OSPAR COMMISSION

Protecting and conserving the North-East Atlantic and its resources

OSPAR annual report on dumping and placement of wastes or other matter at sea in 2014

Environmental Impacts of Human Activities Series

2016

OSPAR Convention

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. The Contracting Parties are Belgium, Denmark, the European Union, Finland, France, Germany, Iceland, Ireland, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Convention OSPAR

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.
Les Parties contractantes sont l'Allemagne, la Belgique, le Danemark, l’Espagne, 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, la Suisse et l’Union européenne.

OSPAR annual report on Dumping and Placement of wastes or other matter at sea in 2014

Contents

Executive summary

OSPAR's Environmental Impact of Human Activities Committee (EIHA) 2014 adopted a new reporting format for Dumping and placement[1] of wastes or other matter at sea (Agreement 2014-17). This Annual Report provides an overview of:

- the quantities of material deposited at sea (per country and overall);
- the quantities of contaminated material (above national upper action level) deposited at sea (per country and overall);
- the quantities of material dumped;
- the quantities of material placed;
- the quality of material deposited at sea;
- comparisons to earlier years (per country and overall).

Reports were received from Belgium (BE), Denmark (DK), France (FR), Germany (DE), Iceland (IS), Ireland (IE), the Netherlands (NL), Norway (NO), Portugal (PT), Sweden (SE), Spain (ES) and United Kingdom of Great Britain and Northern Ireland (UK).

Reports indicate that the total amount of material dredged and dumped or placed at sea in the whole OSPAR Maritime Area appears to be broadly in line within the variability of data reported from the previous four years.

Contaminant loads appear to have gradually declined since 2010. This apparent trend is being investigated in more detail by OSPAR's working group ICG-Trend for the Intermediate Assessment 2017.

The amount of material containing one or more determinands exceeding the upper national action level accounts for approximately 2,2% of the total amount of dredged material deposited at sea.

The amount of material used beneficially, at roughly 37,2 million tonnes, is equivalent to more than one quarter of the total amount of material managed during 2014. This represents a significant increase (33%) with respect to the previous year.

In 2014 a total of 356 deposit sites were reported by Contacting Parties (351 for dredged material and 5 for inert material), with an average amount deposited per site of 416 000 tonnes, ranging from 14 tonnes to more than 19 million tonnes.

Raw data are not included in this report but can be found on the OSPAR website data page at www.ospar.org

[1] Placement only relates to dredged material in this case, i.e. placement of dredged material for beneficial uses or deposited in CDFs.

Récapitulatif

En 2014 le Comité impact environnemental des activités humaines (EIHA) a adopté un nouveau formulaire de notification sur l'immersion et le placement[2] des déchets et autres matériaux en mer (Accord 2014-07). Le présent rapport annuel donne une synthèse :

- des quantités de matériaux déposés en mer (par pays et dans l'ensemble) ;
- des quantités de matériaux contaminés (au-dessus du niveau d'action supérieur national) déposés en mer (par pays et dans l'ensemble) ;
- des quantités de matériaux immergés ;
- des quantités de matériaux déposés ;
- de la qualité des matériaux déposés en mer ;
- des comparaisons aux années précédentes (par pays et dans l'ensemble).

Des rapports ont été reçus de la Belgique (BE), du Danemark (DK), de la France (FR), de l'Allemagne (DE), de l'Islande (IS), de l'Irlande (IE), des Pays-Bas (NL), de la Norvège (NO), du Portugal (PT), de la Suède (SE), de l'Espagne (ES) et du Royaume-Uni de Grande Bretagne et de l'Irlande du Nord (UK).

Les rapports indiquent que la quantité totale des matériaux dragués et immergés ou déposés en mer dans l'ensemble de la zone maritime d'OSPAR correspondent largement à la variabilité des données notifiées pour les quatre années précédentes.

La charge en contaminants semble avoir baissé depuis 2010. Le Groupe de travail ICG-Trend d'OSPAR étudie en profondeur cette tendance apparente aux fins de l'Evaluation Intermédiaire 2017.

La quantité de matériaux contenant un ou plusieurs des déterminants qui dépasse(nt) le niveau d'action supérieur national représente approximativement 2,2 % de la quantité totale des matériaux de dragage déposés en mer.

La quantité des matériaux utilisés à des fins bénéfiques, à savoir approximativement 37,2 million de tonnes, est équivalente à plus du quart de la quantité totale des matériaux gérés au cours de l'année en question (2014). Ce qui représente une augmentation significative (33 %) par rapport à l'année précédente.

En 2014 un total de 356 zones de dépôt ont été notifiées par les Parties contractantes (351 pour les matériaux de dragage et 5 pour les matériaux inertes), la quantité moyenne déposée à chaque zone est de 416 000 tonnes, allant de 14 tonnes à plus de 19 million de tonnes.

Les données brutes ne sont pas incluses dans le présent rapport, mais se trouvent à la page « données » du site web www.ospar.org.

[2] Le placement concerne uniquement les matériaux de dragage dans ce cas, c'est-à-dire, le placement de matériaux de dragage destinés à des usages bénéfiques ou déposés dans des sites de mise en dépôt contrôlés.

1. Introduction

In 1986 OSPAR introduced guidelines relating to the dumping of wastes or other matter, e.g. dredged material, sewage sludge and fish waste. The use of these guidelines, together with existing OSPAR measures, has enabled reductions of contaminant load to the marine environment. The dumping of sewage sludge was phased out in 1998. The guidelines on dumping of fish-waste (Agreement 1998-21) were updated in 2010, while the guidelines for management of dredged material (Agreement 2014-06) were most recently updated in 2014.

In general, dumping or placement of dredged material is managed by licences from national and local authorities. Many OSPAR Contracting Parties also have regulatory controls on contaminant levels in dredged material. According to the OSPAR Guidelines for the Management of Dredged Material at Sea (OSPAR, 2014), measures to keep the volume of dredged material to a minimum are regarded as Best Environmental Practice for minimising the effects on the environment.

Most OSPAR countries have developed dredged material quality criteria (i.e. action levels) or equivalent measures for the assessment of dredged material for dumping or placement at sea and, in 2014, Spain updated its National Guidelines including, among other issues, new action levels.

Following the Convention ”dumping is deliberate disposal of waste or other matter, placement is anything else than the mere disposal…”. This report will deal with the disposal of dredged material at sea (dumping within the Convention), beneficial use (placement as defined in the Convention), and with confined disposal facilities -CDF (dumping within the Convention).

Deposit is, with reference to the OSPAR Dredged Material Guidelines, being used as an overarching term to describe dumping and placement.

This report is primarily focussed on the dumping and placement at sea of dredged material. In addition to this, the dumping of fish waste and inert material will also be addressed.

2. Data

Raw data are not included in this report but can be found on the OSPAR website data page at www.ospar.org

2.1 Quantities of fish waste and inert material deposited at sea in the OSPAR Area in 2014

In 2014, no dumping of fish waste was reported.

Regarding the dumping of inert material, 3,1 million tonnes was reported by Norway (2,2 million tonnes dumped at sea and 0,95 million tonnes placed for land reclamation). This constitutes 2% of the total amount of material managed within the OSPAR Area in 2014.

The main reason for the increase of inert material deposited with regard previous years was a lot of on-going transport infrastructure projects, causing an increase in the amount of these materials available. Unfortunately all material can’t be used beneficially, and licenses were given to deposit these materials in the sea/fjords.

Figure 1 shows the amounts of fish waste and inert material deposited at sea in the period 2010-2014 and figure 2 the locations where inert material was dumped in 2014.

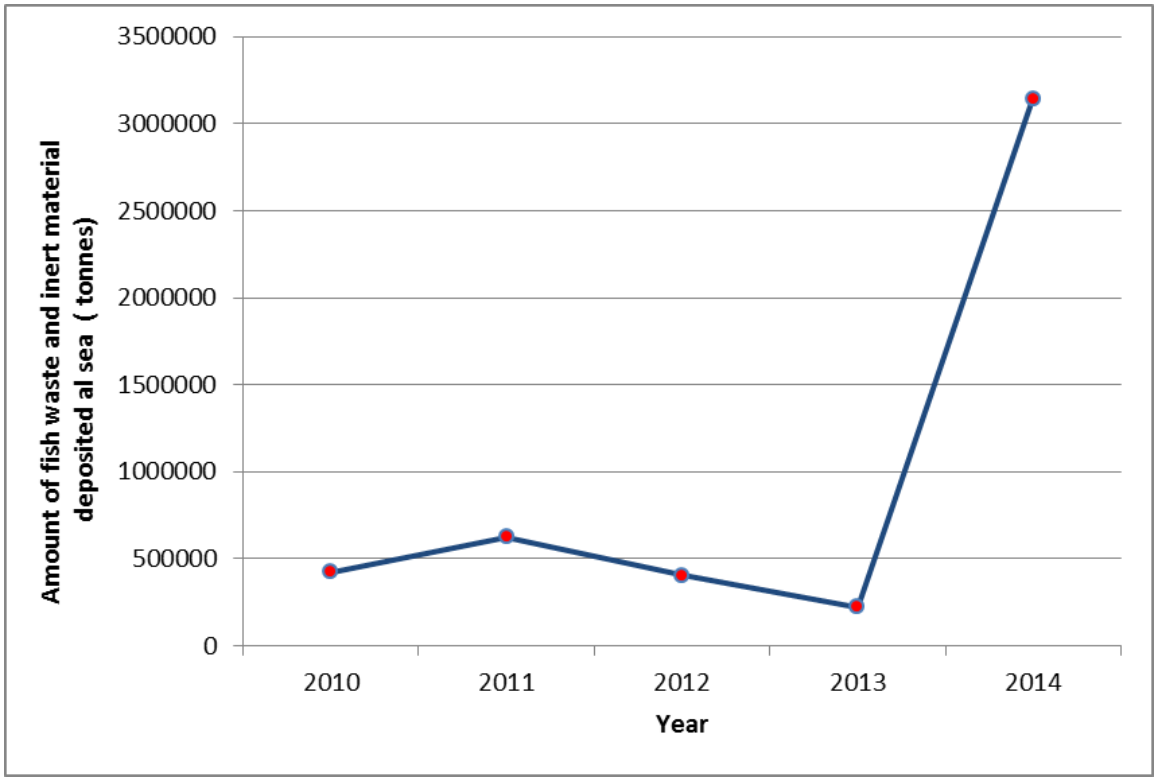


***Figure 1**. Quantities of fish waste and inert material reported as deposited at sea in the whole OSPAR Area, 2010 to 2014.*

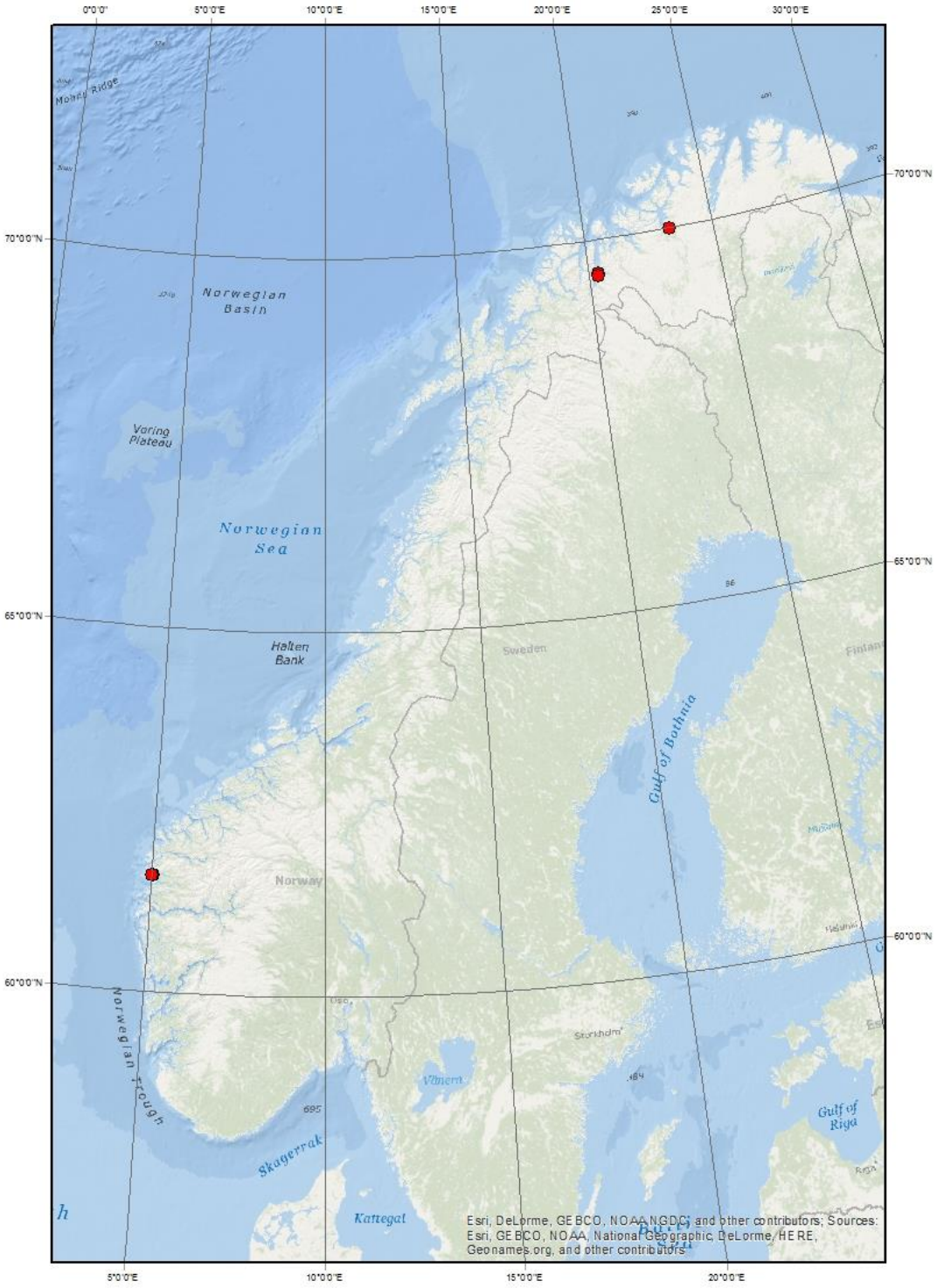


***Figure 2**. Deposit sites of inert material reported in 2014.*

2.2 Quantities of dredged material deposited at sea in the OSPAR Area in 2014

Table 1 below summarises the quantities of dredged material deposited at sea by Contracting Parties in 2014.

Table 1. Summary of dredged material reported as deposited at sea by Contracting Parties in 2014

Contracting Party	Dredged Material (tonnes - dry weight)
BE	29 123 280
DE	36 177 502
DK	1 730 603[3]
ES	8 032 676
FR	28 383 434
IE	680 521
IS	389 564
NL	26 173 155
NO	85 920
PT	1 778 398
SE	705 778
UK	11 538 561
Total OSPAR	**144 799 392**

The total amount of dredged material reported to be deposited at sea in the OSPAR area is broadly in line with data reported from the previous four years, as it is reflected in figure 3.

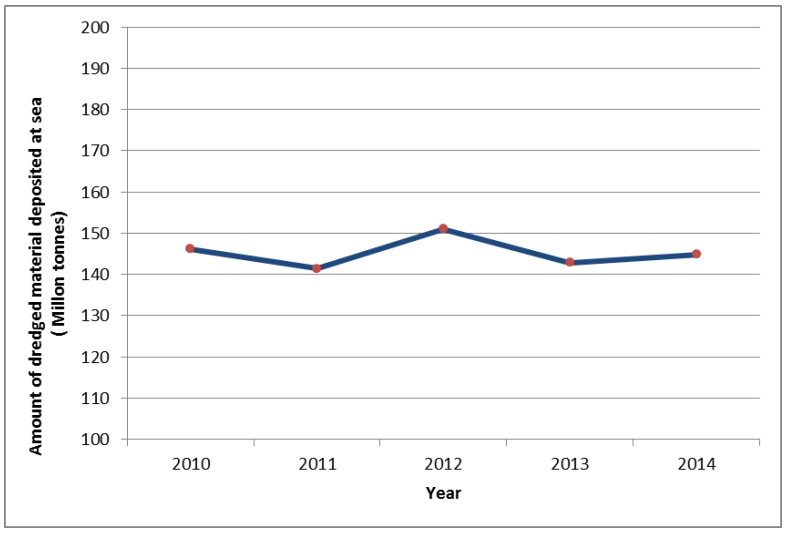


***Figure 3**. Quantities of dredged material reported as deposited at sea in the whole OSPAR Area, 2010 to 2014.*

[3]Denmark informed about additional amounts of material managed by the Danish Coastal Authority and mainly reused for coastal protection. As this data were not included by the moment in the OSPAR database, it has not been considered in the present Report.

The quantity of deposited material reported by individual Contracting Parties for the period 2010-2014 is included in figure 4.

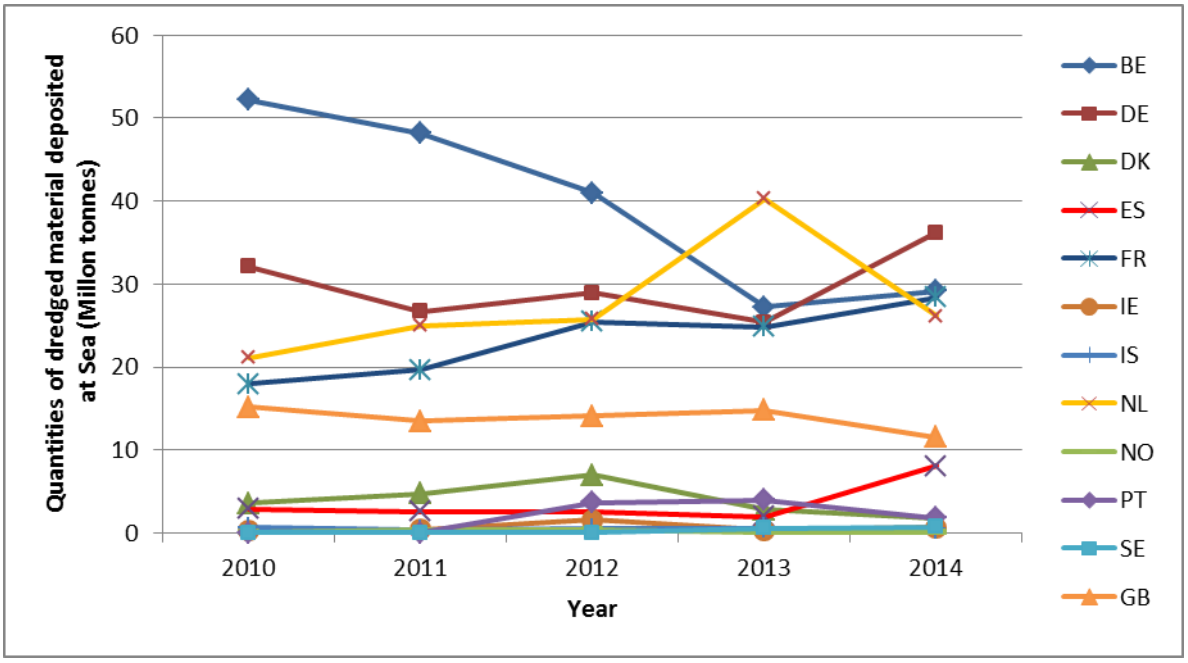


***Figure 4**. Quantities of dredged material reported as deposited at sea in the OSPAR area, 2010 to 2014, by Contracting Parties.*

According the reports provided by Contracting Parties, from the total amount of dredged material managed during 2014, approx. 128 million tonnes derive from maintenance operations and 17 million tonnes from capital dredging. Figure 5 shows the distribution of the activities for the whole OSPAR Area.

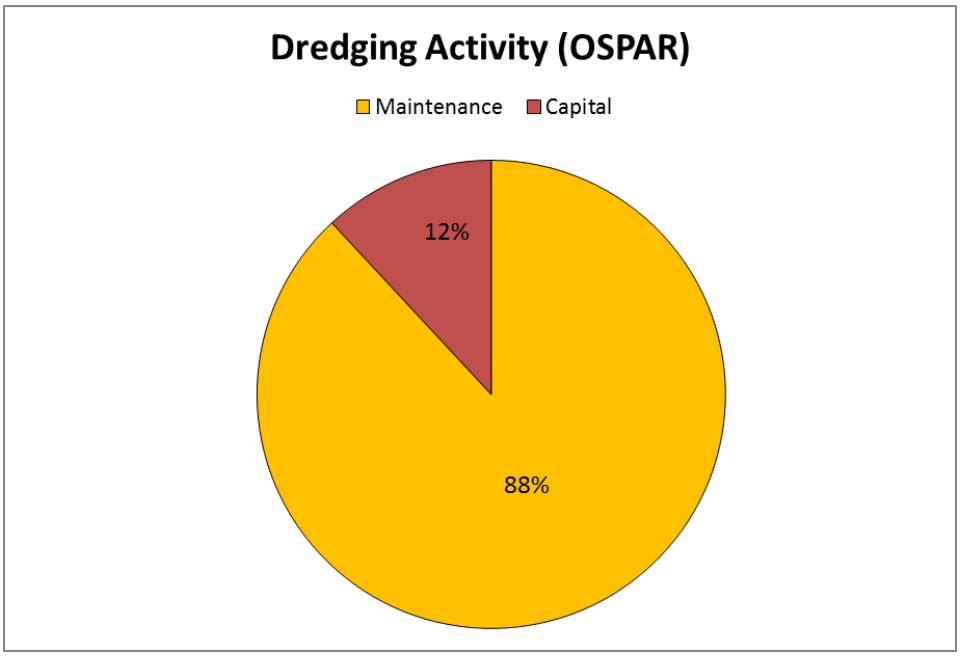


***Figure 5**. Distribution of the types of dredging activities for the whole OSPAR Area, 2014.*

Regarding the management option for the material, 106,7 million tonnes were dumped at sea whereas 38,2 million tonnes were placed, according to the distribution per Countries included in Figure 6.

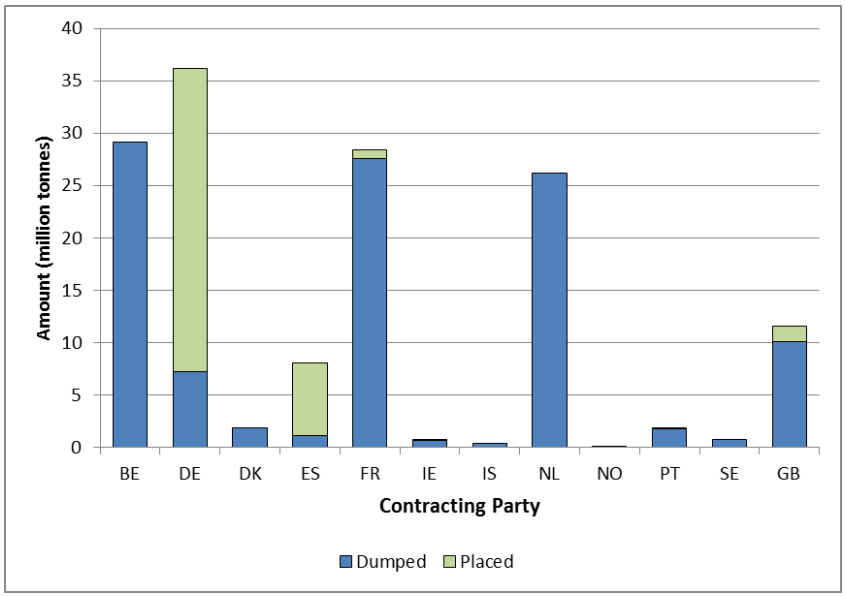


***Figure 6**. Quantities of dredged material reported as dumped or placed at sea in 2014, by Contracting Parties.*

2.2 Placement (Beneficial Use)

According the article 1 of the OSPAR Convention, the definition of “dumping" does not include placement of matter for a purpose other than the mere disposal thereof, provided that, if the placement is for a purpose other than that for which the matter was originally designed or constructed, it is in accordance with the relevant provisions of the Convention.

Among placement activities, beneficial use (or reuse) generally involves replacing a material requirement elsewhere with dredged material and thus creates an alternative to dumping at sea for the material. It is important to note however, that beneficial use is not always an option in the case of many dredging projects.

The placement is regulated by the OSPAR Guidelines for the management of dredged material at sea and, according the current reporting format, OSPAR limits the differentiation of beneficial use in the following categories:

- Beach nourishment/sediment recharge
- Coastal protection
- Construction (or engineering)
- Land Reclamation
- Habitat generation / improvement
- Other

According to the reports provided by Contracting Parties, 37,2 million tonnes of the total amount of dredged material assessed during 2014 were used beneficially ,. The most common reuse was beach nourishment/sediment recharge with dredged materials composed of sand, but it minor amounts from other categories were also reported as shown in Figure 7.

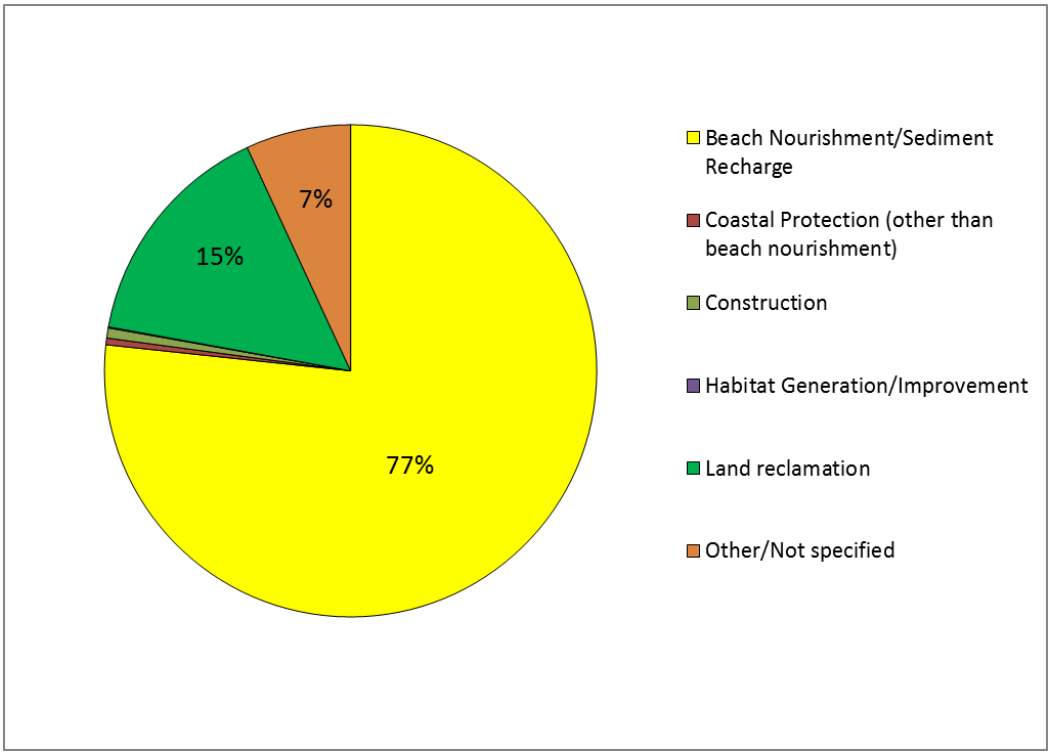


***Figure 7**. Distribution of the Beneficial uses in the whole OSPAR Area, 2014.*

Data on beneficial use for dredged material were provided by France, Germany, Ireland, Spain and the United Kingdom. Denmark also reported, but without detailed information about amounts and uses. Norway also reported, but in this case for inert material.

OSPAR has been gathering data on beneficial use of dredged material only since 2013. In 2014, approx. 33% more material was reported to be used beneficially than the previous year; again, beach nourishment was the most common option.

2.3 Contaminant loads

According to data provided by Contracting Parties, from the total amount of dredged material assessed during 2014, 26,1 million tonnes were considered as exempt from characterisation according to paragraph 6.3 of the OSPAR Guidelines for the Management of Dredged Material at Sea (Agreement 2014-06), mainly because the material was composed of sand, gravel or rock. This amount represents 18% of the total amount managed during this year, for which is not possible to assign any contaminant load. 97,6% of this exempted material was placed whereas only the 2,4% was dumped at sea.

Table 2 gives a summary of contaminant loads for the Contracting Parties in 2014 taken from the OSPAR database[4].While metals and TBT are determined by most countries in all samples, the organic parameters are less frequently determined. The data reported for the organic contaminants are based, in most cases, on measurements in a limited percentage of operations, unlikely to result in a reliable assessment.

Table 2. Contaminant load deposited at sea per Contracting Party, including material subject to management measures (remark: substances have not been measured in every case)

	Contracting Party								
	BE	**DE**	**DK**	**ES**	**FR**	**IE**	**NL**	**SE**	**UK**
Cd (tonnes dw)	16,3	6,43	0,18	0,88	4,20	0,26	11,6	0,07	3,75
Hg (tonnes dw)	4,06	4,39	0,58	1,52	1,63	0,02	3,73	0,10	6,87
As (tonnes dw)	394,9	192,2	6,80	8,59	283,0	5,75	263,8	9,89	189,6
Cr (tonnes dw)	1156	681,5	21,6	13,7	579,0	26,1	709,2	20,0	370,8
Cu (tonnes dw)	381,0	305,0	6,09	137,8	256,7	24,4	291,9	15,6	337,5
Pb (tonnes dw)	750,2	445,1	13,3	47,4	554,6	22,7	541,4	18,79	654,0
Ni (tonnes dw)	326,7	288,1	7,52	8,93	317,2	13,4	244,6	11,7	268,9
Zn (tonnes dw)	2603	2051	32,6	311,2	1797	95,3	1863,4	80,4	1537,5
Oil (tonnes dw)	4147	489,2	NI			24,4	3110		
ΣPAH9 (tonnes dw)	266,9	5,79	0,005	0,02	2,85	0,70	15,5	0,01	26,1
ΣPAH16 (tonnes dw)	25,5	7,85	NI		6,67	0,94	NI	0,02	92,7
ΣPCB7 (kg dw)	212,3	60,5	NI	5,75	81,6	1,18	124,0	3,38	0,01
HCB (kg dw)	3,95	13,2	NI	NI		0,05	9,03		
g-HCH (kg dw)	1,67	0,70	NI	NI		0,04	6,74		
Total DDT (kg dw)	25,3	52,9	NI	NI		0,06	14,3	NI	
TBT (kg dw)	217,5	165,0	4,82	NI	120,8	8,28	93,8	28,3	0,38
DBT (kg dw)	322,1	53,7	NI	NI	88,6	1,32	NI	7,61	0,11
p,p'-DDT (kg dw)		5,12	NI	NI	NI	NI	NI	NI	0,29
p,p'-DDE (kg dw)		24,7	NI	NI	NI	NI	NI	NI	NI
p,p'-DDD (kg dw)		8,99	NI	NI	NI	NI	NI	NI	NI

NI – no information

Following the recommendation from the last annual report, the average concentrations of contaminants were calculated based on the contaminant loads and amounts disposed at each deposit site by Contracting Party as shown in table 3.

[4]No data on contaminant loads were received from Portugal and all dredged material reported by Iceland and Norway was considered as exempted from characterization.

Table 3. Average concentrations of contaminants within dredged material per Contracting Party

	Contracting Party								
	BE	**DE**	**DK**	**ES**	**FR**	**IE***	**NL**	**SE***	**UK**
Cd (mg/kg dw)	0,52	0,33	0,13	0,37	0,41	0,57	0,39	0,35	0,36
Hg (mg/kg dw)	0,11	0,21	0,18	0,50	0,11	0,05	0,17	0,16	0,60
As (mg/kg dw)	14,5	11,8	4,20	9,00	10,7	11,8	10,6	9,49	18,6
Cr (mg/kg dw)	42,9	37,1	11,0	8,47	31,3	40,3	28,4	30,5	46,5
Cu (mg/kg dw)	12,2	17,6	5,07	23,8	16,8	44,4	14,7	25,6	36,0
Pb (mg/kg dw)	25,3	26,7	7,51	17,5	26,2	45,0	24,4	20,9	61,8
Ni (mg/kg dw)	13,1	16,7	5,42	6,23	15,1	25,0	12,0	17,4	29,1
Zn (mg/kg dw)	82,5	107,2	25,5	84,5	85,9	183,	91,7	79,2	147,2
Oil (mg/kg dw)	187,4	38,1	NI	NI	NI	18,7	124,7	NI	NI
ΣPAH9 (mg/kg dw)	20,5	0,41	0,16	0,45	0,49	1,31	0,70	0,22	3,79
ΣPAH16 (mg/kg dw)	1,17	0,57	NI	NI	0,36	1,62	NI	0,26	12,2
ΣPCB7 (µg/kg dw)	2,56	6,46	NI	19,1	10,6	2,38	6,20	15,9	0,005
HCB (µg/kg dw)	0,15	0,58	NI	NI	NI	0,21	0,61	NI	0,001
g-HCH (µg/kg dw)	0,10	0,13	NI	NI	NI	0,34	0,45	NI	0,000
Total DDT (µg/kg dw)	1,16	2,93	NI	NI	NI	0,45	1,13	NI	0,009
TBT (µg/kg dw)	4,88	7,20	8,45	NI	4,39	14,2	4,09	83,1	0,049
DBT (µg/kg dw)	9,09	2,58	NI	NI	5,58	1,74	NI	20,4	0,018
p,p'-DDT (µg/kg dw)	NI	0,32	NI	NI	NI	NI	NI	NI	0,018
p,p'-DDE (µg/kg dw)	NI	1,01	NI	NI	NI	NI	NI	NI	NI
p,p'-DDD (µg/kg dw)	NI	0,45	NI	NI	NI	NI	NI	NI	NI

(*) For these Countries a certain amount of the material was subject to confined disposal.

Comparisons with previous years, shown in Figure 8 below, indicate that there continues to be a slight decrease in contaminant loads for all metals in the last five years, as highlighted in the 2013 Report. It is important to note that these comparisons are associated with a large uncertainty due to the lack of harmonisation for calculation.

It is important to bear in mind that the amounts included in table 2 and average concentrations in table 3 were calculated for the whole managed material, without any distinction between the dredged material dumped at sea and the placed material.

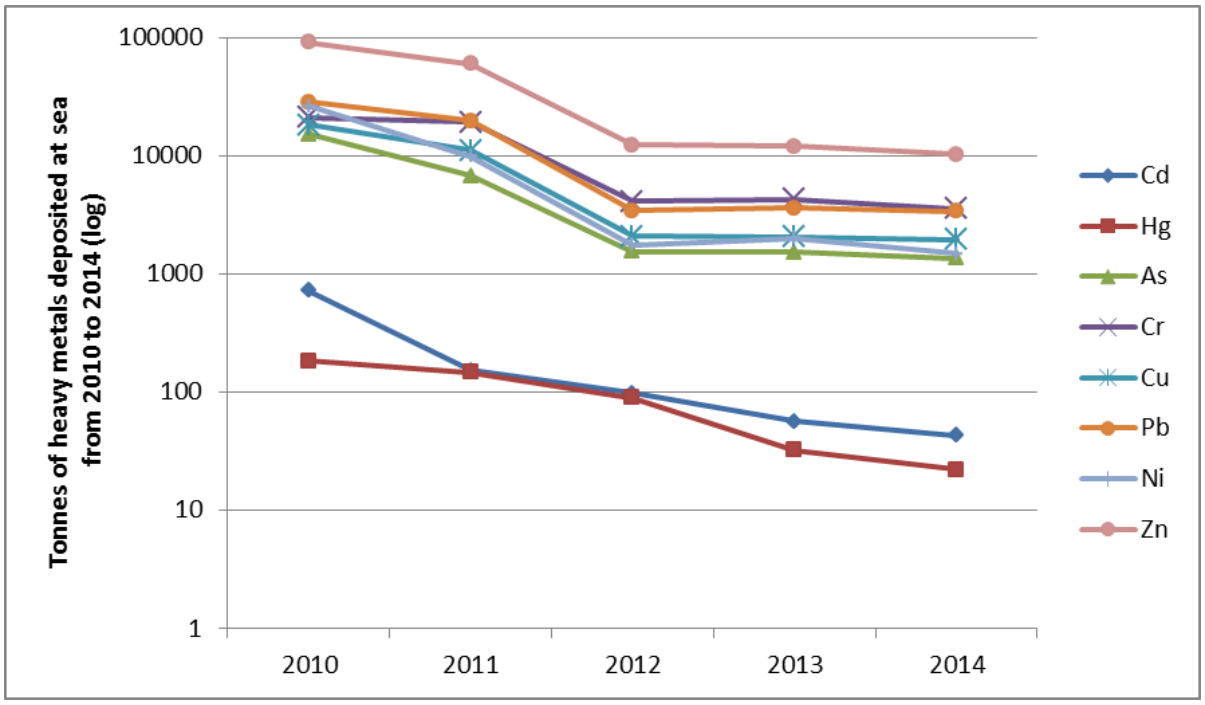


***Figure 8**. Total heavy metal loads, within deposited dredged material, from 2010 to 2014 in the whole OSPAR Area.*

2.4 Deposit of dredged material exceeding upper action levels

Dredged material with one or more determinands exceeding national upper action levels was deposited at eleven sites. The amount of material involved was 3,2 million tonnes (approximately 2,2% of the total amount managed during the year).

Deposit of the material for seven of the sites was allowed on the basis that while the contaminant concentrations of one or more organic determinand(s) exceeded the upper action levels, it was considered that no contaminants were added to the estuaries concerned.

In the case of another two sites, the material was allowed to be disposed because the amount of dredged material was very small or within the analytical uncertainty.

For one dredging operation, the material exceeding the upper national action level was subject to confined aquatic disposal (capping)[5].

Finally, for one project, the material was disposed at sea after biological characterisation indicating a non-significant ecotoxicity.

Table 4 includes the amounts and chemical characteristics of these materials. It should be noted that most operations exceed only slightly the national upper action level and that not all Contracting Parties have established action levels for all substances.

[5]Another operation was intended to be capped, but the concerned Contacting Party did not inform about the reasons for it or the possible exceedings over the national upper levels.

Table 4. Amount and chemical characteristics of dredged material deposited exceeding action levels.

Contracting Party	Deposit site	Pollutant exceeding action level	Average concentration (mg/kg)	National upper action level (mg/kg)	Amount deposited dredged material (tonnes - dry weight)	Remarks
DE	D/55	α HCH	0,0019	0,0015	1 082	
DE	D/57	HCB	0,0076	0,0055	145 000	
DE	D/57	ppDDD	0,0120	0,0060	145 000	
DE	D/57	ppDDE	0,0038	0,0030	145 000	
DE	D/57	HCB	0,0120	0,0055	85 000	
DE	D/57	ppDDT	0,0068	0,0030	85 000	
DE	D/57	ppDDD	0,0190	0,0060	85 000	
DE	D/57	ppDDE	0,0058	0,0030	85 000	
DE	D/57	HCB	0,0057	0,0055	205 000	
DE	D/57	ppDDD	0,0100	0,0060	205 000	
DE	D/88	ppDDD	0,0099	0,0060	4 224	
DE	D/88	ppDDE	0,0049	0,0030	4 224	
DE	D/101	ppDDD	0,0062	0,0060	519 662	
DE	D/103	ppDDD	0,0100	0,0060	135 480	
DE	D/103	ppDDE	0,0037	0,0030	135 480	
DE	D/105	ppDDD	0,0100	0,0060	112 072	
DE	D/105	ppDDE	0,0037	0,0030	112 072	
DE	D/109	ppDDD	0,0096	0,0060	1 374 195	
DE	D/109	ppDDE	0,0034	0,0030	1 374 195	
DE	D/121	ppDDD	0,0064	0,0060	739 517	
DE	D/127	γ HCH	0,0059	0,0015	4 734	
FR	F/05904	Cd	2,68	2,40	89 000	Ecotoxicological testing has been conducted to allow the dumping
IE	IRL/61	Cu	248,40	110,00	56 273	Material was capped
IE	IRL/61	Zn	700,35	410,00	56 273	

3. Sites used for deposit in 2014

A total number of 356 sites were included in the reports submitted by Contracting Parties for deposit operations (351 for dredged material and 5 for inert material). However, reports for several operations did not include any amount for material disposed and these are not shown on the maps.

Regarding the amount of material dumped, the average quantity during this year per site was 416 thousand tonnes, with only 3 sites exceeding 5 million tonnes with 57% of used sites receiving less than 100 thousand tonnes. Figure 9 shows the amounts distribution per site.

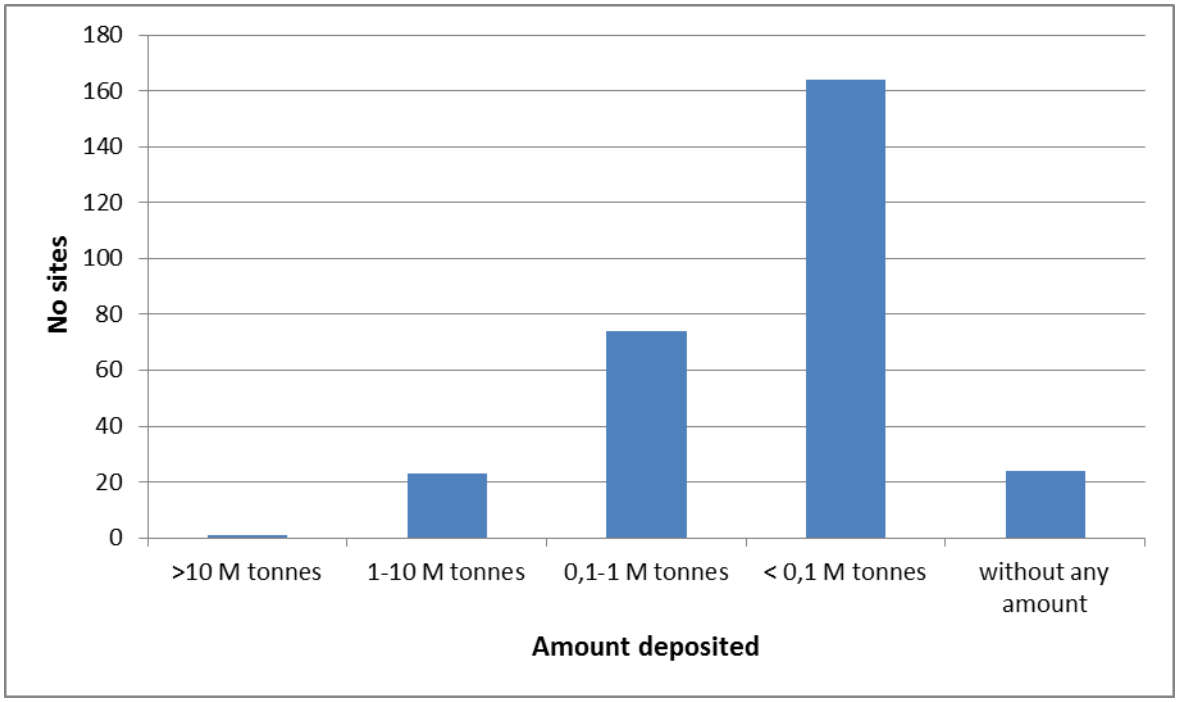


***Figure 9**. Distribution of the amounts deposited per site, 2014.*

Figure 10 illustrates the number and location of sites at which dredged material was deposited in 2014. It can be seen that the sites are distributed, unevenly, along the entire OSPAR coastal area but are mostly located within the WFD transition and coastal waters. Few sites are located at a distance from shore of > 10 NM. Larger scale maps can be found in Annex 2.

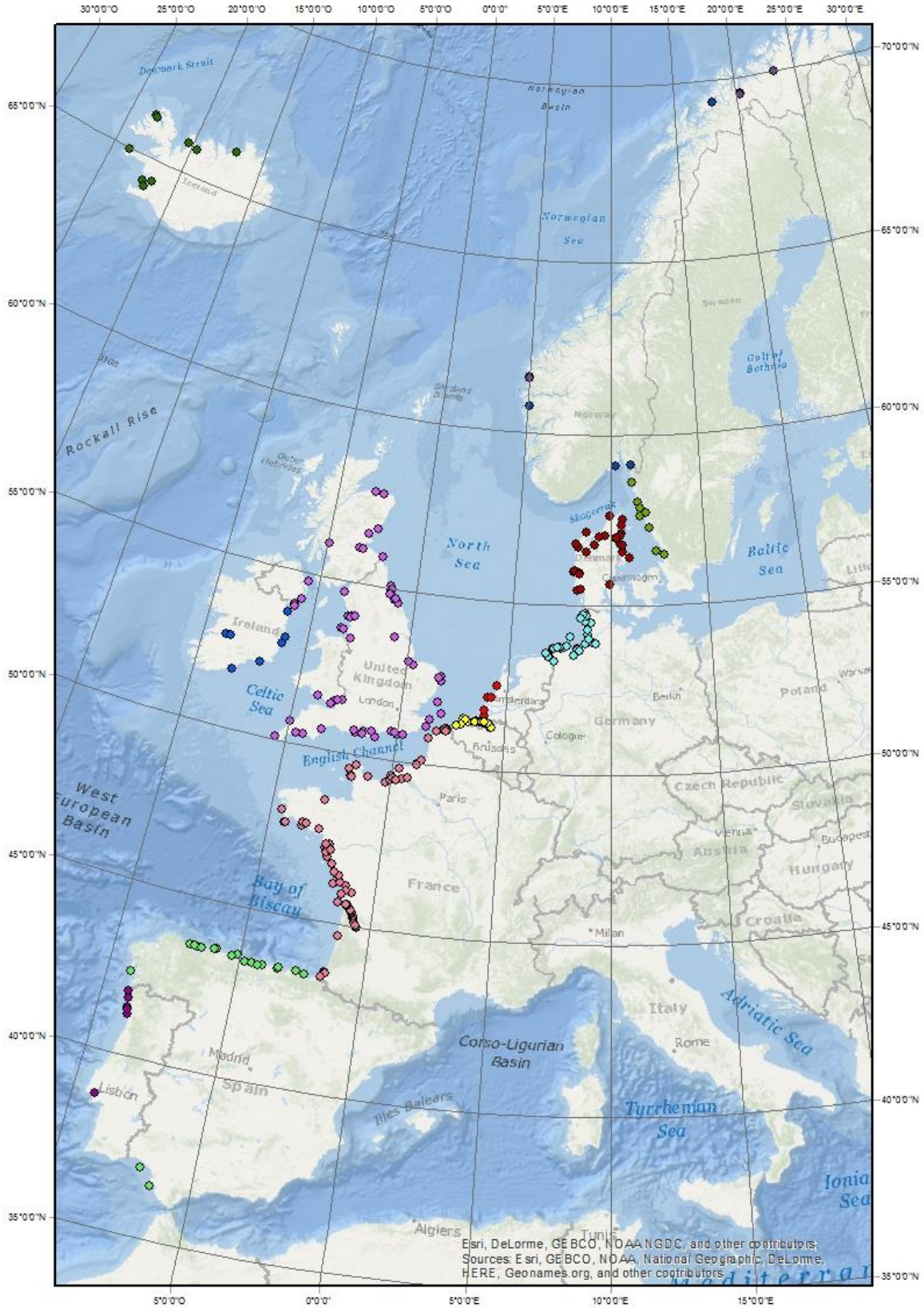


Figure 10.*Locations of sites used in 2014 for the deposit of dredged material and other wastes in the OSPAR Area. Each site is represented by a point, not by its spatial extent (polygon). Larger scale maps can be found in Annex 2.*

4. Comments on the data

Data from 2014 on the deposit of dredged material indicate similar quantities and contaminant loads to previous years. However it needs to be noted that the lack of harmonisation of methods for calculation may be leading to erroneous results. It is important to note that contaminant loads are not reported completely. Heavy metals and TBT are reported best as obligatory substances. For the other substances, loads are more often not reported.

Comparisons with previous years, shown in Figure 8, indicate a slight decrease in contaminant loads for all metals, since 2010. It should be noted, however, that these comparisons are associated with large uncertainty (as addressed above).

Quantifying and describing material with one or more determinands exceeding upper action levels is difficult to assess as action levels differ in some cases to a large extent between Contracting Parties.

Some reported material was considered as exempted of characterisation according to paragraph 6.3 of the OSPAR Guidelines for the Management of Dredged Material at Sea (Agreement 2014-06), mainly because it is composed of sand, gravel or rock. The assessment included in the present Annual Report considers that these materials are lacking in pollution. Hazardous substances (heavy metals) do occur within the sand, gravel and rock fractions, however as these represent the mineral background they do not play a role in describing the anthropogenic causes of pollution.

This is the second year that data were gathered on the amounts of material used beneficially and thus robust comparisons were not possible. However, it is interesting to note that the amount of material reused has increased by 33% with respect to 2013.

5. Recommendations for future inclusion

While Figures 2 and 10 and the detailed maps included in Annex 2 highlighted the positions of sites in the OSPAR area where deposit has taken place, it is intended in future to form an overview of the actual areas of the sites. It is also hoped that in time, the area of impact can be calculated and included in the report, and in the relevant MSFD assessment.

The quality of the data in the Annual Report on Dumping or Placement of Wastes or Other Matter at Sea can be improved by the application of harmonised calculation methods and harmonised approaches with regard to analytical issues e.g. on how to incorporate results below limits of detection/quantification or for material considered as exempted of characterization according to the OSPAR Guidelines for the Management of Dredged Material at Sea.

The quality of future assessments could be improved by harmonising to a greater extent the suite of determinands to be routinely analysed, for example, organic contaminants.

Contracting Parties which are not currently reporting on contaminant loads will be encouraged, and assisted if required, to provide such data in future. In order to achieve a more comprehensive assessment, Contracting Parties could consider routine analyses of organic contaminants in dredged material.

Revisions based on experiences of Contracting Parties with the reporting format are expected to lead to improvements in the system for future years, and subsequently should enable a more comprehensive and reliable Annual Report.

6. References

OSPAR Agreement 1998/21: OSPAR Guidelines for the dumping of fish waste from land-based industrial fish processing operations. (Updated in 2010)

OSPAR 2012,Annual OSPAR report on dumping of wastes or other matter at sea in 2010,OSPAR Commission, Publication number 572/2012, ISBN no. 978-1-909159-06-8.

OSPAR 2013,Annual OSPAR report on dumping of wastes or other matter at sea in 2011,OSPAR Commission, Publication number 607/2013, ISBN no. 978-1-909159-40-2.

OSPAR 2014, Annual OSPAR report on dumping of wastes or other matter at sea in 2012, OSPAR Commission, Publication number 625/2014, ISBN no.978-1-909159-58-7.

OSPAR 2015, Annual OSPAR report on dumping of wastes or other matter at sea in 2013, OSPAR Commission, Publication number 650/2015, ISBN no. 978-1-909159-81-5.

OSPAR, Agreement 2014-06: Guidelines for the Management of Dredged Material at Sea (as amended).

OSPAR, Agreement 2014-07: Explanatory notes – 2014 Reporting Format for the Deposit at Sea of Dredged Material

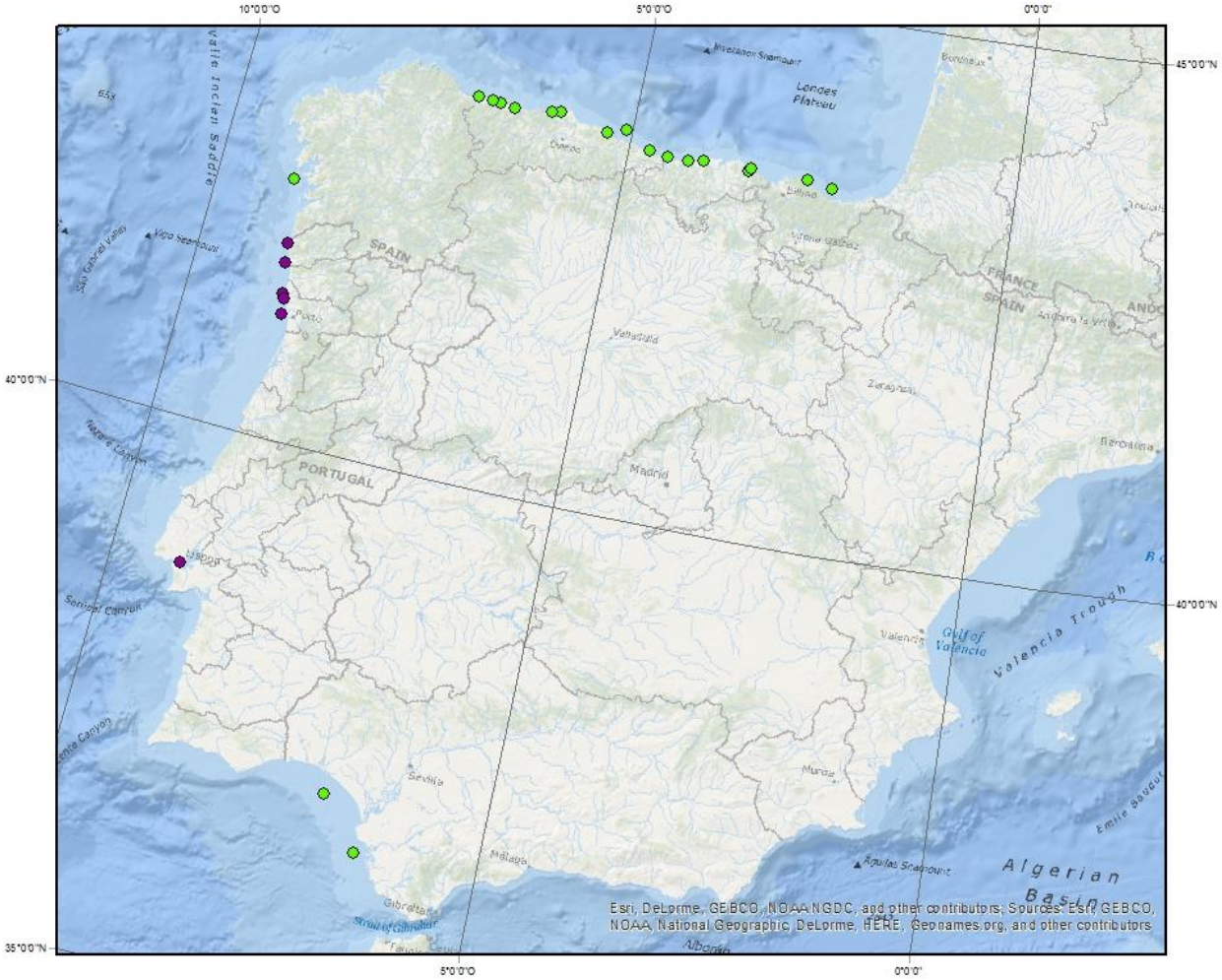
ANNEX 1

Amounts of dredged material deposited at sea by OSPAR Contracting Countries from 2010 to 2014, in million tonnes and according to the current information included in the OSPAR Database on dumping and placement of wastes or other matter at sea.

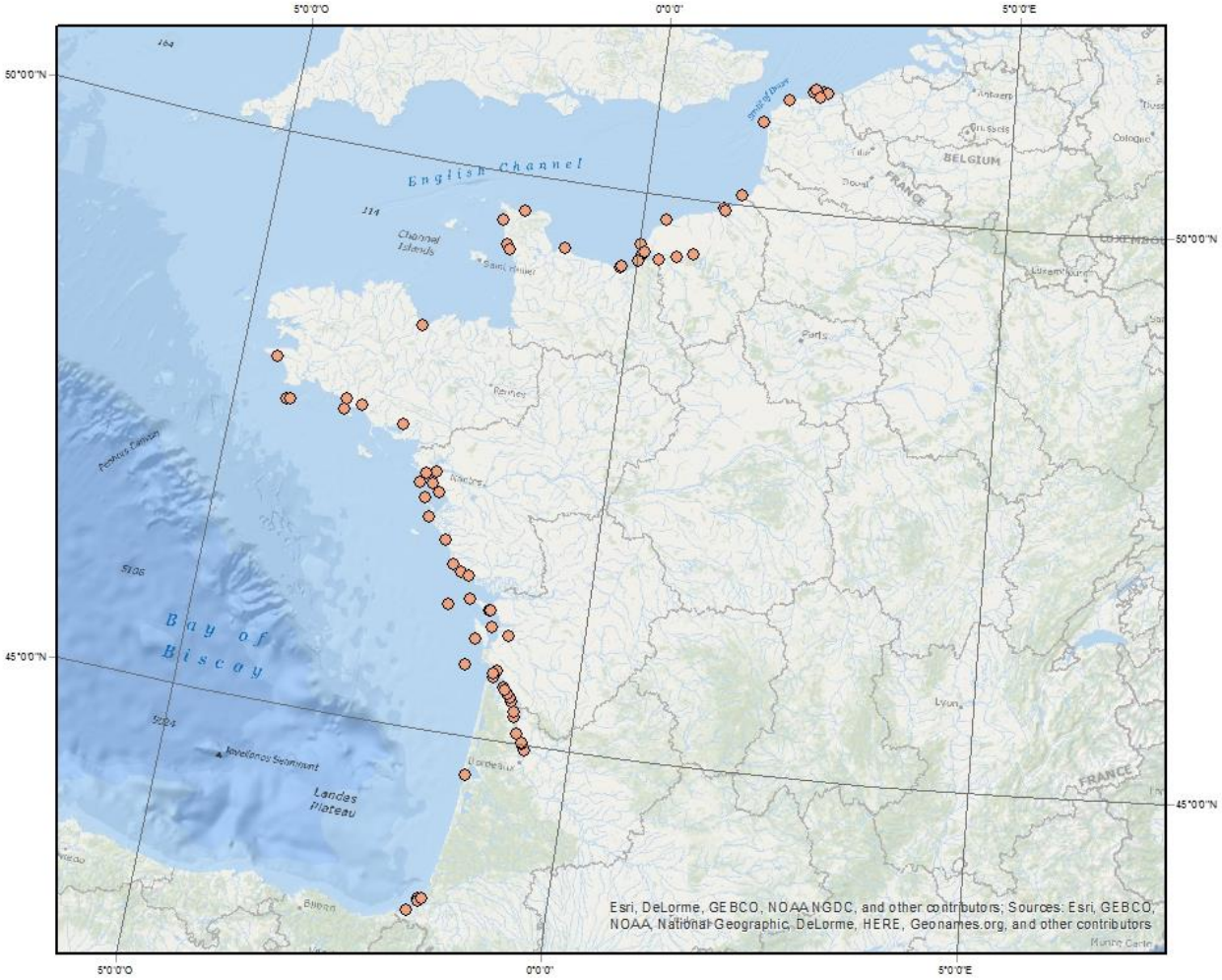
	2014	2013	2012	2011	2010
BE	29,12	27,19	40,98	48,17	52,16
DE	36,18	25,35	28,93	26,68	32,12
DK	1,73	2,83	6,96	4,72	3,58
ES	8,03	1,96	2,56	2,57	2,87
FR	28,38	24,85	25,47	19,64	17,92
IE	0,68	0,35	1,61	0,40	0,36
IS	0,39	0,58	0,47	0,37	0,63
NL	26,17	40,25	25,78	24,98	21,15
NO	0,09	0,10	0,42	0,32	0,08
PT	1,78	3,94	3,65	NI	NI
SE	0,71	0,59	0,07	0,01	0,06
UK	11,54	14,78	14,10	13,48	15,18
Total	**144,80**	**142,77**	**150,99**	**141,35**	**146,11**

ANNEX 2

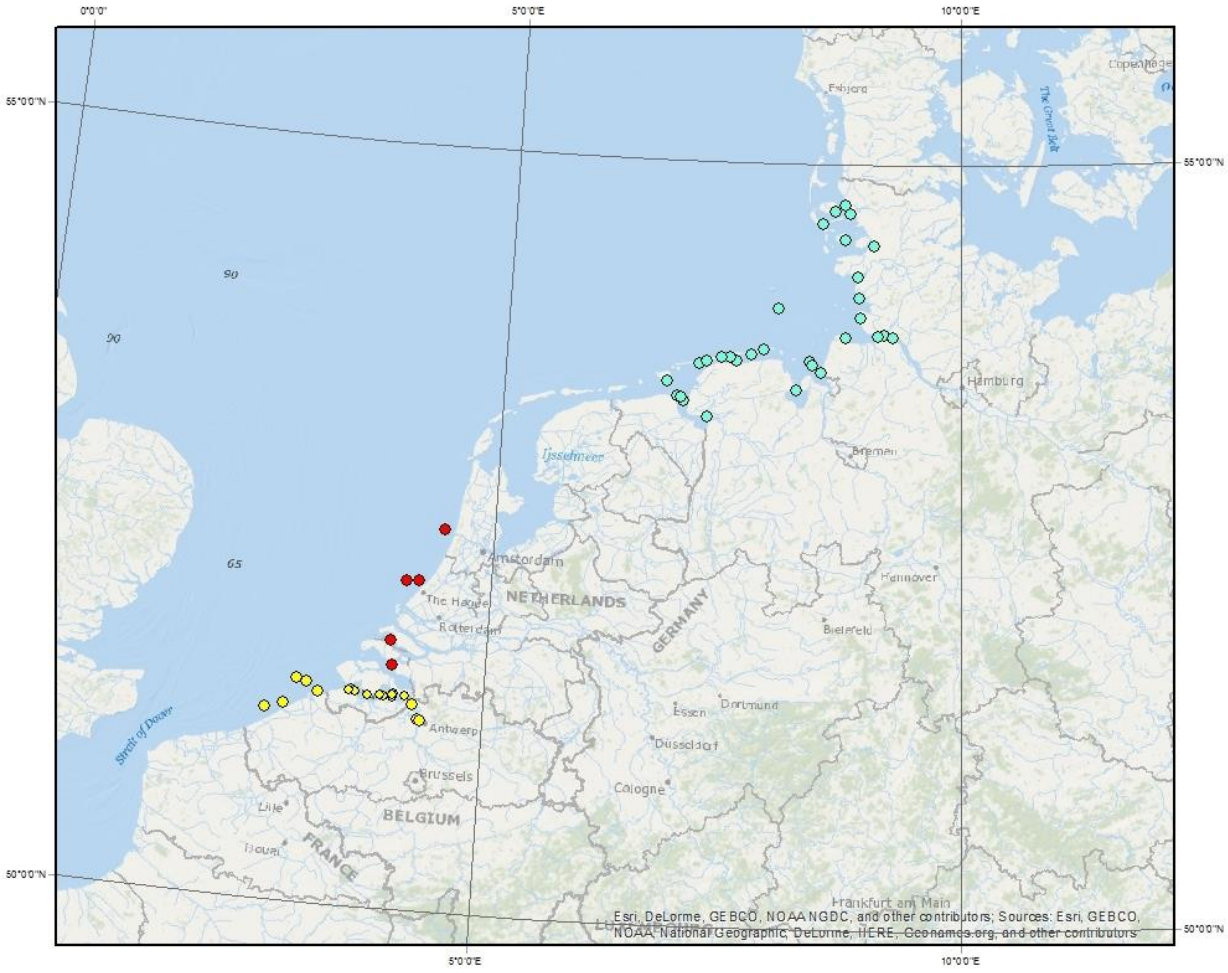
Large scale maps of sites used for the deposit of dredged material:



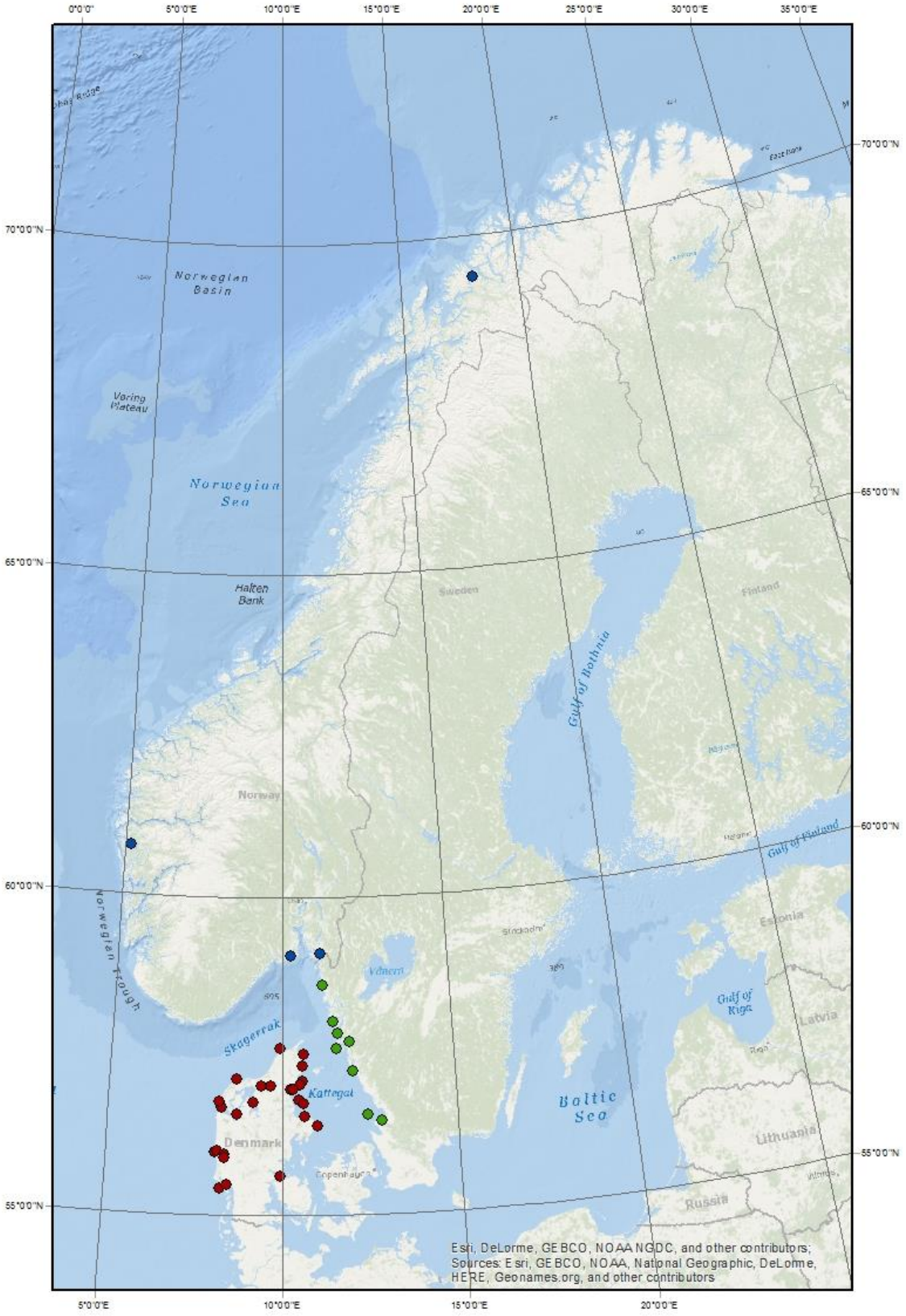
Sites used by Spain and Portugal for the deposit of dredged material.



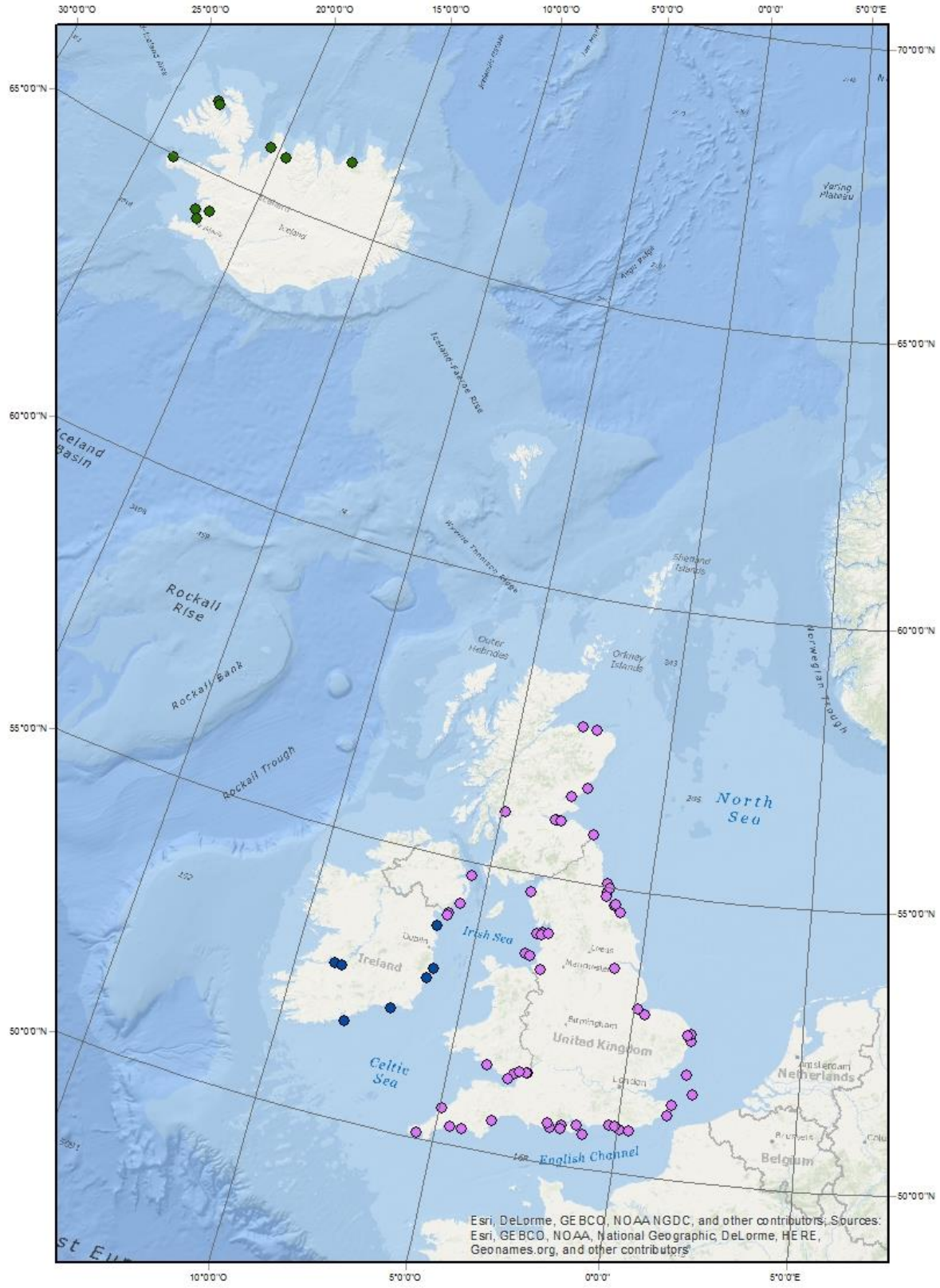
Sites used by France for the deposit of dredged material.



Sites used by Belgium, The Netherlands and Germany for the deposit of dredged material



Sites used by Denmark, Sweden and Norway for the deposit of dredged material.



Sites used by Iceland, Ireland and UK for the deposit of dredged material.

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