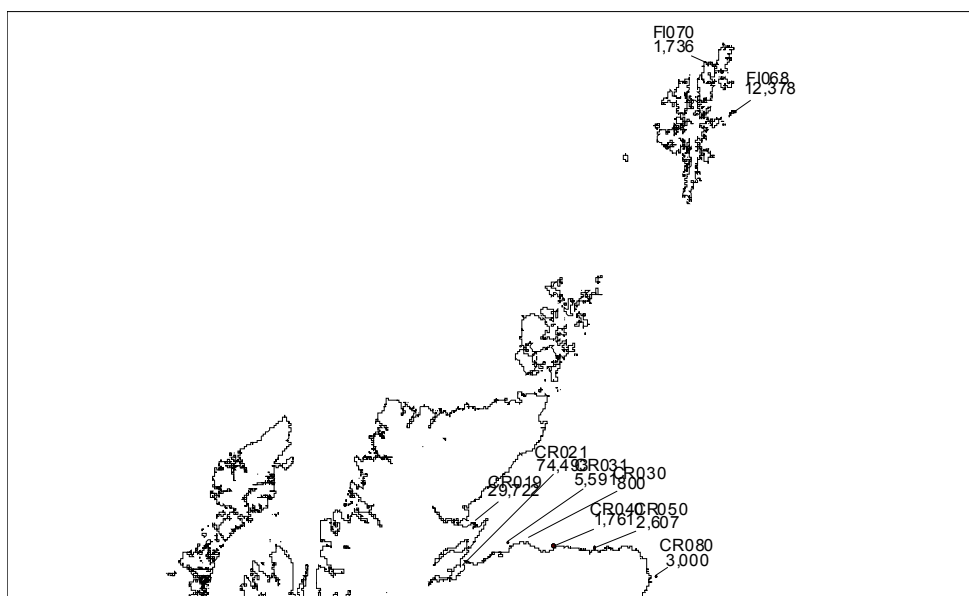


Figure 10h Approximate positions, site codes and quantities (in tonnes) disposed of by the UK in 2000 in the Northern Scotland

Marine disposal sites in Eastern Scotland. Site codes and quantities deposited in tonnes dry weight, in 2000. All tonnages are for dredged material unless otherwise stated.

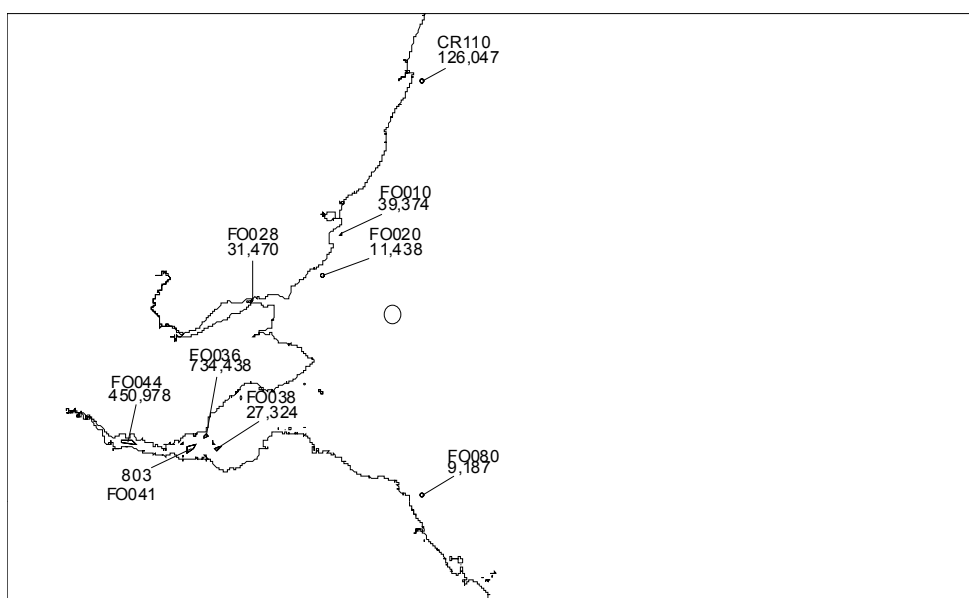


Figure 10i Approximate positions, site codes and quantities (in tonnes) disposed of by the UK in 2000 in the Eastern Scotland